

**THE IMPACT OF NEIGHBOURHOOD CHARACTERISTICS ON RENTAL  
VALUES OF RESIDENTIAL PROPERTIES IN MINNA, NIGERIA**

**BY**

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## ABSTRACT

Impact of neighbourhood characteristics on rental values of residential properties has over the decade been a major topic of discussion in the global housing market. The situation emanated as a result of the multi –dimensional bundle of services and a bundle of contradictions and paradoxes that housing is known for. The study examined the impact of neighbourhood characteristics on rental values of residential properties in Minna, Nigeria. This study assess the adequacy of neighbourhood characteristics in the study area; examine the current rental values of different classes of residential properties in the study area, and examine the level of impact of neighbourhood characteristics on rental values of residential properties. The methodology adopted was the use of a structured questionnaire with closed ended questions to source data from 621 randomly selected stakeholders across the three categories of residential properties. The data were analysed using both descriptive (frequency table, and a 5 point likert scale) and inferential (multiple regression) statistical analysis. Results from the analysis revealed that rental values of residential properties in F-lay -out are higher than that of the residential properties in Tunga low cost, and the rent in Bosso neighbourhood is relatively higher than that of Tunga low cost respectively, the result indicate ₦50,000-₦100,000, ₦100,000-₦150,000PA and ₦150,000-₦200,000PA for one bedroom in Bosso, Tunga and F-layout respectively, ₦150,000-₦200,000, ₦200,000-₦250,000 and above ₦250,000PA for two bedroom in Bosso, Tunga low cost and F-lay out. For three bedroom, ₦200,000-₦250,000PA, ₦20,000-₦250,000PA and above ₦250,000PA is recorded for Bosso, Tunga low cost and F-layout respectively, this is in relation to the variation in the quality of neighbourhood characteristics in these areas respectively. In order not to have a wide disparity of rental values that emerges among similar categories of residential properties within the same market, The study therefore recommended that the government should undertake an aggressive infrastructural facilities development, particularly in the high density areas and to also improve the number and quality of the existing amenities in the low and medium density areas.

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## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 Background to the Study**

Housing forms one of the most basic needs of mankind (Aluko, 2011). It is a fundamental element of human settlement that meet the basic needs in which people live. It connotes an essential and vital component in both social and economic framework of a nation, and the performance of the housing sector is frequently seen as a determinant of the stability or instability of a nation. It is a social unit of space and the significance of living conditions which is recognized for centuries as a primary prerequisite for health, work efficiency, social-economic standards, productivity, general welfare, growth of the individuals and neighbourhood (Ibem & Amole, 2010). In another related development, Agbola (2005) looked at housing as both a product and process. The product perception of it sees it as a residential environment where man seeks shelter, safety, comfort and dignity. The process perspective which appears very multifaceted manifest to issues such as dwelling design, provision, maintenance and neighbourhood infrastructural services and regeneration.

According to Agbola and Agunbiade (2007) housing include the totality of the surroundings and infrastructural facilities that offer human comfort, improve the quality of human health and productivity as well as enable them sustain their psychopathological balance in the environment where they find themselves. The study considered housing as a multi-dimensional bundle of services and a bundle of contradictions and paradoxes. Indeed it has been universally acknowledged as one of the most essential necessities of human life and is a major economic asset in every nation. Adequate housing provides the foundation for stable communities and social inclusion (Oladapo, 2006).

Therefore, the significance of adequate housing to the social well-being of the people in any society cannot be overemphasized. However, housing and neighbourhood are inseparable, because it is not just about the floor space; It is about the vibe of the area, the neighbors, the amenities, schools, friends, shops and parks, transit or traffic. (Suttor, 2016). Neighbourhoods are also known to have a complicated interplay between the residential choices of housing supply and the influences of the larger metropolitan system on its constituent part. This is to say that the characteristics of a particular neighbourhood have a significant impact on the individuals choices of resident and these characteristics of neighbourhood differ from one place to the other. (Krupka and Noonan, 2009).

Although, a lot of studies on the effect of neighbourhood characteristics on rental values of residential properties have been conducted globally but only little of the studies was conducted in Nigeria and particularly in the study area. Thus, in a bid to contribute knowledge to this field of the study, the researcher examines the impact of neighborhood characteristics on rental values of residential properties in Minna, Nigeria.

## **1.2 Statement of the Research Problem**

In recent times the housing has formed part of the major discussions in several global summit, this shows the complexity of housing in the global market (Oladunjoye, 2005). Housing is bedeviled by a number of risks which include property crime. The consequences of residential neighbourhood crime affect residents, entire neighborhood, government activities and housing investment in particular. (Agunbiade, 2012). In another related development, Krupta and Noonan, (2009) established that neighbourhoods are also known to have a complicated interplay

between the residential choices of housing supply and the influences of the larger metropolitan system on its constituent part. This is to say that the characteristics of a particular neighbourhood have a significant impact on the individuals choices of resident and these characteristics of neighbourhood differ from one place to the other. Minna, being a very large settlement with many residential neighbourhoods is having varying neighbourhoods with homogeneous characteristics from the heterogeneous population and the variation of the rental values of housing across the study area is alarming. Different authors (Adama and Jinadu, 2015; Popoola *et al.*, 2015), have found relationship between neighbourhood and environmental quality and property value in the study area, and they opined that high density can be detrimental to urban environmental quality and thus to economic attractiveness. The study examines the connection and situation in a different neighbourhood of Minna by looking at it from the angle of high, medium and low density areas of an entirely new neighbourhood in order to ascertain the relative contribution of neighbourhood characteristics on residential property values with the inclusion of socio-cultural belief of a neighbourhood and using a different approach.

### **1.3 Aim and Objectives of the Study**

The aim of this study is to examine the impact of neighbourhood characteristics on the values of residential properties in the study area with a view to assessing the causes of rental variation across the three selected areas of the study,

The objectives are to:

1. assess the adequacy of neighbourhood characteristics in the study area.
2. examine the current rental values of different classes of residential properties in the study area; and

3. examine the level of impact of neighbourhood characteristics on residential rental values in the study area.

#### **1.4 Research Questions**

In order to be fully guided, the following research questions were developed.

1. What are the adequacies of the neighbourhood characteristics in the study area?
2. What is the current rental value of residential properties in the study area?
3. What is the level of impact of neighbourhood characteristics on residential rental values in the study area?

The research will provide answers to the above questions by collecting and analyzing required data using appropriate research techniques.

#### **1.5 Justification of the Study**

Although, a number of studies on the determinants of rental values of residential properties have been carried out globally as housing formed one of the basic topic of discussion globally; the following authors conducted a related research on the determinants of residential property values. (Visser & VanDam, 2006; Yan and Zhang, 2006; Mathews, 2007; Krupka & Noonan, 2009; Ki & Janyantha, 2016; Islam, 2012; Huang *et al.*, 2015; Lin, 2016; Kim and Jin, 2019; Ting, 2019;). The researches were conducted in Netherlands, China, USA, USA, China, Canada, China, USA, USA and China respectively. However, all the above mentioned studies were foreign base. Meanwhile, the related studies from the Nigerian context are as follows: Oloke, *et al.* (2013) carried out a study on the factors affecting residential property values in Mogodo neighbourhood, Lagos state Nigeria by taking in to cognisance the structural, neighbourhood, locational and travel distance as the measurable variables. In another related study, Olajide and Lizham, (2016) examines the impact of neighbourhood crime on rental values of residential properties in Nigeria. In their study, they considered only

crime rate as a determinant factor. Meanwhile, Asikhia *et al.* (2016) assessed the effect of housing facilities on rental values of residential properties in Benin City, Nigeria. Other related studies conducted in Minna include the following: The study of Adama and Junadu (2015) evaluate the relationship between the neighbourhood quality and property value in Minna metropolis, Niger State using correlation and ANOVA. The assessment was carried out to describe and compare neighbourhoods in terms of physical condition of the built and natural environments as well as provision of infrastructure and services. Although, the studies did not include other essential neighbourhood characteristics like the socio cultural belief of the neighbourhood and proximity to social services which may be a factor of a choice of settlement today in Minna.

Popoola *et al.* (2015) carried out a study on the effect of environmental quality on property rental values in Peri-urban neighborhoods of Minna, the study focused primarily on how environmental quality affect the rental values of residential properties in Minna and the choice of neighbourhood were basically restricted to the peri-urban areas of Minna. Obviously, the study is limited in terms of determinant factor considered. On the other hand, Usman, (2016) examined the impact of Housing attributes on rental values of residential properties in Minna, Nigeria. The study looked at all the housing attributes which comprises of the housing quality, location and neighbourhood attributes. Because of the multiple number of neighbourhoods and the heterogeneity of the characteristics of each neighbourhood which Minna is known for, it is pertinent to mention that what may affect the rental values of a particular neighbourhood may not be applicable as determinant of rental values of another neighbourhood and most of this neighbourhood across Minna have not been examined. Thus, with the high increase on the disparity of rental values of residential properties in

the study area as a result of neighbourhood characteristics, multi-dimensional bundle of services, contradictions and paradoxes of housing, it is paramount to examine the impact of neighbourhood characteristics on rental values of residential properties in other neighbourhoods of the metropolis by taking account of the land use planning, proximity to economic activities, proximity to services, and nature of environment. With more variables under investigation, all the relevant stakeholders in the built environment especially the estate surveyors and valuers would understand the better causal factors resulting to the variation in the values of residential properties in different neighbourhoods of Minna.

## **1.6 Hypotheses**

H<sub>0</sub>: There is no significant relationship between neighbourhood characteristics and rental values of residential properties in Minna.

H<sub>1</sub>: There is a significant relationship between neighbourhood characteristics and rental values of residential properties in Minna.

## **1.7 Significance of the Study**

Housing represent the most basic of human want which has a profound impact on the health, welfare and productivity of individual and hence the housing market is characterized as imperfect and inefficient because of the complexity and heterogeneity nature of the housing product. Housing and neighbourhood are inseparable because of the proximity of services and facilities. Therefore, it is imperative to study the impact of neighborhood characteristics on rental values of residential properties, because it will go a long way in addressing many unanswered questions related to housing values, its quality and investments (Nubi, 2002).

Establishing the relationship that exists between rental values of residential properties and the various neighbourhood characteristics is very crucial to Estate Surveyors as it is going provide them with information which may be used to advise investors in housing market as well as the potential tenant on the choice of residents with better amenities.

Findings from this research will be useful to potential investors in housing market on the choice of neighbourhood to invest their money that will yield them the optimum return that every investor desired. This will provide them with information about the type and qualities of neighbourhoods which will enable them make comparison and the make a decision on where to invest.

The findings of this study will go a long way to help the policy makers, government or relevant authorities in the built environment on the relevance of a healthy environment planned neighbourhood as well as the presence of amenities together with its significance effect on rental values or real estate investment that will yield optimum returns.

### **1.8 Scope of the Study**

This study is on neighbourhood characteristics in the neighbourhood such as the land use planning of the neighbourhood, proximity to economic activities, proximity to services such as schools, parks, hospitals, shopping areas and religious facilities. The neighborhood socio cultural belief and nature of environment such as pollution and erosion as it affect rental values of residential properties in Minna will also be examined. To be specific, the study considered three (3) locations in Minna, Niger State. These geographical areas of coverage includes F-layout, Tunga Lowcost and Bosso Town. The choice of these areas were based on the density characteristics of the areas for instance low, medium and high density areas respectively. The study also

considers One, Two and Three bedroom apartments only due to the prevalence of these categories of properties in the locations.

To effectively carry out the research and for the purpose of producing a bias free result, the housing units in the study areas were grouped based on type in order to provide a yardstick for effective comparison. The study hence focuses on the residential properties placed for rent within the three (3) aforementioned neighbourhoods in the study area.

### **1.8.1 Justification for the Selection of Sample Frame**

Minna, being a very large settlement with many residential neighbourhoods, Cluster sampling technique was considered appropriate and was used in grouping the neighbourhoods with homogeneous characteristics from the heterogeneous population. Three clusters emerged, one each from the low density, medium density and the high density residential neighbourhoods for F-layout, Tunga low cost and Bosso area respectively. However, each of the selected sample frame have a unique or homogeneous characteristics which are considered among the selected neighbourhood characteristics variables under study that differentiate them from one another. As stated earlier in the scope, the study focuses on the following neighbourhood characteristics:

- (i) Land use planning of the neighbourhood.
- (ii) Proximity to economic activities.
- (iii) Proximity to services for example schools, parks, hospitals, shopping areas and religious centers.
- (iv) The neighbourhood sociocultural belief and nature of environment.

From the above scope of the study, Bosso is more of a community that is predominantly populated by the Gbagyi people with similar socio-cultural belief and

way of life, this is a unique feature compared to the dwellers of Tunga lowcost and F-layout where they have a mixed culture and belief.

On the other hand, F-layout unique characteristics are the proximity to parks, shopping areas and relatively the presence of a hospital service compared to Bosso area. In addition, Tunga lowcost is known for its good and orderly planning and proximity to more economic activities that distinct it from both Bosso and F-lay out. Generally, the selected sample frames have unique features of neighbourhood variables under investigation by the researcher that differentiate them from one another, (Niger State Government of Nigeria 2011). It is on this basis that the researcher selects the above sample frame to investigate level of impact of these unique and homogenous neighbourhood variables in the selected areas of Minna.

## **1.9 The Study Area**

### **1.9.1 Geographical Location and Climate**

Minna is the state capital of Niger state in Nigeria. The city is located on Latitude 9 37' North and Longitude 6 33' East. It occupies a land area on both sides of around 884 hectares.(Baba, 2013). The Minna metropolitan area has expanded grown to surround community settlements such as Bosso, Maitumbi, Limawa, unguwan sarki, unguwandaji, Dutsenkura, Kpakungu shango, Shango and Chanchaga. The metropolitan city is currently amalgamation of three local government (administrative) areas which includes chanchaga, Bosso and Shiroro. According to the master plan of Minna (1979), The topography of the city is enclosed mostly by gentle slope plain to the Central, Southern and Western parts of the city with traversing railway lines, streams, drainage channels and multiple road networks connected to each other, Although, hills and hummocks are the dominants in the Northern and Eastern part (NIGIS, 2014).

### **1.9.2 Historical Development of the Study Area**

Minna was initially located on a plateau plateaus, extending its boundaries over enormous area and was surrounded by neighboring Gbagi District of Bosso to the Southwest also connected to the Pina hills and Kuta District to the Northeast and Paiko District to the Southeast, interceded by a River Gbako/Chanchaga. Evidently, Archeologist suggests that city can be dated to be around 47000 -37000 years ago (“The concise Britannica Encyclopedia”, retrieved 2019). It is also suggested that ancient city was surrounded by stonewalls use for defensive strategy which till date remain a remarkable landmark. According to tradition, the ancient city was made up of seven dotted settlements called (epo) on the hill toptgether with some interlink village settlements which includes; Jamkpa, Paida, Pyasi, Dabwo, Tayi, Fadayni and Dyani. (Baba, 2013)

The name of the city was derived from an annual festival of the people of the above aforementioned settlements (Baba, 2013). During the annual festival, it is prohibited for every household to use fire for the day until the last day of the festival when every member of each household in the community meet in the chiefs house where firewood or burning sticks were shared to the members to start fire in their various homes. The neighboring tribes around the settlements are thus refers to as “min-na” meaning spread fire or people who spread fire in Gbagi language

### **1.9.3 Administrative Structure**

The city of Minna being the capital of Niger state since the establishment of the state when it carved out of the then Sokoto state in 1976, has since taking a high administrative and political status in Nigeria, this led to the creation and sitting of some state own ministries, parastatal and departments saddled with the responsibilities of

discharging some duties assigned or designated to them. Many public and non-governmental organizations, financial institutions such as commercial banks and other private organizations are also present in the city. These developments have led to the high influx of people both from within and outside the state and particularly to be in search of a white collar jobs (NIGIS, 2014).

#### **1.9.4 Economic of the Study Area**

Minna is a city that is highly blessed with numerous and abundant human and natural resources i.e both human and natural resources. Resources such as, guinea corn, Cotton, yam and ginger are the main agricultural products found in the city. Rice and cassava are also cultivated around the city of Minna. Natural resources such as gold are found in Chanchaga and Shango axis of the city. In Pai village which is in proximity to Beji town along Zungeru road is endowed with abundant clay. Other economic activities that form part of the economic activities in the city include: cattle rearing and Shea nut processing. The city also has ultra-modern market and host of shopping complexes. Minna as a city also has some good number of industries such as PZ cussions that produces baby products, toilet soaps, and medicament and others. Crafting, Leather work and Metalworking are also available in good number in the city.

Minna is a city has substantial number of primary, secondary and tertiary institutions. The tertiary institutions include, the Federal University of Technology (FUT), Minna; Niger state College of Education, Niger state College of Health Technology, School of Midwifery, Justice Fati College of Legal Studies, New gate college of Health Technology among others.

Minna is interconnected to other towns and cities by road. The Federal Capital Territory (FCT) of Nigeria is about 150kms away from Minna. There is rail transport connection from the city to Kaduna and Kano both from the north of Nigeria and then linked to Ibadan and Lagos which is from the south west part of Nigeria and then to some satellite villages of Ilorin, the central part of Nigeria. Minna as a city has a single international Airport as a means of Air transportation system.

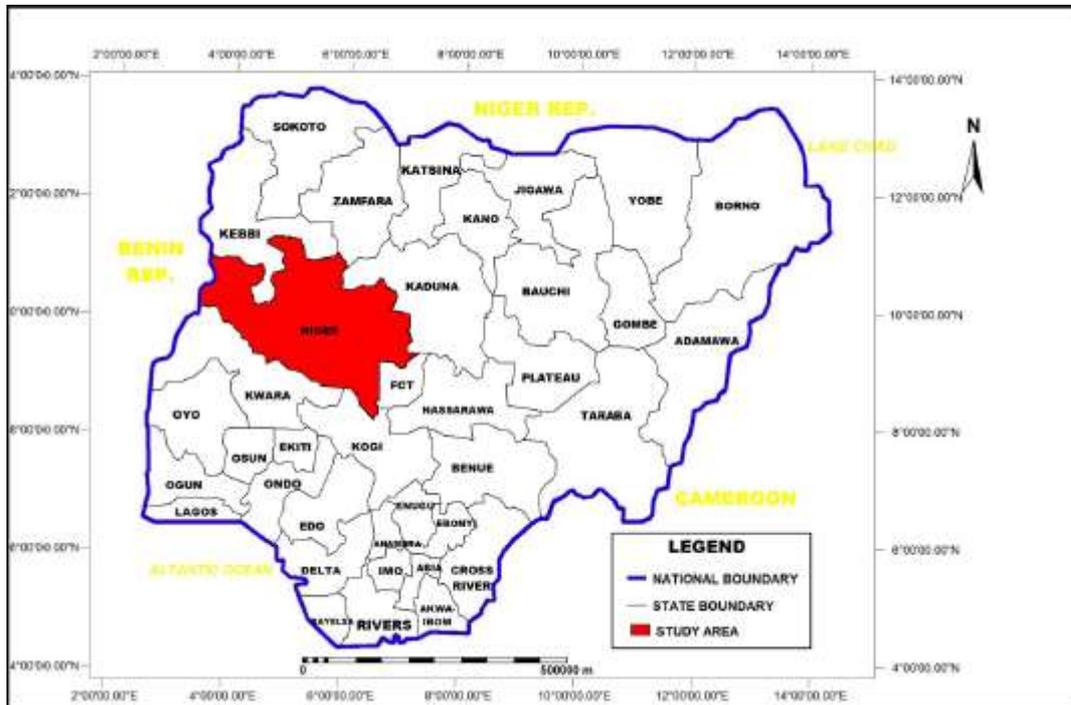


Figure 1.1 Map of Nigeria showing Niger State

Source: NIGIS, (2018)

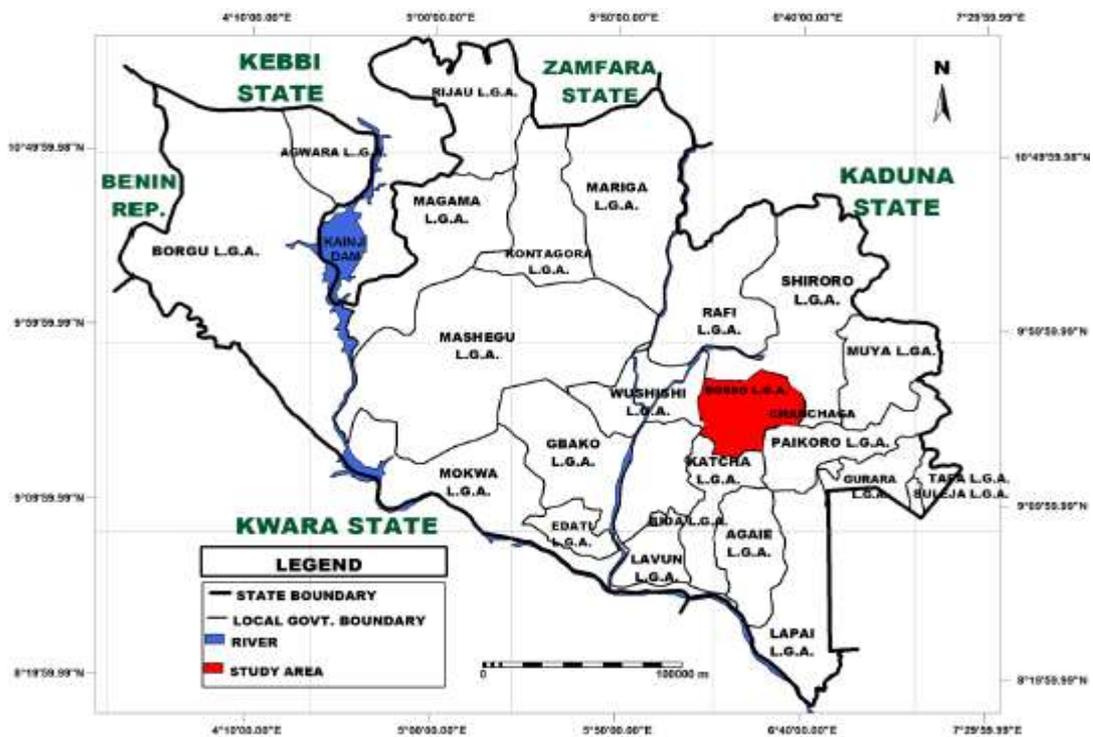
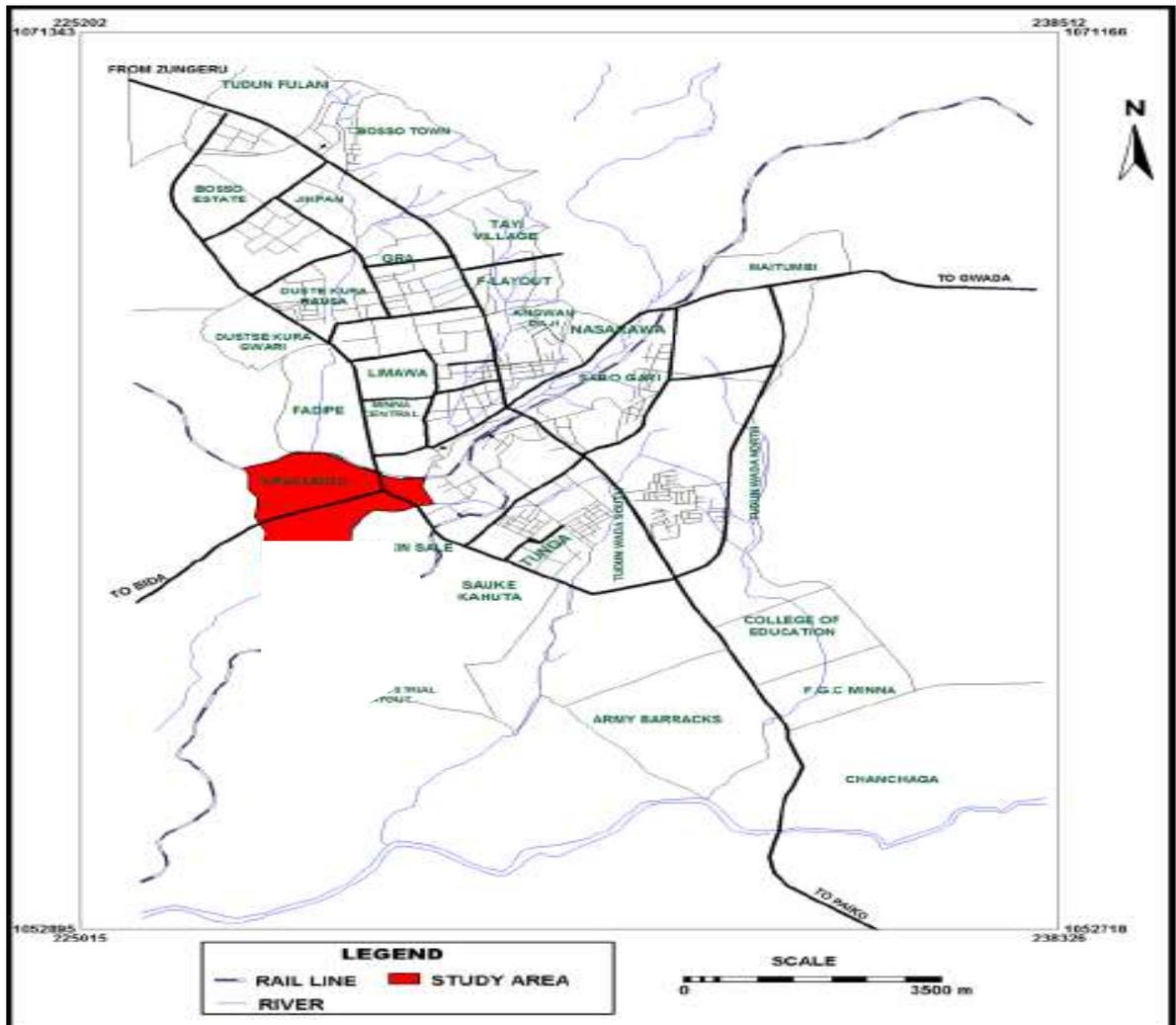


Figure 1.2: Map of Niger State showing the study area

Source: NIGIS, (2018)



**Figure 1.3: Map of metropolitan Minna showing the study area**

**Source: NIGIS, (2018)**

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Meaning and Concept of Neighbourhood

The term “Neighbourhood” is the bundle of spatially based attributes associated with clusters of residences, sometimes in conjunction with other land uses. (Lancaster, 1966). Neighbourhood is frequently used to express the sub-segment of urban or rural locations such as cities, villages, and towns. In its purest definition, a neighbourhood is basically known as the environment in which people live next to or near one another in sections of an area and create shape communities. It has some particular physical or social characteristics that distinguish them from the rest of the settlements in those sections. (Suttor, 2016). A fundamental physical attributes of the vicinity with multiple unit of housing together with the supporting amenities (Duany *et al.*, 2003) Accordingly, the term neighbourhood is seen as a comprehensive planning increment. The clustering of neighbourhoods lead to the formulation of towns, villages, and cities.

The neighbourhood differs in population and density to accommodate indigenous peculiar conditions, the size of every neighbourhood is limited so that a majority of the population is within walking distance of its centre where the basic needs for man daily life are reachable. The central zone of the neighbourhood provides transport facilities, shopping centers, work places, retail, community events, and leisure activities. On the other hand, the streets make available for alternative routes to most destinations at a reasonable approach for vehicles, motor bikes and pedestrians. When there is incremental development in a particular neighbourhood, it will form a mixture of large and small houses, shops, restaurants, offices, civic buildings (schools, theatres, worship areas, clubs, museums, and stadiums). At that point in time, open spaces, playgrounds, and parks are also provided (Duany *et al.*, 2003). Generally, neighbourhood allude to a

geographic unit which is establishing the actual qualities like streets, parks, streams and rail ways and with a homogeneity of lodging and designs inside a space (Adama & Jinadu, 2015).

It has been demonstrated that the physical lay- out of a particular neighbourhood may help the democratic initiatives to be positive and make a balanced advancement of society to be facilitated which is achieved through the provision of a full range of housing types, civic buildings and workplaces, age and socio-economic classes are incorporated and the bonds of an authentic community together with the physical environment. In another perspective, Forest and Kearns (2001) defined neighbourhood simply as overlapping social networks with particular and variable time-geographies. Galster (2001) proposed that neighbourhood is a bundle of spatially based attributes in association with clusters of residences, at times in conjunction with other land uses.” Galster’s (abid) objective was to suggest some set of attributes such as the demographics, institutional, topographic and social neighbourhoods that can be measured and known evidently. However, if a particular area is missing some attributes identified, a neighbourhood may not exist there. There is connection between the attributes and facilitate predictions about residents’ decisions in investment of an area( such as purchasing of a house, maintenance of house or property, neighbourhoods association participation, and so on). The neighbourhood characteristics tha affect a resident’s perception of varies spatially, therefore neighbourhoods can be delineated each according to the presence of attributes for the purposes of research and neighbourhood change, but those delineations are reliant on that purpose. Despite acknowledging a role for institutional or social attributes in defining a particular area a neighbourhood, Galster's (2001) approach focused more attention primarily on individual factors and behaviours in determining the character of a particular

neighbourhood. For the scholars examining neighbourhoods, the Given definition of neighbourhoods as sites of daily life and social interface (Hunter, 1979; Galster, 2001; Forrest and Kearns, 2001). Martin and Subramanian (2003) also suggested that neighbourhoods are basically known as a particular type of place or locations where human activities is concentrated upon social reproduction or household daily activities, social interface and meeting with political and economic structures. The meaning of neighbourhood is derive from the salience of individual and group values together with attachments, which is developed through daily life habits and interactions. It is like a place where every day's life is situated" (Merrifield, 1993).

## **2.2 Determinants of Residential Property Value**

Without standardization, each property is considered to be unique and thus is priced differently (Ruvio, 2010). Because each piece of property is unique, it is often difficult to identify the appropriate variables that will explain the rental prices. According to Kim and Nelson (1995), assessing the rental value of residential properties is a complex and challenging process to both practitioners and academicians because it involves analyzing the rental property, neighborhood characteristics and market conditions. McKenzie and Betts (2006) explained these attributes include physical features such as space, age, condition and apartments. Some features can be measured by objective scale or techniques. Other amenities however are not so objective. Furthermore, Odame (2010) clearly mentioned that a real estate asset consists of a bundle of attributes that are not limited to location, but also includes number of bedrooms, gross and lettable floor areas, number of storey's, type of tenure or ownership rights, plot size, quality of aesthetics and accessibility, all of which may affect its rent and price. However, Zainudeen *et al.* (2006) see the location as a key factor from customer's point of view. Chris and Somefun (2007) and Nakamura and Crone (2004) explained the attributes

includes bedroom, toilet, bathroom, kitchen, open space, drainage, water supply, refuse disposal, good road net work, recreational parks, hospital and many more. Raymond (2000) further discussed that a residential property is a multi-dimensional commodity, characterized by durability, structural inflexibility as well as spatial fixity.

In view of the above justifications on rental qualities, ongoing experimental work has researched plentiful arrangements of elements that have been utilized to clarify market rents for private pay property. These elements range from actual traits to property the executives quality attributes. Moreover, the writing shows that market lease is influenced by deviations of noticed opportunity rates from regular opening rates and by such factors as rental concessions and length of residency limits. Kim and Nelson (1995) likewise construct a model that can give a precise method of evaluating the rental worth of private investment property and dissecting the variables that decide market rents by utilizing a Man-made reasoning Strategy. The model built by Kim and Nelson (1995) in their examination join all factors and these free factors are coordinated into four classifications as follows;

$$\text{Lease} = f(\text{BC}, \text{LC}, \text{TC}, \text{NC}) \text{ -----Equation (1)}$$

Where: BC = Building Attributes, LC = Landowner Qualities, TC = Occupant Attributes, NC = Neighbourhood Qualities. Building Attributes are partitioned into building type, size of unit, conveniences, and support. Building type remembers the quantity of units for the design and age of the structure. Size of rental unit incorporates number of rooms, number of showers and number of bed rooms. Size is the all out area of the structure. Sirmans and Benjamin (1991); Redman and Gullett (1998) all discovered structure size to be a huge factor influencing property estimations. Property manager attributes incorporate the financial backer's age, long stretches of involvement and number of properties claimed). Inhabitant attributes incorporate (the head of family,

age, race and schooling level. Additionally included are family homes. Neighbourhood qualities incorporate the occupant's alternative of the area and regardless of whether wrongdoing is seen to be an issue. Extra factors included are the presence of deserted structures and recognizable litter structures part of the components influencing decision of home. Sirmans and Benjamin (1989) analyze multifamily lodging conveniences and administrations and outside factors influencing rent. Aside from the two most significant lease models created by Sirmans and Benjamin (1991) and Kim and Nelson (1995), Hardin and Wolveto (2000), examined a model that clarifies that lease should require property explicit qualities and neighbourhood attributes. A comparative view is added by Oni (2009), where it examined that these elements might be inherent or outward. The outward factors remember increment for interest for let capable space, area, state of bordering properties, closeness to stop and relaxation, nearby and public financial conditions. Outer variables are because of normal qualities of the property which influence the city where the property is found. Marshall (1990), subsequent to leading a study on understudy rentals to decide the connection among lease and the attributes encompassing it, he discovers; number of bed rooms, pool, distance from grounds and complex size are significant.

In another related development by Olayonwa (2012) observed that physical factors, economic factors, political and governmental factors and social factors are determinants of property values.

**Physical Factors;** The physical factors comprise of two major components natural resources and human improvement. Natural resource include the land itself, its topography; mineral resource, plant and animals life, climate and scenic beauty that determine the highest and best use of a land parcel. Human improvements are the development on specific site and neighbourhoods of the site. The value of a property

depends on the volume of development on the site which market can absorb at a particular point in time and the quality of improvement. Therefore values of property vary with the volume of development.

**Economic factors;** Economic factors that influence property values are the forces influencing demand and supply of properties. The major economic factors that influence the demand for properties includes economic base of an area, level of employment and income and price level that affect the purchasing power of people.

**Social factors;** Social factors that influence property values include demographic characteristics of an area, attitudes and life style. Demographic characteristics includes population size, population rate of growth or decline, birth rate and death rate, rate marriage and divorce all that affect the level of demand for properties. People attitude and life style will directly affect their taste and fashion and consequently their demand for various types of property.

**Political factors;** Political factors are government regulations and policies that influence activities in property market. These are regulations that are directly that are directly meant to control the development of land and uses those that are for general control of the economy like fiscal and monetary policies. The laws that are specifically meant to control property development and uses include zoning and subdivision regulation, buildings, codes, environmental and health regulations. They influence the supply of property in an area; if the laws are stringent they may reduce supply of property; on the other hand if the law is lax this may increase property supply.

However, Olayonwa (2012) stressed that all the aforementioned factors above are attributable to neighbourhood characteristics. In other word, each of the following factors mentioned above can either be found or missing in a particular neighbourhood

which in turn has a significant impact to the determination of rental value in a particular neighbourhood. Accordingly, property highlights or qualities like property class (disengaged or semi-isolates house, square of pads or transformation property), neighbourhood allure (profoundly, reasonably or inadequately appealing area), number of rest rooms (in the house or level), the component of land (in square meters), the year property is or to be sold or assessed, the quantity of washrooms, the property type (chateau, occupant house, story building or level), and the local classification (rural, restrictive, low thickness or ghetto) that have critical impact on property estimations (costs) can be recognized and used to evaluate, keep up with as well as further develop the genuine market worth of a private land property by real estate agents, property valuers and different experts. Albeit, a few property attributes can be related to private land properties, just are not many significant ones essentially affect the market upsides of such properties. (Igbinsosa, 2011).

### **2.3 The Impact of Neighbourhood Characteristics and other Related Factors on House Prices.**

The availability of services and opportunities in neighbourhood is a pathway through which neighbourhood can influence people safety. Access to employment opportunities, public services, efficient transportation system, effective security, and good schools directly affects peoples well being. (Balestra and Sultan, 2015). Thus, since housing represent the most basic of human want which has a profound impact on the health, welfare and productivity of individuals (Olujimi, 2010). And the rental housing market is characterized as imperfect and inefficient because of the complexity and most importantly the heterogeneity of the product which makes each rental housing market to be confined to a given neighbourhood. This technically means that housing marketing in one area or neighbourhood may not necessarily be a true representation of the other

market in a different neighbourhood (Wichramaarachachi, 2016). However, it is based on the fact above that the following literatures are reviewed:

Therriault *et al.* (2005) appraised the significance of accessibility on house prices from the perspective of households in the city of Quebec based on travel time from residents to service areas. The findings of the study revealed that residential property values increase with good accessibility.

Yan and Zhang (2006) conducted a study on the neighbourhood characteristics and housing price in Hanzhou, China, they adopted the hedonic price model to determine the impact of neighbourhood characteristics on housing price. The study revealed that neighbourhood characteristics do affect housing prices. Although, area and locations are still the key factors affecting rental values of residential properties. They claimed that other variables such as the nature of environment, community environment, proximity to good schools, and physical and cultural facilities are as similar as other means of making estimation. Visser and VanDam (2006) conducted a study on the “price of the spot. Neighbourhood characteristics and house prices in the Netherlands. The researcher uses the hedonic price model to analyze the study. However, the study indicated that neighbourhood characteristics have different housing market and that the influences of the environmental attributes on house price varied between apartment and simple family dwelling. Ahlfeldt and Maennig (2007) carried out an investigation on the impact of sport ARENAS on land values in Berlin, Germany. The findings of the study show that sport arenas have a significant positive impact within a radius of about 3000 meters. Although, the study also indicated that the pattern of the impact varies depending on how planning authorities address the potential negative externalities. This was made

possible by the researchers to make their findings using the popular hedonic price model.

Mathews (2007) conducted a study titled “the impact of proximity and residential values; Do nearby stores really run down property values?” The study aimed at examining the impact of proximity to nearby stores on values of residential properties. The researcher uses the hedonic price model where he uncover that proximity to retail have negative effect on the values of housing that is within a short distance of about 200 to 300 feet and the study also revealed that the values of residential neighbourhood with about quarter mile away increases.

Vor and Groot (2009) investigated on the impact of industrial site on residential property values in Netherlands. The researchers used the hedonic price model to examine the relative impact of presence of an industrial site in a neighbourhood on housing price. The study revealed that distance to an industrial site has a statistical significant negative effect on the value of residential properties.

In another related study, Krupka and Noonan (2009) carries out a study on “neighbourhood dynamics and the housing price. Effect of spatial targeted economic development policy in USA. In the study, they used simultaneous equation to examine the effect. However, the result shows that there is a relationship between housing price and neighbourhood characteristics and it lays bare simultaneous effect of these characteristics on one another. Chiodo *et al.* (2010) examines the relationship between the housing quality, public schools and price of a house. They used the nonlinear boundary fixed models to examine the relationship between the housing quality, public schools with residential prices in St Louis metropolitan area of USA. The finding revealed that the prices of houses located in the neighbourhood with presence of a high

quality school the house price. This is to say that there is a relationship between accessibility to high quality school with housing price. Also, Furthermore, Ki and Jayantha (2016) investigated the effect of urban redevelopment on neighbourhood housing prices, their study aimed at examining how redevelopment as a factor affect housing values in China. The findings of the study revealed the effect of redevelopment varies with proximity between the properties and the redevelopment site, and properties whith the closest proximity with redevelopment site have a great increase in price after redevelopment but having less during the time of construction. On the other hand, Islam (2012) studied the impact of neighbourhood characteristics on house prices in Alberta, Canada. He employed the use of multiple regression models to examine the effect of neighbourhood characteristics such as the crime level on house price. The study revealed that household's income and adjacency to ravines positively influence house prices. Although, adjacent to crime generally affect the house price negatively but the impact in a negligible one.

Iqbal (2012) also carried out a study on property values, parks and crime in Stackholm, Sweden. The researcher uses the hedonic price model to examine the effect of parks and crime on house value. The study shows that parks that originally show a positive impact on house prices may affect prices negatively as a result of relatively high rate of violence and vandalism in the neighbourhood.

Wang *et al.* (2012) carried out an investigation on neighborhood quality and housing price: Evidence from urban micro data and using the hedonic price model, they aimed at examining the impact of neighbourhood quality on housing value in China. The result of the study however suggests that house price is significantly affected positively by human capital while cultural capital such as the cultural diversity has significant negative effect on house price. Also, the study also revealed that having kindergarten

and hospital near neighbourhood positively affect housing value while the presence of internet café and the transportation service is negative attributes.

In Nigeria, Oloke *et al.* (2013) examines the factors affecting residential property values in Mogodo Neighbourhood Lagos state. The study which was conducted to examine the relative impact of variables such as: the structural, neighbourhood, location and travel distance cost. In the study, they adopted the percentage and relative importance index. However, the result of the study suggests that travel distance and cost does not affect residential property value as other factors do. Notwithstanding, the consequence of the examination suggest that movement distance and cost does not have effect on rental values of residential property. Ankeli and Daban (2015) conducted a research on housing condition and residential property rental values in Ede, Nigeria. They used the descriptive statistics to examine the relative impact of housing conditions on rental values of residential properties. However, the study revealed that properties with better conditions in terms of infrastructure and physical soundness command higher rental values compared to properties with less. Adama and Jinadu (2015) in a research titled an evaluation of the relationship between the neighbourhood quality and property value in Minna metropolis, Niger state using correlation and ANOVA. This assessment was done to describe and compare neighbourhoods in terms of physical condition of the built and natural environments as well as provision of infrastructure and services. To standardize the comparison of neighbourhoods, a neighbourhood quality index (N.Q.I) was derived from twenty-two (22) aspects of the neighbourhood condition. The neighbourhood variables for measuring quality include power supply, drainage system, and security; refuse disposal facilities, water supply, road condition, condition of houses and noise level. The study revealed that there is a direct relationship between neighborhood quality and property values. GRA and Tunga command higher rent and

have higher property value while Maiturnbi commanded lowest rent and have lowest property value etc.

In another connected study, Popoola *et al.* (2015) carried out a research on the effect of environmental quality on property rental values in Peri-urban neighbourhoods of Minna, Nigeria. The study aimed at examining the effect of environmental quality on rental values of residential accommodation at the peripheral neighbourhood of Minna. In the examination, the neighbourhoods were clustered in to south western zone, north western zone and the north eastern zone. They subjected the data to both descriptive and inferential statistics (correlation). However, the study revealed only about about 23% variations in rent can be attributed to environmental quality and other causes of variation in rent are as a result of other factors relating to physical, legal and location attributes of individual property.

Hillsdon *et al.* (2015) carried out a study on “an assessment of the relevance of the home neighbourhood for understanding environmental influence on physical activity; How far from home do people roam. The study revealed that neighbourhood characteristics do influence the people choice of residence and this also affect the value of house in a neighbourhood. Huang *et al.* (2015) conducted a study on the geospatial impact of crime on neighbourhood property values. The study aimed at examining the impact of crime on housing values with the aid of hedonic price models analytical tool. The study indicated that crime has a negative impact on housing values and the price of housing increases with increase in distance between the housing locations with the crime location regardless of the crime category. In a related study, Usman, (2016) undertook a study on the impact of housing attributes on rental values of residential properties in Minna, Nigeria. The purpose of the study was to examine the relative

impact of housing attributes on rental values of residential properties. In his study, he combined the location, neighbourhood and structural attributes to determine the impact using the standard multiple regression analysis. He selected the Kpakungu, Tudun Fulani and London Street neighbourhoods for his analysis. However, the findings revealed that condition of the building component is the main determinant factor of rental value and other factors such as the location and neighbourhood attributes and adequacy of building facilities follows suit. Similarly, Olajide and Lizam, (2016) carried out a study on the impact of residential neighbourhood crime on housing investment in Nigeria. They adopted a logistic regression to examine the relative impact of neighbourhood crime on housing investment. However, the study indicated that residential neighbourhood crime is capable of impacting on residential property values. Furthermore, Asikhia, *et al.* (2016) conducted a study on the effect of housing facilities on rental values of residential properties in Benin City, Nigeria. In the study, multiple regression models were used to analyze the data and to also test the hypothesis. However, the study was conducted around the Ogboka, Ligbowo and GRA neighbourhood of Benin City and the result of the study revealed that availability of standard housing facilities have a significant impact on the rental values of residential properties.

Lin (2016) assessed the effect of parks on surrounding property values in the City of Minneapolis, MN United States. The study revealed that neighbourhood proximity to parks has a significant effect to residential property values. Although, it depend on the features and characteristics present in the park. The researcher added that it is difficult to draw a conclusion on the relationship between parks and property values. Therefore, the outcome of the finding changes from one place to another.

Wokero (2017) carried out a study on the neighbourhood quality attributes and their implications on real estate market in Port Harcourt, Nigeria. The study covers the Old GRA and D-line neighbourhood and the researcher uses the unvaried analytical tool to examine the impact of neighbourhood quality attributes on real estate values. However, the result of the investigation revealed that availability and adequacy of neighbourhood attributes are key in enhancing property values and it reduces the rate of void in residential buildings. In the same year, Collinson and Ganong (2017) undertook a study on the effect of housing voucher design policy on rent and neighbourhood quality. The study reveals that a more generous voucher across a metro area increases rent with minimal impact on the neighbourhood quality.

Also, Kim and Jin (2019) undertook a study on the effect of land use on housing price and rent in Chicago metropolitan area. The study analyses how job accessibility and mixed land uses satisfy housing consumer's needs. They use endogeneity and partial autocorrelation to analyze the data between land uses and housing prices. However, the result indicated that an increase in job accessibility leads to an increase in housing prices, where as it is not related to rent. And again, mixed land uses reduce housing prices and increases rent.

In a related study, Ting (2019) conducted a study on the heterogeneity in housing attributes prices. An interaction approach between housing attributes absolute location and household characteristics in Shenzhen, China. The study revealed that marginal prices of key housing attributes are not constant but varies with household profile and absolute location context. Below is a table showing a summary of the literature reviewed above for the purpose of finding a link and gap in the study:

**Table 2.1: Summary of the Literature on the impact of Neighbourhood Characteristics and other Related Factors on Values of Residential Properties.**

<b>Authors, year &amp; location</b>	<b>Aim of the study</b>	<b>Methodology</b>	<b>Findings</b>	<b>Remarks</b>
Therault <i>et al.</i> (2005). Canada	Appraises the significance of accessibility on house prices	Traditional hedonic housing price model.	The findings of the study revealed that residential property values increases with good accessibility.	The study only looked at accessibility as a measurable factor to determine the significant impact on house price
Yan and Zhang (2006). China.	The study examines the neighbourhood characteristics and housing price	Traditional hedonic housing price model.	The study revealed that neighbourhood characteristics do affect housing prices. Although, area and locations are still the key factors affecting rental values of residential properties.	The study claimed that neighbourhood characteristics play little role in determining rental value compared to mlocation. Though only few neighbourhood attributes were investigated.
Visser and VanDam (2006). Neherlands	The study examines the effect of neighbourhood characteristic on different housing market	Traditional hedonic housing price model	the study indicated that neighbourhood characteristics have different housing market and that the influences of the environmental attributes on house price varied between apartment and simple family dwelling	The study did not include neighbourhood characteristics such as crime rate and proximity to services

**Table 2.1: Cont'd**

Ahlfeldt and Maennig (2007). Germany	The study examines the impact of sport ARENAS on land values in Berlin,	Hedonic price models	The findings of the study shows that sport arenas have a significant positive impact within a radius of about 3000 meters. Although, the study also indicated that the pattern of the impact varies depending on how planning authorities addresses the potential negative externalities.	The study did not cover other vital neighbourhood attributes but rather considered only the presence of sport ARENA as it affect house price.
Mathews (2007). USA	The study aimed at examining the impact of proximity to nearby stores on values of residential properties.	Hedonic price models	The study shows that proximity to retail have negative effect on the values of housing that is within a short distance of about 200 to 300 feet and the study also revealed that the values of residential neighbourhood with about quarter mile away increases.	Proximity to nearby store was the only neighbourhood attributes that was used to make an assessment. Therefore the study fall short of other essential neighbourhood attributes.
Vor and Groot (2009) Netherlands.	The study examines the impact of industrial site on residential property values	Hedonic price models	The study revealed that distance to an industrial site has a statistical significant negative effect on the value of residential properties.	The study did not take in to consideration the neighbourhood attributes but rather consider only industrial site as a measurable factor.

**Table 2.1: Cont'd**

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Krupka and Noonan (2009) USA	The study examines “neighbourhood dynamics and the housing price.	simultaneous equation and hedonic price models	The result shows that there is a relationship between housing price and neighbourhood characteristics and it lays bare simultaneous effect of these characteristics on one another.	The study covers a good number of neighbourhood variables for assessment
Chiodo <i>et al.</i> (2010) USA	The study aimed at examining the relationship between the housing quality, public schools and price of a house.	Nonlinear boundary fixed models	The finding revealed that the prices of houses located in the neighbourhood with presence of a high quality school the house price. This is to say that there is a relationship between accessibility to high quality school with housing price	The study considered a limited attributes of neighbourhood for assessment i.e the public schools together with the housing quality.
Ki and Jayantha (2010) .China.	The study investigate the effect of urban redevelopment on neighbourhood housing prices,	Traditional hedonic price model	The findings of the study revealed the effect of redevelopment varies with proximity between the properties and the redevelopment site, and properties with the closest proximity with redevelopment site have a great increase in price after redevelopment but having less during the time of Construction.	The study is limited to a single variable as a measure of assessment which “redevelopment”

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**Table 2.1: Cont'd**

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Islam, (2012) Canada.	The impact of neighbourhood characteristics on house prices in Alberta,	Multiple regression model.	The study revealed that household's income and adjacency to ravines positively influence house prices. Although, adjacent to crime generally affect the house price negatively but the impact is a negligible one.	The study use few explanatory variables to represent neighbourhood characteristics of which the result may be biasas a result of the selection
Iqbal (2012) Sweedden.	A study on property values, parks and crime in Stackholm,	Hedonic Price models	The study shows that parks that originally show a positive impact on house prices may affect prices negatively as a result of relatively high rate of violence and vandalism in the neighbourhood.	Again, the study is limited in terms of the measurable factor, thereby neglecting some vital neighbourhood variables in the assessment.

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**Table 2.1: Cont'd**

Wang <i>et al.</i> (2012). China	“neighbourhood quality and housing price: Evidence from urban micro data”	The hedonic price model,	The result of the study however suggests that house price is significantly affected positively by human capital while cultural capital such as the cultural diversity has significant negative effect on house price. Also, the study also revealed that having kindergarten and hospital near neighbourhood positively affect housing value while the presence of internet café and the transportation service is negative attributes.	The study however uses the data from the previous researches conducted to draw a conclusion. This cannot be justified because the neighbourhood attributes of the previous investigations might have been altered
Oloke, <i>et al.</i> (2013). Lagos, Nigeria	Examines the factors affecting residential property values in Mogodoneighbourhood Lagos State.	The percentage and relative importance index.	The result of the study suggests that travel distance and cost does not affect residential property value as other factors do	The study uses sufficient explanatory variables of neighbourhood and that of other attributes that affect residential property values. However, the study dwell more on the travel distance factor

**Table 2.1: Cont'd**

Ankeli and Dabara (2015). Ede, Nigeria.	Housing condition and residential property rental values in Ede, Nigeria.	Descriptive statistics	The study revealed that properties with better conditions in terms of infrastructure and physical soundness command higher rental values compared to properties with less.	The study focused on housing conditions as a determinant factor of value without taking into consideration the neighbourhood characteristics.
Adama and Jinadu (2015). Minna, Nigeria.	An evaluation of the relationship between the neighborhood quality and property value in Minna metropolis, Niger state.	Correlation and ANOVA analytical tool	The study revealed that there is a direct relationship between neighbourhood quality and property values. GRA and Tunga command higher rent and have higher property value while Maiturnbi commanded lowest rent and have lowest property value etc	The study has indeed put so many neighbourhood attributes in to considerations such as the amenities but couldn't include neighbourhood characteristic such as the socio-cultural belief of the neighbourhood which today is a factor for consideration.
Popoola <i>et al.</i> (2015). Minna, Nigeria.	The effect of environmental quality on property rental values in Peri-urban neighbourhoods of Minna, Nigeria.	Descriptive and inferential statistics (correlation)	The study revealed only about about 23% variations in rent can be attributed to environmental quality and other causes of variation in rent are as a result of other factors relating to physical, legal and location attributes of individual property.	The study focused more on the environmental quality as a determinant factor without paying much attention on the neighbourhood characteristics.

**Table 2.1: Cont'd**

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Hillsdon <i>et al.</i> (2015)	“An assessment of the relevance of the home neighbourhood for understanding environmental influence on physical activity”	Review literatures	The study revealed that neighbourhood characteristics do influence the people choice of residence and this also affect the value of house in a neighbourhood	The study only looked at the relevance of some neighbourhood features on decision making without looking at the significant effect of these attributes on house value
Huang <i>et al.</i> (2015). China.	The geospatial impact of crime on neighbourhood property values	Hedonic price models	The study indicated that crime has a negative impact on housing values and the price of housing increases with increase in distance between the housing locations with the crime location regardless of the crime category	The study fall short of enough neighbourhoods characteristics by using only crime rate as an explanatory variable.
Olajide and Lizham (2016). Nigeria.	The impact of residential neighbourhood crime on housing investment in Nigeria.	The logistic regression models	The study indicated that residential neighbourhood crime is capable of impacting on residential property values.	The study uses only a single determinant factor (crime). The study however did not take into consideration other neighbourhood features which may make the selection of the neighbourhood attribute used to be a bias one.

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**Table 2.1: Cont'd**

Asikhia <i>et al</i> (2016) Benin City, Nigeria.	The effect of housing facilities on rental values of residential properties in Benin City, Nigeria.	Multiple regression models	The study revealed that availability of standard housing facilities has a significant impact on the rental values of residential properties.	The study focused more on the housing facilities a means of determining rent but pays little or no attention to the neighbourhood characteristics.
Lin (2016). USA	The effect of parks on surrounding property values in the City of Minneapolis, MN United States		The study revealed that neighbourhood proximity to parks has a significant effect to residential property values. Although, it depend on the features and characteristics present in the park.	Again, just like some of the previous research, the study fall short of other neighbourhood attributes but instead uses the surrounding parks as an explanatory variable alone which may not be enough.
Wokekoro (2017). PortHacourt, Nigeria.	Neighbourhood quality attributes and their implications on real estate market in Port Harcourt, Nigeria	Univariate analytical tool	the investigation revealed that availability and adequacy of neighbourhood attributes are key in enhancing property values and it reduces the rate of void in residential buildings	The study takes in to consideration a good number of the neighbourhood attributes for examination. Although, some of the explanatory variables were not captured.

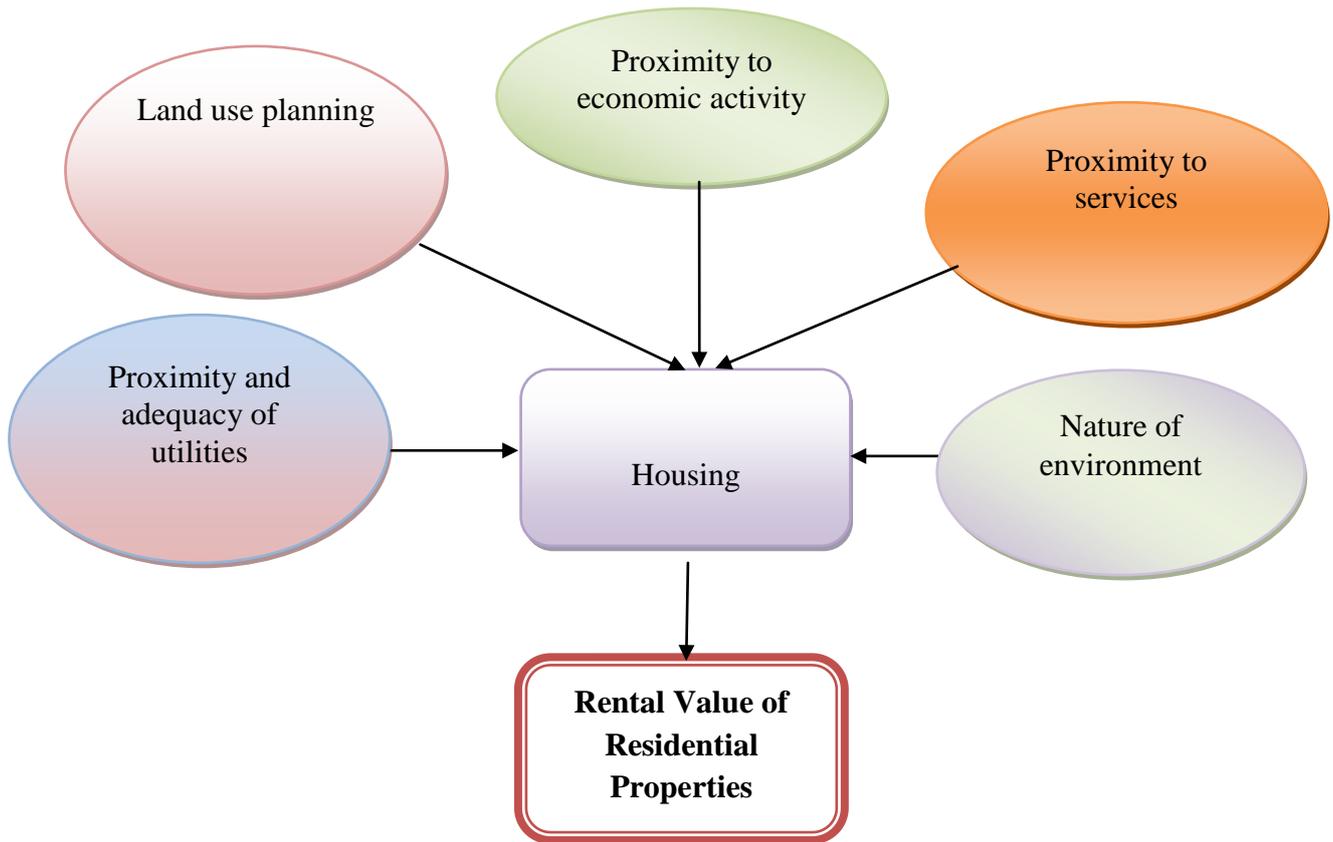
**Table 2.1: Cont'd**

Collinson and Ganong (2017). USA.	The effect of housing voucher design policy on rent and neighbourhood quality.	Descriptive statistics	The study reveals that a more generous voucher across a metro area increases rent with minimal impact on the neighbourhood quality	The study didn't take in to consideration any of the neighbourhood characteristics which makes the study less attributable to the subject matter.
Kim and Jin, (2019). Chicago, USA.	The effect of land use on housing price and rent in Chicago metropolitan area.	Endogeneity and partial autocorrelation models	The result indicated that an increase in job accessibility leads to an increase in housing prices, where as it is not related to rent. And again, mixed land uses reduce housing prices and increases rent.	The study did not take into consideration of other neighbourhood characteristics but considered only mixed land use and job accessibility as measurable variable which is obviously not enough for justification.
Ting (2019) Shenzhen, China.	The heterogeneity in housing attributes prices. An interaction approach between housing attributes absolute location and household characteristics		The study revealed that marginal prices of key housing attributes are not constant but varies with household profile and absolute location context.	Uses only a handful number of neighbourhood attributes and restricted the study to just two forms of residential properties.

### **2.3.1 Summary of Neighbourhood Characteristics on Rental Values of Residential Properties and Link**

From the above Summary, it is glaring those local qualities (both the conveniences and other actual traits essentially affect the upsides of private properties. The critical impact of neighbourhood highlights to house cost can't be over underlined as neighbourhood and lodging can't be isolated, there is collaboration between the two.

It is very paramount to mention here that housing and neighbourhood amenities will continue to draw discussion over some time, this is because neighbourhood features of one geographical location, region or country differs from one place to another and it differs over time. It is on this basis that a study of the effect of neighbourhood on rental values of residential properties will continue to dominate discussion globally and for many years to come because of the heterogeneity nature of every neighbourhood. Beside, many of these studies were foreign base and the ones conducted locally can be seen from a different approach or methodology or conducted in a different neighbourhood.



**Figure 2.0: Conceptual framework**

**Source: Researcher, (2019)**

## **2.4 Conceptual Framework**

For the purpose of the study, the dependent variable is only the rental values of residential properties across the three selected neighbourhood with the exclusion other capital values. This is the main interest in the study; to examine rental value of a residential property as a function of the individual neighbourhood characteristics. The study examine the impact of neighbourhood characteristics on rental values of residential properties in Minna. However, land use planning (Access road network, adherence to zoning ordinance, adherence to building set back, landscaping), Proximity to services (schools, parks, hospitals, religious facilities, security post or police station), proximity to economic activities (Religion, beliefs, attitudes, notion and tribe or ethnic group) and nature of the environment (pollution, erosion, hilly, sloppy or gully). Form

the independent variables as seen from the constructed model above. Hence, the study seeks to examine the influence of these neighbourhood characteristics on rental values of residential properties in the study area.

In the application of the framework to the study of the impact of neighbourhood characteristics on residential property rental value, the variables from neighbourhood characteristics are examined by taking in to account of the neighbourhood, adequacy and proximity to amenities, adherence to land use planning and proximities to services were considered to test the hypothesis on whether if there is a significant relationship between the neighbourhood characteristics and rental values.

## **2.5 Knowledge Gap**

Several authors have conducted studies on the impact of neighbourhood characteristics on the values of residential properties across the globe. Meanwhile, most of these researches were conducted in overseas. Example of these studies includes the study of Wang *et al.* (2012); they investigated Neighbourhood quality and Housing value. Also Yan and Zhang (2006) undertook a study on Neighbourhood characteristics and housing prices using the hedonic price model.

Islam (2012) also investigated the impact of Neighbourhood characteristics on house prices in Canada. However, a handful number of the studies conducted in Nigeria were the studies of Popoola *et al.* (2015), Adama and Jinadu, (2015), Wokero (2017) who have all found the relationship between neighbourhood attributes and property values both using the correlation , ANOVA and a unwarranted analytical tool respectively. In spite of the related researches that were conducted in Nigeria, only a handful of them also were conducted in the study area. Studies of authors such as; Usman (2016), Popoola *et al.* (2015) and Adama and Jinadu (2015). Although, the aforementioned

researches used multiple regressions, correlation and ANOVA to examine the relative impact of the neighbourhood characteristics on rental values. It is on this basis that research investigated the impact of neighbourhood characteristics on rental values of residential properties in Minna to fill in the void left by looking at it from a different analytical approach (multiple regression), new neighbourhood and with the inclusion of neighbourhood socio-cultural belief as an additional explanatory variable determinant for the purpose of this study, neighbourhood characteristic such as the land use plan, proximity to economics activities, proximity to social service, socio- culturally and the nature of the environment are analyze to examine the relative impact on property value.

### **CHAPTER THREE**

## **RESEARCH METHODOLOGY**

### **3.1 Sources of Data Collection**

All relevant data needed for this study are basically sourced from the primary sources of data.

#### **3.1.1 The Primary Source of Data**

The primary source of data collection refers to all first-hand data gotten from field survey by the researcher. The data gotten from this source is known as the primary data. In order to achieve the aim of this research however, the primary data is sourced from the head of each household or rent payer. This is achieved through the administration of questionnaires and oral interview of respondents in the study area.

### **3.2 Research Design**

There are a number of research designs that a researcher may adopt depending on the nature and scope of the study ranging from descriptive, experimental, correlation, diagnostic and explanatory research designs. For the purpose of this research however, the experimental research design adopted as it is used to establish a relationship between the cause and effect of a situation. It is a causal research design where the effect caused by the independent variable on the dependent variable is observed. It is a highly practical research design method as it contributes towards solving a problem at hand in determining the relationship between the independent variable and the dependent variable to draw inferences.

### 3.3 Population of the Study

This comprises of the individual members of the study population from whom relevant information needed for this study is gotten. In this case, the sample elements for this research are the occupants of residential properties put up for rent in F-Layout, Tunga Lowcost Housing and Bosso town respectively. Below is a table showing the breakdown of the population for the study. However, the total numbers of registered estate firms were 19 (Niger State NIESV Directory, 2014).

**Table 3.1 Population for the study**

<b>Nieghbourhood</b>	<b>Bosso Environ</b>	<b>Tunga low cost</b>	<b>F-lay out</b>
	7,564	1,926	980
<b>Total:</b>	<b>10,470</b>		

**Source: AEDC, (2019)**

### 3.4 Sample Frame

The sampling frame for this study is the list of households on rental apartments of one bedroom, two bedrooms and three bedrooms respectively from the three residential neighborhoods. Namely; F-Layout, Tunga Locost and Bosso Town. (Field Survey, 2019).

### 3.5 Sample Size

This is the actual number of respondents required for the study. It represents the population on which the actual study was carried on. The sample size that is adopted for this study is determined based on the simplified formula developed by Kothari (2004).

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2(N-1) + z^2 \cdot p \cdot q} \dots\dots\dots \text{Equation (2)}$$

Where: n: is the sample size for a finite population

N: size of population which is the number of households

p: population reliability (or frequency estimated for a sample of size n), where p is 0.5 which is taken for all developing countries population and p + q= 1

e: margin of error considered is 3% for this study.

z: normal reduced variable at 0.05 level of significance z is 1.96.

Using Kothari formula:

$$N = 980, 1,926, 7,564$$

$$p = 9\%$$

$$q = 1 - p = 1 - 0.09 = 0.91$$

$$e = 0.03$$

$$z = 1.96$$

**F-Layout:**

$$n = \frac{(1.96)^2 \times 0.09 \times 0.91 \times 980}{(0.03)^2(980 - 1) + (1.96)^2 \times 0.09 \times 0.91} = 257$$

$$n = 257$$

**Tunga Low Cost:**

$$n = \frac{(1.96)^2 \times 0.09 \times 0.91 \times 1926}{(0.03)^2(1926 - 1) + (1.96)^2 \times 0.09 \times 0.91} = 295$$

$$n = 295$$

**Bosso Town:**

$$n = \frac{(1.96)^2 \times 0.09 \times 0.91 \times 7,564}{(0.03)^2 (7,564 - 1) + (1.96)^2 \times 0.09 \times 0.91} = 334$$

$$n = 334$$

Therefore, Sample size for the study is 886.

### **3.6 Sampling Technique**

Sampling technique refers to how the required sample size for the study is selected from the total population for the study. For the purpose of this study, multistage sampling technique was adopted consisting of cluster and simple random sampling techniques. The researcher found this method appropriate for the study in view of the large number of residential properties in the study area and also to guard against being bias as each member of the population size has equal chance of being selected. Cluster technique was adopted by administering the questionnaires base on the population density in the study area. However, these questionnaires were administered randomly across the three density neighbourhood with equal chances of being selected.

### **3.7 Data collection Instrument**

A survey research using questionnaire with both structured and unstructured questions which are related to both the independent and dependent variables were administered directly to the respondents for the purpose of eliciting first-hand information from the three selected neighbourhoods. The target population for the study was sampled using appropriate sampling techniques and, generalization of the entire population was done in the sampled population.

The rationale behind the selection of the survey research was borne out of the numerous advantages associated with it use. Firstly, it allows generalization from a sampled population to be made so that inferences can be made about the characteristics

(Creswell, 2014). Secondly, the choice was due to the economy of the design and the rapid turnaround in data collection. It also allows identification of attributes of large population from a small group of individuals (Fowler, 2009).

The questionnaire survey was a cross – sectional type with data collected only once throughout the study period. In addition to the survey research, direct observation was also carried out by the researcher. This observation allowed the identification of physical features that are significant to the outcome of this study.

### **3.8 Instrument for Data Collection**

#### **3.8.1 Questionnaire Design**

A questionnaire is a set of questions usually printed in order to gather relevant information for research. As for this study, a closed-ended questionnaire was designed and administered to the respondents in the study area while open ended questionnaires were administered to licensed Estate Surveyors and Valuers with firms in the study area. The questions are designed to generate answers as to the background of the rent payers and to also get information on the rental trend of the different classes of properties under investigation in the study area. It also consists of questions relating to the rent payers and opinion on the effect of housing and neighbourhood characteristics on residential property rental values. The questionnaires were administered randomly in each of the neighbourhood.

### **3.9 Method of Data Analysis**

All data collected from field survey were subjected to both descriptive and inferential statistical techniques using both Statistical Package for Social Science (SPSS) and a manual analysis in analyzing the adequacy of neighbourhood characteristics in the study area.

Multiple regression analytical technique is employed in analyzing the impact neighbourhood characteristics on rental values of residential properties in the study area. Descriptive analytical tool were employed to analyze the demographics characteristics. However, a 5-point likert scale technique were adopted to analyze the adequacy/conditions of neighborhood characteristics and to examine the influence of neighborhood characteristics on rental values of each neighborhood, the scales were: Grossly inadequate, Inadequate, Moderate, Adequate and very adequate to assess the level of adequacy of neighbourhood characteristics. Less than 1km, 1km, 2km, 3km and above 3km were used to assess the proximity of the neighbourhood to economic activities and social services. However, not at all satisfy, slightly satisfied, moderately satisfied, very satisfied and extremely satisfied were the five point likert scale used to assess the level of neighbourhood satisfaction to socio cultural behaviour. On the occupants opinion for factors influencing their choice of residence using environmental elements; Not at all influential, slightly influential, somewhat influential very influential and extremely influential were the basis for assessment's. Strongly agree, agree, undecided, disagree and strongly disagree were the five (5) point scales used assessed the professional estate surveyors opinion on the factors influencing rental values of residential properties in each neighbourhoods". The variations in the scales point scores are attributed to the varying peculiarity of the questions in the instrument and its adequacies. Lastly, the weighted mean score were used to test the hypothesis using the multiple regression analytical technique;

The multiple regression is specified in a linear form as;

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_n x_n + e_i \dots \dots \dots \text{Equation (3)}$$

Where:

“y” is the dependent variable (Rental values)

$x_1, x_2, x_3, \dots, x_n$  are the independent variables; (Land use planning, proximity to economic activities, proximity to social services, proximity and adequacy of utilities and nature of the environment)

“ $\beta_0$ ” is the intercept parameter

$\beta_1, \beta_2, \beta_3, \dots, \beta_n$  are coefficient of the independent variables

“ $e_i$ ” is the error term.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### 4.1 Introduction

In an attempt to achieve the research aim and objectives and to also ensure that the data obtained from the field survey are objectively analyzed. Both the descriptive and inferential statistical tools were employed and the results are presented in this chapter. The chapter also provided information on demographic characteristics of the respondents, descriptive analysis of the identified neighbourhood, its adequacy as well as the evaluation of location characteristics of the neighbourhood areas were respectively covered in this chapter and its impact on the rental values. Information on the profile of current annual rental values of residential properties in the category of one, two and three bedroom apartments in the respective areas equally formed part of the chapter.

Multiple regression technique dominated the last item in the chapter of which the final results were analyzed to determine the impact of neighbourhood characteristics housing on rental values of residential properties in Minna metropolis. The result of this were adopted to test the hypothesis of the study in order to established whether if there a significant relationship between neighbourhood characteristics and rental values of residential properties in the study area.

##### 4.1.1 Retrieval of Questionnaire

Table 4.1 shows the number of questionnaire retrieved from the field, a total of 886 questionnaires were administered across the three neighbourhood under investigation and below is the breakdown of how these questionnaires were administered and also retrieved for onward action.

**Table 4.1: Number of Valid Questionnaires Retrieved**

<b>Neighborhood</b>	<b>No. Administered</b>	<b>No. retrieved</b>	<b>Percentage</b>
Bosso Environ	334	220	65.9%
Tunga lowcost	295	200	67.7%
F-layout	257	201	78.2%
<b>Total</b>	<b>886</b>	<b>621</b>	<b>70.0%</b>

**Source: Field Survey,(2019)**

Table 4.1 shows that a total number of 621 questionnaires representing 70.0 percent were retrieved from the initial 886 questionnaires distributed as highlighted in the method section of chapter three. A total of 621 questionnaires were retrieved from the three neighbourhood as valid representing 70.0 percent which is considered valid for the analysis.

## 4.2 Descriptive Analysis of the Demographic Data

**Table 4.2.: Gender of respondents**

<b>Gender</b>	<b>Bosso Environ</b>		<b>Tunga lowcost</b>		<b>F-layout</b>	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
<b>Male</b>	182	82.7	127	63.5	152	75.6
<b>Female</b>	38	17.3	73	36.5	49	24.4
<b>Total</b>	<b>220</b>	<b>100%</b>	<b>200</b>	<b>100%</b>	<b>201</b>	<b>100</b>

**Source: Field Survey,(2019)**

Table 4.2 shows the percentage of gender of responses in the study areas where 82.7% and 17.3 % were recorded for male and female respectively from the total number of respondents in Bosso environ, while 63.5% constitute male and 36.5% for female in

Tunga lowcost neighbourhood. However, 75.6% and 24.4% are male and female respondents respectively in F-layout area. This indicates that male is the most predominant respondents in the study area.

**Table 4.3: Age of Respondents**

Age	Bosso Environ		Tunga lowcost		F-layout	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
<b>10-20yrs</b>	00	00%	00	00%	00	00%
<b>21-30yrs</b>	20	9.1%	08	04%	50	24.8%
<b>31-40yrs</b>	90	40.9%	40	20%	102	50.7%
<b>40-above</b>	110	50%	152	76%	49	24.3%
<b>Total</b>	<b>220</b>	<b>100%</b>	<b>200</b>	<b>100%</b>	<b>201</b>	<b>100%</b>

**Source: Field Survey,(2019)**

Table 4.3 shows the age group of respondents in the study areas where 9.1%,40.09% and 50% are respondents between the age of 20-30yrs, 30-40yrs, and above 40years respectively in Bosso town while 04%,20% and 76% are between the age of 20-30yrs, 30-40yrs, and above 40years respectively in Tunga lowcost neighbourhood. On the other hand, the percentages of respondents in F-layout constitute 24.8%, 50.7% and 24.3% with ages between 20-30yrs, 30-40yrs, and above 40years respectively. This indicates that majority of the respondents are between the ages of 40years and above in Bosso town and Tunga lowcost, while the majority of the respondents are between the age of 30-40years in F-layout.

**Table 4.4: Respondents Occupational Status**

Occupational status	Bosso Environ		Tunga lowcost		F-layout	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
<b>Unemployed</b>	52	23.7%	10	05%	21	10.45%
<b>Artisan</b>	08	3.6%	20	10%	09	4.47%
<b>Business</b>	58	26.4%	42	21%	09	4.47%
<b>Civil servant</b>	102	46.4%	128	64%	162	80.60%
<b>Total</b>	220	100%	200	100%	201	100%

**Source: Field Survey, (2019)**

Table 4.4 shows the occupational status of the respondents in the neighborhoods where Bosso environ shows 23.7%,3.6%,26.4%, and 46.4% of respondents who are Unemployed, Artisans, Business and civil servants respectively. However, Tunga lowcost respondents percentage are 05% unemployed, 10% artisans, 21% Business men and 64% civil servants while 10.45%, 4.47%, 4.47% and 80% are Unemployed, Artisans, Business and civil servants respectively in F-layout neighbourhood. This however indicates that the majority of the occupants in the three selected neighbourhood are civil/public servants.

**Table 4.5: Respondents Monthly Income**

Income(₦)	Bosso Environ		Tunga lowcost		F-layout	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
<b>Less than18,000</b>	01	0.45%	09	4.5%	06	2.98%
<b>18,000-25,000</b>	32	14.54%	50	15%	32	15.92%
<b>26,000-39,000</b>	128	58.18%	42	21%	30	14.92%
<b>40,000-59,000</b>	50	22.73%	79	39.5%	58	28.85%
<b>60,000-Above</b>	09	4.09%	40	20%	75	35.8%
<b>Total</b>	<b>220</b>	<b>100%</b>	<b>200</b>	<b>100%</b>	<b>201</b>	<b>100%</b>

**Source: Field Survey, (2019)**

Table 4.5 shows the respondents monthly income in the study areas where Bosso environ shows 0.45%, 14.54% ,58.18% ,22.73% and 4.09% of the respondents with income between the range of less than ₦18,000, ₦18,000-25,000, ₦26,000-₦39,000, ₦40,000-₦59,000 and above ₦60,000 respectively. However, Tunga lowcost respondents monthly income percentage are 4.5% earning less than ₦18,000, 15% earning between ₦18,000-₦25,000, ₦26,000-₦39,000, ₦40,000-₦59,000 and above ₦60,000 respectively. while 2.98%%, 15.92%, 14.92%, 28.85% and 35.8% of respondents in F-layout earn monthly income of between less than ₦18,000, ₦18,000-25,000, ₦26,000-₦39,000, ₦40,000-₦59,000 and above ₦60,000 respectively. This however indicates that the majority of the respondents in Bosso town have a monthly income within the range of ₦26,000-₦39,000, and majority of the respondent in Tunga have a monthly earning between occupants in the three selected neighbourhood are

civil/public servants ₦40,000-₦59,000 and majority of the respondents in F-lay out axis have a monthly income of above ₦60,000.

**Table 4.6: Respondents Category of Apartment**

Apartment type	Bosso Environ		Tunga lowcost		F-layout	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
<b>One bedroom</b>	80	36.37%	17	8.5%	25	12.43%
<b>Two bedroom</b>	90	40.10%	62	31%	34	16.91%
<b>Three bedroom</b>	50	22.72%	121	60.5%	142	70.64%
<b>Total</b>	<b>220</b>	<b>100%</b>	<b>200</b>	<b>100%</b>	<b>201</b>	<b>100%</b>

**Source: Field Survey,(2019)**

Table 4.6 shows the categories of apartments in the study areas and evidently 36.37%, 40.10%, and 22.72%, of the respondents in Bosso town reside in a one bedroom, two bedroom and three bedroom apartment respectively. In Tunga lowcost, 8.5%, 31%, and 60.5% of the respondent live in one bedroom, two bedrooms and three bedroom apartments respectively. While in F –layout axis, 12.43% live in one bedroom, and 16.91% in two bedroom and 70.64% lives in a three bedroom apartment respectively.

**Table 4.7 Showing Bench Mark for Decision making**

S/N	Bench mark			Decisions		
1	4.51- Above	V.adequate	Less than 1km	Not at all Satisfied	Not at all influential	S. Agree
2	3.51-4.50	Adequate	1km	Slightly Satisfied	Slightly influential	Agree
3	2.51-3.50	Moderate	2km	Moderately Satisfied	Somewhat influential	Undecided
4	1.51-2.50	Inadequate	3km	V.Satisfied	V.influential	Disagree
5	1-1.50	V. adequate	Above 3km	Extremely Satisfied	Extremely influential	S. Disagree

**Table 4.8 Mean Score of the Level of Adequacy of Services in theNeighbourhoods**

Niighbourhood characteristics	Bosso Town	Tunga lowcost	F-layout
	Mean score	Mean score	Mean score
<b>Security of the neighbourhood</b>	2.83	2.89	2.56
<b>Provision of drainage facilities</b>	2.83	2.89	2.56
<b>Health care facilities</b>	3.74	3.38	2.42
<b>Recreational facilities</b>	3.68	3.15	2.80
<b>Sporting facilities</b>	3.27	3.57	3.29
<b>Waste disposal system</b>	3.16	2.11	2.32
<b>Electricity supply</b>	3.51	3.14	2.64
<b>Water supply</b>	3.00	2.53	2.80

**Source: Field Survey, (2019)**

From the mean score of table 4.8 above, it shows that security in Bosso environs, Tunga low cost and F-layout are both moderate respectively. Presence of good drainage facilities are moderate in both Bosso environ and Tunga lowcost but adequate in F-layout. The table also revealed that access to good health care facilities are inadequate in both Bosso environ and Tunga lowcost respectively but adequate in F-layout

neighbourhood. On recreational facilities, the table revealed that it is inadequate in Bosso and Tunga lowcost and moderate in F-layout. Also, both Bosso environ, Tunga lowcost and F-layout is recorded to have inadequate sporting facilities while waste disposal system is moderate in Bosso neighbourhood and adequate in Tunga lowcost and F-layout environ respectively. In terms of electricity supply, Bosso rarely enjoy public electricity supply while the occupant of Tunga lowcost and F-layout enjoys it on occasional basis. Meanwhile, the supply of pipe borne water in all the locations is occasionally.

**Table 4.9 Neighbourhood Proximity to other Social Services**

<b>Neighbourhood social services</b>	<b>Bosso Environ</b>	<b>Tunga lowcost</b>	<b>F-layout</b>
	<b>Mean score</b>	<b>Mean score</b>	<b>Mean score</b>
<b>Place of employment</b>	1.27	2.95	1.40
<b>Schools</b>	4.09	4.10	3.74
<b>Health care facilities</b>	3.91	4.52	4.51
<b>Sporting centres</b>	2.27	4.50	4.50
<b>Fire service department</b>	2.95	4.99	4.47
<b>Public transport station</b>	2.50	4.84	3.63
<b>Worship centres</b>	4.33	4.62	4.11
<b>Post offices</b>	2.25	2.26	3.67
<b>Bank/Atm services</b>	3.85	4.95	5.00
<b>Police or security post</b>	4.41	4.09	5.00

**Source: Field Survey, (2019)**

Table 4.9 shows the neighbourhood proximity to other housing services and the mean score of the result on the table shows that the distances of place of employment is above 3km, 2km, and above 3km for Bosso environs, Tunga lowcost and F-layout

respectively. Distance to schools is around 1km in the three neighbourhoods. However, the proximity of these neighbourhoods to health care facilities is within 1km from Bosso environ and less than 1km from Tunga lowcost and F-layout respectively. Bosso environ distance to sporting facilities is about 3km and 2km for Tunga lowcost and F-layout respectively. The table also revealed that 2km is the distance from Bosso environ to a fire service department and less than 1km from Tunga lowcost and about 1km from F-layout neighborhood. Closeness to public transport post os about 3km, less than 1km, and about 1km from Bosso town, Tunga lowcost and F-layout respectively. Nearness to worship centres is about 1km from Bosso town, less than 1km from Tunga lowcost and about 1km from F-layout. The table also shows that from Bosso and Tunga lowcost neighbourhood to a post office is about 3km and about 2km is the distance from F-layout environ. Meanwhile, the mean score from the table above also shows that 1km, less than 1km, and less than 1km as distance from Bosso Town, Tunga lowcost and F-layout neighbourhoods to ATM services. Distance from Bosso environ and Tunga lowcost to security post is about 1km and less than 1km is recorded from F-lay out to a security post.

**Table 4.10 Neighbourhood Proximity to Economic Activities**

<b>Neighbourhood social services</b>	<b>Bosso Environ</b>	<b>Tunga lowcost</b>	<b>F-layout</b>
	<b>Mean score</b>	<b>Mean score</b>	<b>Mean score</b>
<b>Central market area</b>	3.50	4.22	3.75
<b>Shopping centres</b>	4.61	4.41	4.91
<b>Light industries</b>	4.07	4.35	3.67
<b>Nearness to C.B.D</b>	3.48	2.93	4.09

**Source: Field Survey, (2019)**

Table 4.10 shows that the proximity of Bosso town to the central market area is about 2km, and about 1km for both Tunga lowcost and F-layout respectively. Proximity of these neighbourhoods to shopping centres is about less than 1km for both Bosso environ Tunga lowcost and F-layout respectively. However, proximity to light industries to Bosso, Tunga lowcost and F-layout neighbourhood is about less than 1km. on nearness of the neighbourhood to the central business district, Bosso and Tunga lowcost is about 2km and about 1km from F-layout environ.

**Table 4.11 Influence Of Environmental Element On Decision To RentIn The Neighborhood**

<b>Environmental element</b>	<b>Bosso Environ</b>	<b>Tunga lowcost</b>	<b>F-layout</b>
	<b>Mean score</b>	<b>Mean score</b>	<b>Mean score</b>
<b>Weather/ Climate and temperature</b>	4.55	4.52	4.33
<b>Soil structure and texture</b>	4.54	4.51	4.52
<b>Waste disposal</b>	4.52	4.26	4.09
<b>Topography and gradient</b>	4.52	4.53	3.99
<b>Vegetation</b>	4.54	4.53	4.51
<b>Pollution free environment</b>	4.15	4.33	4.11

**Source: Field survey, (2019)**

Table 4.11 shows that weather/climate/temperature is not at all influential to the choice of residence in all the three locations. Soil structure and texture is also however not influential while waste disposal system not at all influential in Bosso environ, and slightly influential in Tunga low cost and F-layout respectively. On the topography and gradient of the land, the table revealed not at all influential in Bosso environ and Tunga

but slightly influential in F-layout. However, the table also revealed that nature of the vegetation is not at all influential to decision to reside in all the three neighbourhoods while pollution free environment is slightly influential in the entire three neighbourhoods.

**Table 4.12: Respondent Rent Paid Per Annum (One Bedroom)**

<b>Rent Paid per annum (₦)</b>	<b>Bosso Environ</b>		<b>Tunga lowcost</b>		<b>F-layout</b>	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
<b>₦50,000- ₦100,000</b>	48	60%	05	29.4%	05	20%
<b>₦100,000- ₦150,000</b>	32	40%	12	70.6%	06	24%
<b>₦150,000- ₦200,000</b>	00	00%	00	00%	14	56%
<b>₦200,000- ₦250,000</b>	00	00%	00	00%	00	00%
<b>₦250,00 above</b>	00	00%	00	00%	00	00%
<b>Total</b>	<b>80</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>25</b>	<b>100%</b>

**Source: Field survey, (2019)**

Table 4.12 shows the percentage of rent paid per annum of one bedroom apartments in the study areas. In Bosso area, 60% of the respondents are paying a rent with a range between ₦50,000-₦100,000 while 40% of the respondents pay a rent of within the range of ₦100,000-₦150,000 in a one bedroom apartment. In Tunga lowcost on the other hand 29.4% pay rent between ₦50,000-₦100,000 annually and 70.6% pay an annual rent between ₦100,000-₦150,000. 20%, 24%, and 56% are recorded for ₦50,000-₦100,000, ₦100,000-₦150,000, and ₦150,000-₦200,000 rent paid in F-layout neighbourhood for one bedroom apartments. This indicate rent for a one bedroom

apartment in Bosso environ and Tunga low cost are mostly going between ₦100,000-₦150,000 and between ₦150,000-₦200,000 in F-lay out neighbourhood

**Table 4.13: Rent Paid Per Annum (Two Bedrooms)**

<b>Rent Paid per annum</b> (₦)	<b>Bosso Environ</b>		<b>Tunga lowcost</b>		<b>F-layout</b>	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
<b>₦50,000- ₦100,000</b>	00	00%	00	00%	00	00%
<b>₦100,000- ₦150,000</b>	13	14.4%	03	4.8%	00	00
<b>₦150,000- ₦200,000</b>	68	75.6%	10	16.12%	00	00%
<b>₦200,000- ₦250,000</b>	09	10%	49	79.0%	08	23.5%
<b>₦250,00 above</b>	00	00%	00	00%	26	76.5%
<b>Total</b>	<b>90</b>	<b>100%</b>	<b>62</b>	<b>100%</b>	<b>34</b>	<b>100%</b>

**Source: Field survey, (2019)**

Table 4.13 shows the percentage of rent paid per annum of two bedroom apartments in the study areas. In Bosso area, 14.4% of the respondents are paying a rent with a range between ₦100,000-₦150,000 while 75.6% of the respondents pay a rent of within the range of ₦150,000-₦200,000 and 10% for ₦200,000-₦250,000 in a one bedroom apartment. In Tunga lowcost on the other hand 4.8% pay rent between ₦100,000-₦150,000 annually and 16.12% pay an annual rent between ₦150,000-₦200,000 while 79.0% between ₦200,000-₦250,000. In F-lay out neighbourhood, 23.5%, and 76.5% of the residents pay rent within the range of ₦200,000-₦250,000 and ₦250,000 and above respectively. This indicate that rent for a two bedroom apartment in Bosso town is

mostly going between ₦150,000-₦200,000 and between ₦200,000-₦250,000 in Tunga lowcost and ₦250,00 above F- layout neighbourhood respectively.

**Table 4.14: Rent Paid Per Annum (Three Bedroom)**

<b>Rent Paid per annum</b>	<b>Bosso Environ</b>		<b>Tunga lowcost</b>		<b>F-layout</b>	
<b>(₦)</b>	<b>Frequency</b>	<b>(%)</b>	<b>Frequency</b>	<b>(%)</b>	<b>Frequency</b>	<b>(%)</b>
<b>₦50,000- ₦100,000</b>	00	00%	00	00%	00	00%
<b>₦100,000- ₦150,000</b>	00	00%	04	3.3%	01	0.7%
<b>₦150,000- ₦200,000</b>	01	02%	06	05%	01	0.7%
<b>₦200,000- ₦250,000</b>	42	84%	96	79.3%	40	28.2%
<b>₦250,00 above</b>	07	00%	15	12.3%	100	70.4%
<b>Total</b>	<b>50</b>	<b>100%</b>	<b>121</b>	<b>100%</b>	<b>142</b>	<b>100%</b>

**Source: Field survey, (2019)**

Table 4.14 shows the percentage of rent paid per annum of three bedroom apartments in the study areas. In Bosso area, 02% and 84% of the respondents are paying a rent with a range between ₦150,000-₦200,000 and 84% of the respondents pay between ₦200,000-₦250,000. In Tunga lowcost on the other hand 3.3%, 05%, 79.3% and 12.3% are recorded paying a rent between ₦100,000-₦150,000, ₦150,000-₦200,000, ₦200,000-₦250,000 and above ₦250,000 respectively. While 0.7% of the resident pay an annual rent between the range of ₦100,000-₦150,000, and 0.7% also between the range of ₦150,000-₦200,000, 28.2% for ₦200,000-₦250,000 and 70.4% for above ₦250,000 in F-lay out neighbourhood respectively. This has shown that most of the three bedroom

in Bosso town and Tunga goes for an annual rent between ₦200,000-₦250,000 while the same three bedroom apartment goes for an annual rent above ₦250,00

**Table 4.15. Weighted Opinions on the Factors Affecting Rental Values of Residential Properties in the Neighbourhood**

	<b>Bosso Environ</b>	<b>Tunga lowcost</b>	<b>F-layout</b>
	<b>Mean score</b>	<b>Mean score</b>	<b>Mean score</b>
<b>Well planned neighbourhood</b>	2.17	3.67	3.51
<b>Proximity of social services</b>	2.67	3.83	3.58
<b>Proximity to economic activities</b>	3.67	4.17	2.50
<b>Sociocultural belief of the neighbourhood</b>	3.42	3.17	3.00
<b>Nature of environment</b>	3.08	3.50	3.25
<b>Proximity and adequacy of utilities in the neighbourhood</b>	3.00	3.58	3.92

**Source: Field survey, (2019)**

Table 4.15 shows level of agreement for Bosso, Tunga lowcost and F-layout neighbourhood on well planned neighbourhood effect on rental values and. Proximity to social to social services in Bosso area is undecided while it is agreed in both Tunga and F-layout neighbourhood to have effect on rental values. Proximity to economic activities as a decision factor is agreed, agreed and disagreed to be a factor influencing the rental values of residential properties in Bosso, Tunga low cost and F-layout respectively. 1Socio cultural behaviour and the nature of the environment is how ever undecided as to whether it has influence on rental values in either of Bosso environ, Tunga low cost and F-layout respectively. While proximity /adequacy of utilities in the

neighbourhoods is undecided in Bosso and agreed to have influence on rental values of residential properties in Tunga low cost and F-layout respectively.

**Table 4.16a Multiple Regression Analysis of Impact of Neighbourhood Characteristic on Rental Value of Residential Property(One Bed Room) at F-Layout (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.629 <sup>a</sup>	.396	.391	.58104	1.537	80.635	.000 <sup>b</sup>

**Source: Computed from Table 4.12, Appendix ix**

**Table 4.16b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	1.343	.173		7.787	.000
	Well planned neighbourhood	.241	.043	.245	-5.607	.000
	Proximity of social services	.134	.047	.143	2.855	.004
	Proximity to economic activities	.315	.031	.464	10.067	.000
	Nature of environment	.006	.071	.004	.081	.935
	Proximity and adequacy of utilities in the neighbourhood	.057	.044	.061	1.289	.198

**Source: Computed from Table 4.12, Appendix ix**

Table 4.16a shows that R=.629<sup>a</sup>R-Square=.396, Adjusted R-Square=.391 and Durbin-Watson=1.537. The value of R indicates a strong linear relationship between

neighbourhood characteristic and rental value of one bedroom at F-layout Minna, Niger state. The value of R-squared (.396) implies that 39.6% of the variation in rental value of one bedroom at F-layout is due to explanatory variables in the model. There is evidence of absence of autocorrelation in the data set as the value of Durbin-Watson test is approximately 2 (1.537). The value of F-statistic was 80.635 and the p-value was 0.00 implies that the overall model is statistically significant at 5%, since the obtained value of F-probability in the regression model is lower than 0.05 level of significant. Thus, the neighbourhood characteristic has significant impact on the rental value of one bed room at F-layout in Minna.

Table 4.16b shows the individual impact of each independent variable on the dependent variable. The critical regions is that if p value of t-statistics is less than 0.05, then the conclusion is that the corresponding independent variable is statistically related with the dependent variable. From the t-statistic, it can be observed that security of the Well planned neighbourhood, Proximity of social services, Proximity to economic activities, positively affected rental value of one bedroom at F-layout Minna Niger state ( $p < 0.005$ ) (i.e the higher these neighbourhood characteristics, the higher the rental value of one bedroom), while Nature of environment and Proximity and adequacy of utilities in the neighbourhood are insignificantly related with rental value of residential value of one bedroom F-layout Minna Niger state ( $p > 0.05$ )

**Table 4.17a Model Summary<sup>b</sup> Multiple Regression Analysis of the Impact of Neighbourhood Characteristic on Rental Value of two Bedroom at F-layout (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.634 <sup>a</sup>	.402	.397	.64080	1.921	82.659	.000 <sup>b</sup>

Source: Computed from Table 4.13, Appendix ix

**Table 4.17b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.518	.190		2.725	.007
	Well planned neighbourhood	.446	.048	.435	9.234	.000
	Proximity of social services	.230	.052	.221	4.426	.000
	Proximity to economic activities	.249	.050	.259	5.025	.000
	Nature of environment	.147	.079	.092	1.869	.062
	Proximity and adequacy of utilities in the neighbourhood	.190	.082	.136	2.321	.021

a. Dependent Variable: Two bedroom

Source: Computed from Table 4.13, Appendix ix

Table 4.17a presents the multiple regression analysis for studying the impact of neighbourhood characteristic on rental value of two bed room at F-layout Minna Niger state. The table showed strong linear relationship exist between neighbourhood characteristic and rental value of two bed room ( $R=.634^a$ ). The value R-squared was .402 which is the coefficient of determination is an indication that explanatory variables

accounted for about 40.2% of the variation in rental value of two bed room, while the remaining 59.8% remained unexplained. The value of adjusted R-square of .397 signifies that the explanatory power of the model is moderate. The value of Durbin Watson 1.921 is an indication that the model is free of serial correlation. The value of F-statistic was 82.659 and F-probability was 0.00 which indicates that the overall model is statistically significant at 5%. That is neighbourhood characteristic has significant impact on rental value of two bedrooms at F-layout in Minna Niger state

Table 4.17b shows that well planned neighbourhood has a positive significant relationship with rental value of two bed room ( $t=9.234$  and  $\text{sig.}=0.000$ ). That is for every unit increase in security of the neighbourhood will lead to .446 increase in rental value of two bed room at F-layout Minna Niger state.

Proximity of social services is positively and significantly related with rental value of two bed room at F-layout Minna Niger state ( $t=5.025$  and  $p=0.000$ ), for every unit increase in provision of drainage facilities will lead to .230 increase in rental value of two bed room in the study area. Proximity to economic activities has positive significant relationship with rental value of one bed ( $t=4.369$  and  $t=0.000$ ), thus, a unit increase in health care facilities will lead to .249 increase in rental value of two bed room in the study area. Adequacy of utilities in the neighbourhood has a positive significant impact ( $t=2.321$  and  $t=0.021$ ) on rental value of two bed room at F-layout, Minna Niger state in the study area.

From the above analysis, it could be observed that neighbourhood characteristics such as well-planned neighbourhood proximity of social services, proximity to economic activities, Adequacy of utilities in the neighbourhood have significant impact on rental value of two bed room at F-layout ( $p<0.05$ ) while Nature of environment has insignificant impact at F-layout, Minna Niger state

**Table 4.18a Multiple Regression Analysis of Impact of Neighbourhood Characteristic on Rental Value of Three Bedroom at F-layout (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.781 <sup>a</sup>	.610	.607	.49760	2.619	240.791	.000 <sup>b</sup>

Source: Computed from Table 4.14, Appendix ix

**Table 4.18b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.833	.256		3.251	.001
	Well planned neighbourhood	.298	.064	.234	4.673	.000
	Proximity of social services	.285	.070	.235	4.073	.000
	Proximity to economic activities	.520	.057	.339	9.075	.000
	Nature of environment	.689	.025	.698	27.271	.000
	Proximity and adequacy of utilities in the neighbourhood	.205	.065	.171	3.146	.002

Source: Computed from Table 4.14, Appendix ix

Table 4.18a present the result of regression analysis for investigating the impact of neighbourhood characteristics on rental value of three bedroom at F-layout, Minna, Niger. The estimation results showed that the value of R, Adjusted R-squared and Adjusted R-squared were .781<sup>a</sup>, .610 and .607 respectively. This implies that 78.1% of variations in rental value of three bedrooms at F-layout, Minna, Niger is caused by neighbourhood characteristics in the model while the remaining percentage can be attributed to factors outside the model

Furthermore the F-statistic was 240.791 and the F-probability was .000<sup>b</sup> which indicates that the overall model is highly significant at 5% and that the independent variables such as well-planned neighbourhood, Proximity of social, Proximity to economic services, Nature of environment, Proximity and adequacy of utilities in the neighbourhood significantly caused variation in rental value of three bedroom at F-lyout, Minna, Niger. The value of Durbin Watson was 2.619 which indicated that the model is not suffering from serial correlation, thus the model is desirable and acceptable. Table 4.18b shows that well planned neighbourhood has a positive significant impact on rental value of two bed room in the study area ( $t=4.673$  and  $t=0.000$ ). Proximity of social services is positively and significant related with rental value of three bed room in the study area ( $t=4.073$  and  $t=0.000$ ). Proximity to economic activities also contributes positively and significant to rental value of three bed room in the study area ( $t=9.075$  and  $t=0.000$ ). Nature of environment contributes positively and significant to rental value of three bed room in the study area ( $t=27.271$  and  $t=0.000$ ). Proximity and adequacy of utilities in the neighbourhood contributes positively and significant to rental value of three bed room in the study area ( $t=3.146$  and  $t=0.000$ ).

**Table 4.19a Multiple Regression Analysis of Impact of Neighbourhood Characteristic on Rental Value of One Bedroom at Bosso (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.417 <sup>a</sup>	.174	.168	.68967	.628	25.956	.000 <sup>b</sup>

Source: Computed from Table 4.12, Appendix ix

**Table 4.19b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.561	.210		2.670	.008
	Well planned neighbourhood	.039	.047	.031	.822	.411
	Proximity of social services	.294	.049	.294	6.070	.000
	Proximity to economic activities	.011	.038	.011	.280	.780
	Nature of environment	.036	.037	.052	.967	.334
	Proximity and adequacy of utilities in the neighbourhood	.308	.082	.211	3.741	.000

Source: Computed from Table 4.12, Appendix ix

Table 4.19a shows that the multiple regression between neighbourhood characteristics and rental value of one bedroom at Bosso stood at .417<sup>a</sup>. The value of Adjusted R Square also known as coefficient of determination was .174 which indicates that 17.4% of variability in rental value of one bedroom at Bosso is due to neighbourhood characteristics in the model. The F-statistic of 25.956 and the sig. value of .000<sup>b</sup> implies that the overall model is significant at 5 percent significant level, thus neighbourhood

characteristics has significant impact on rental value of one bedroom at Bosso area of Niger state. Table 4.19b presents the result of unstandardized coefficients and t-statistics. The table reveals that proximity of social services and proximity and adequacy of utilities in the neighbourhood has a positive significant impact on rental value of one bed room at Bosso ( $p=0.000$ ). Thus, a unit increase in Proximity of social services will lead to .294 increases in rental value of one bed room at Bosso while a unit increase in Proximity and adequacy of utilities in the neighbourhood will lead to .308 increase rental value of one bed room at Bosso. Other independent variables such as well-planned neighbourhood, Proximity to economic, and Nature of environment have a positively and but significant relationship with the rental value of one bed room at Bosso area of Niger state.

**Table 4.20a Multiple Regression Analysis of Impact of Neighbourhood Characteristic on Rental Value of Two Bedroom at Bosso (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.321 <sup>a</sup>	.103	.095	.86788	1.690	14.091	.000 <sup>b</sup>

Source: Computed from table 4.13, Appendix ix

**Table 4.20b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.572	.264		2.164	.031
	Well planned neighbourhood	.106	.059	.071	1.789	.074
	Proximity of social services	.042	.061	-.035	.695	.488
	Proximity to economic activities	.276	.047	.240	5.826	.000
	Nature of environment	.053	.047	.063	1.124	.261
	Proximity and adequacy of utilities in the neighbourhood	.318	.104	.180	3.070	.002

**Source: Computed from Table 4.13, Appendix ix**

Table 4.20a shows that the value of R which multiple correlation between the independent variable and dependent variable was .321<sup>a</sup>, R Square was .103 and Adjusted R Square was .095. This result implies that neighbourhood characteristics contributed about 10.3 percent to increase in rental value of two bed room at Bosso. The F-statistic and its sig. value of 0.00 is an indication that the model is a good fit. This is supported by the value of Durbin-Watson which lies within the interval of 1.5 to 2.5, thus this model is free of being spurious. Table 4.20b presents the result of unstandardized coefficients and t-statistics. The table reveals that proximity to economic activity and proximity and adequacy of utilities in the neighbourhood has a positive significant impact on rental value of two bed room at Bosso (p=0.000). Thus, a unit increase in proximity to economic activity will lead to .276 increases in rental value of

one bed room at Bosso while a unit increase in proximity and adequacy of utilities in the neighbourhood will lead to .318 increase rental value of one bed room at Bosso. Other independent variables such as well-planned neighbourhood, proximity of social services, and nature of environment have a positively and insignificant relationship with the rental value of one bed room at Bosso area of Niger state

**Table 4.21a Multiple Regression Analysis of Impact of Neighbourhood Characteristic on Rental Value of Three Bedroom at Bosso (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.384 <sup>a</sup>	.147	.140	1.00111	1.662	21.265	.000 <sup>b</sup>

Source: Computed from Table 4.14, Appendix ix

**Table 4.21b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	1.712	.305		5.617	.000
	Well planned neighbourhood	.013	.068	.008	.197	.844
	Proximity of social services	.140	.070	.098	1.994	.047
	Proximity to economic activities	.275	.054	.279	5.092	.000
	Nature of environment	.107	.055	.078	1.951	.051
	Proximity and adequacy of utilities in the neighbourhood	.061	.119	.029	.515	.607

Source: Computed from Table 4.14, Appendix ix

Table 4.21a present the summary of regression mode for examining the impact of neighbourhood characteristics on rental value of three bedrooms at Bosso, Minna, Niger state. The table shows that the value of R, R-Square and adjusted R Square were

.384<sup>a</sup>.147 and .140 respectively which implies that neighbourhood characteristics contributed about 14.7percent to increase in rental value of three bed room at Bosso. The F-statistic of 21.265 and its sig. value of 0.00 is an indication that the overall model is significant using 5percent significant level. This is supported by the value of Durbin-Watson was 1.662 which lies within the interval of 1.5 to 2.5, implies that the model is acceptable. Table 4.21b reveals that the neighbourhood characteristics that contribute individually in predicting the dependent variable include proximity of social services (p=0.047) and proximity to economic activities (p=0.000). Thus, a unit increase in proximity of social services will lead to .140 increases in rental value of one bed room at Bosso while a unit increase in proximity to economic activities will lead to .275 increase rental value of one bed room at Bosso. Other independent variables such as well-planned neighbourhood, Proximity and adequacy of utilities in the neighbourhood, and nature of environment have a positively and insignificant impact on the rental value of one bed room at Bosso area of Niger state.

**Table 4.22a Multiple Regression Analysis of Impact of Neighbourhood Characteristic on Rental Value of One Bedroom at Tunga (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.616 <sup>a</sup>	.380	.375	.82955	.958	75.295	.000 <sup>b</sup>

**Source: Computed from Table 4.12, Appendix ix**

**Table 4.22b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.229	.262		4.684	.000
	Well planned neighbourhood	.153	.058	.110	2.641	.008
	Proximity to economic activities	.512	.045	.534	11.459	.000
	Proximity to social services	.061	.045	.046	1.339	.181
	Nature of environment	.065	.098	.032	.664	.507
	Proximity and adequacy of utilities in the neighbourhood	.029	.033	.029	.906	.365

**Source: Computed from Table 4.12, Appendix ix**

Table 4.22a presents the summary of regression model for studying the impact of neighbourhood characteristics on rental value of one bed room at Tunga, Minna in Niger state. In the model it was observed that R was .616<sup>a</sup> R Square was .380, Adjusted R Square was .375, Std. Error of the Estimate was.82955. It was observed that there is a strong correlation (relationship) between the dependent and independent variables used in the study. This is revealed by a correlation (R) coefficient of.616<sup>a</sup>The R Square of .380 which is the coefficient of determination implies that 38 percent of variation in dependent variables is accounted for by the independent variables while the remaining percentage which is 62 percent of variation remains unexplained. This implies that 38 percent of variation in rental value of one bedroom at Tunga, Mnna is caused by neighbourhood characteristics in the model. Table 4.22b shows the coefficient of the

model for the impact of neighbourhood characteristics on rental value of one bed room at Tunga, Minna in Niger state. From the coefficient table it can be clearly seen that individually proximity of social services contributed significantly to increase in rental value of one bed room with t-statistics of 2.641 and the probability .008. Also proximity to economic activities contributed significantly to increase in rental value of one bed room with t-statistics of 11.459 and the probability .000. While the remaining independent variables were insignificant.

**Table 4.23a Multiple regression analysis of Impact of neighbourhood characteristic on rental value of two bedroom at Tunga (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.397 <sup>a</sup>	.158	.151	.66889	1.686	23.051	.000 <sup>b</sup>

Source: Computed from Table 4.13, Appendix ix

**Table 4.23b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
		B	Std. Error			
1	(Constant)	.982	.212		4.641	.000
	Well planned neighbourhood	.247	.047	.257	5.307	.000
	Proximity of social services	.038	.037	.042	1.050	.294
	Proximity to economic activities	-.038	.036	-.057	-1.044	.297
	Nature of environment	.192	.079	.137	2.438	.015
	Proximity and adequacy of utilities in the neighbourhood	5.216E-005	.026	.000	.002	.998

a. Dependent Variable: Two bedroom

**Source: Computed from Table 4.13, Appendix ix**

Table 4.23a presents the summary of multiple linear regression model for examining impact neighbourhood characteristic on rental value of two bed room at Tunga, Minna, Niger State. The table shows that there is a weak linear relationship between the dependent and independent variables. This is indicated by a correlation (R) coefficient of .397<sup>a</sup>. The R Square of .158 which is the coefficient of determination implies that 15.8 percent of variation in dependent variables is accounted for by the explanatory variables. The F-statistics was 23.051 and F-significance value of  $p = .000^b$  was established showing that the overall model is statistically significant at 5%. The value of Durbin-Watson was 1.686 which indicates that the model is not suffering from serial correlation. Table 4.23b shows that well planned neighbourhood and nature of environment contributed to increase in rental value of two bedroom at Tunga, Minna, Niger state. This implies that well planned neighbourhood and nature of environment leads to increase in rental value of one bedroom Tunga, Minna, Niger state. Thus, a unit increase in well planned neighbourhood leads to increase in rental value of one bedroom

Tunga, Minna, Niger state by .247. a unit increase in nature of environment leads to increase in rental value of one bedroom Tunga, Minna, Niger state by .192

**Table 4.24a Multiple regression analysis of Impact of neighbourhood characteristic on rental value of three bedroom at Tunga (Model Summary<sup>b</sup>)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.442 <sup>a</sup>	.196	.189	.86671	1.778	29.922	.000 <sup>b</sup>

Source: Computed from Table 4.14, Appendix ix

**Table 4.24b Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	1.156	.274		4.219	.000
	Well planned neighbourhood	.354	.060	.278	5.863	.000
	Proximity to social services	.441	.047	.364	9.318	.000
	Proximity to economic activities	.070	.047	-.079	-1.493	.136
	Nature of environment	.198	.102	-.107	-1.940	.053
	Proximity and adequacy of utilities in the neighbourhood	.071	.034	-.076	-2.083	.038

a. Dependent Variable: Three bedroom

Source: Computed from Table 4.14, Appendix ix

Table 4.24a presents the summary of regression model for impact of neighbourhood characteristics on rental value of three bedrooms at Tunga, Minna, Niger State. The table shows that a weak linear relationship exist between the dependent and

independent. This is indicated by a correlation (R) coefficient of .442<sup>a</sup>. The R Square of .196 indicates that 19.6 percent of variation in dependent variables is accounted for by the predictive variables in the model is about 19.6 percent of variability in rental value of three bed room is as a result of neighbourhood characteristics in the model while the remaining percentage can be attributed to other factor not included in the model. The F-statistic of 29.922 and F-significance value of .000<sup>b</sup> showed that the overall model is statistically significant at 5% level of significant. The value of Durbin-Watson was 1.778 which implies that the model is free of serial correlation problem, since the value of Durbin-Watson is within the interval of 1.5 to 2.5, thus the model is desirable. Table 4.24b shows that well planned neighbourhood, Proximity of social services contributed individually to increase in rental value of three bedrooms at Tunga, Minna, Niger state.

**Table 4.25 Summary of findings**

Property	F-layout			Bosso			Tunga		
	One	Two	Three	One	Two	Three	One	Two	Three
R-Square	.396	.402	.610	.174	.103	.147	.380	.158	.196
F	80.63	82.65	240.79	25.95	14.09	21.26	75.29	23.05	29.92
	5	9	1	6	1	5	5	1	2
Sig	.000 <sup>b</sup>								

**Source: Computed from Table 4.16, 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23, and 4.24**

Having examined the effect of neighbourhood qualities on rental worth of private properties at three location (F-layout, Bosso and Tunga) in Minna, Niger state utilizing Various relapse investigation, the discoveries uncovered that local attributes at F-Lay out, Minna contributed all together to increment in rental worth of three classes of private properties i.e room, two room and three bedroom with 39.6%, 40.2% and 61.0% individually. Neighbourhood qualities at Tunga Minna represents 38.0%, 15.8% and 19.6% increase in rental worth of three classifications of private properties (i.e one

room, two room and three respectively) while neighbourhood attributes at Bosso Minna represented 17.4%, 10.3% and 14.7% increase in rental worth of three classes of private properties (i.e room, two room and three separately). Thusly the examination presumed that local qualities at F-format, Minna Niger State fundamentally affects rental worth of three classifications of private property properties (one room, two room and three) contrasted with Bosso and Tunga in Minna, Niger state.

### **4.3 Summary of Findings**

The research findings are comprehensively summarized in various items below:

1. Relatively, the study shows that the high density residential area (Bosso environment) was found to be characterized with lower quality of neighbourhood's amenities with a poor environment quality. Medium density residential area (Tunga lowcost) of the metropolis have fairly improved quality to some extent better neighbourhood facilities compared to the high density residential neighbourhoods. And, the low density areas (F-layout) were however found to have more adequate provision of standard neighbourhood's facilities with more adequate environmental quality.
2. Result also shows that the high (Bosso Environment) and medium density areas (Tunga lowcost) of the metropolis are situated at disadvantaged locations in terms of proximity to CBD, proximity to social services and shopping centers, quality schools and other neighbourhoods amenities. The low density areas (F-layout) were found to be located in a prime position in terms of proximity to shopping centres, quality schools, and CBD and other related facilities.
3. Annual rental values for both classes of residential properties (one, two and three bedroom apartment) is higher in F-lay neighbourhood (low density area) compared to the annual rental values same classes of residential properties in

Tunga low cost (medium density area). Also, rental values of residential properties in Tunga low cost is relatively higher compared to the rent in Bosso neighbourhood (High density area). This is in correlation with the neighbourhood quality respectively.

4. The research also shows that there is a more level of tolerance on the neighbourhood social behaviour in terms of religious, ethnic and intra community development in F-layout neighbourhood compared to the Tunga and Bosso neighbourhood. Though, Tunga low cost is relatively better compared to Bosso. This has relatively influence the choice of residents in these neighbourhoods.
5. The study shows that environmental elements like weather/ climate and temperature, soil texture, topography of the land, vegetation, pollution and a waste disposal system have little or no significant impact in tenant's choice of residents in the neighbourhoods Though, the presence of a more adequate waste disposal system in F-layout compared to Bosso and Tunga low cost environ slightly influence the choice of the residents.
6. The study also shows that neighbourhood characteristics at F-layout have more significant impact on rental value of three categories of residential property properties (one bedroom, two bedrooms and three) compared to the relative impact in Tunga and Bosso area respectively.

#### **4.4 Discussion of Findings**

The study has revealed a good number of significant findings which can be linked and compared with previously related studies on the issues that is being discussed and reviewed in the literature. The study areas were made up of three residential density

areas namely The low,medium and high density residential areas.The high density residential areas(Bosso) was found to be characterized with lower quality of neighbourhood characteristics with a very few and substandard neighbourhood amenities. The development in these areas are not properly planned and are subjected to poor environmental quality.

On the other hand the medium density residential areas (Tunga) have fairly improved and qualitative neighbourhood facilities compared to the high density neighbourhood. The low density areas (F-Layout) were however found to have high quality of residential neighbourhood with more sufficient availability of facilities .

The findings concur with the findings of Usman (2016) where the neighbourhood high population density tend to have less availability of neighbourhood amenities compared to the neighbourhood with medium density population concurrently.This findings is also an agreement with the findings of Popoola *et al* (2015) on the assessment of the effect of environmental quality on property rental values in pre-urban neighbourhood of minna Nigeria. The study revealed that environmental quality in a particular neighbourhood have a significant effect on the rental values.Furthermore, Wokero (2017) studied the neighbourhood quality attributes and their implications on real estate market in PortHarcourt,Nigeria.The investigation however, revealed that availability and adequacy of neighbourhood attributes are key in enhancing property values and vice-versa which has revealed that adequacy of neighbourhood characteristics have a significant effect on rental values.

To further show the link between the findings of the current studies with some related previous studies, Adama and Jinadu (2015) evaluated the relationship between the neighbourhood quality and property value in minna uncovers that there is direct

relationship between neighbourhood quality and property value has discussed and found earlier in the findings of the current studies where it was discovered that neighbourhood quality in terms of adequacy of amenities have a significant effect on rental values. The findings of the current studies is also in correlation with that which was conducted by Oloke *et al* (2013), the researchers examines the factors affecting residential property values in Mogodo neighbourhood Lagos, Nigeria where the finding revealed te proximity to social services does not have much effecton rental values as other fctors such as the adequacy of utilities, well planned environmen and proximity to economic activies do, this has also concur with the findings of the current studies.

## CHAPTER FIVE

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 Conclusion

From the foregoing result, it is laudable to draw up a conclusion with the assertion that the impact of the neighbourhood characteristics on rental values of residential properties in the study area cannot be over emphasized. In other words, the neighbourhood characteristics are significantly vital to rental value determination of residential properties in Minna metropolis, Nigeria. The neighbourhood characteristics such as the planned neighbourhood, proximity to social services, proximity to economic activities, nature of the environment and most importantly proximity and adequacy of utilities and amenities in a particular neighbourhood. In other words, sitting of residential property in close proximity to accessibility to work place, public transportation, proximity to high quality schools, CBD, sporting facilities among others have equally contributed immensely to the determination of residential property rental values in Minna metropolis. Neighbourhood attributes on the other hand was measured in relation to availability of urban amenities, security and environmental quality and has made a very strong and unique contribution to the prediction of rental values of residential houses in the study area. Evidently, the residential neighbourhood with more adequate utilities and close proximity to social services with complementarities with housing tend to command a higher rental value compared to the neighbourhoods with less.

## **5.2 Recommendations**

From the findings above on the major factors or attributes affecting the rental values of residential properties in the study areas, it is worthy to also recommend that:

1. Government or the major stakeholders in the built environment should embark on an urban renewal exercise especially in the high density areas; this will ensure a model city development with absence of class. For instance in developed countries, hardly will one notice classes of residential zones in any town or city because every area is well developed with adequate provisions of standard amenities. Also, Housing investors should also be compelled to adhere strictly with development plans approved by the development control board of Niger state to avoid any alteration in the cause of building development which may distort the master plan of the area.
2. Adequate and affordable urban mass inter-city transportation services should be provided to conveniently transmit people from their neighborhoods to places of employment, CBD and other services areas. This will solve the problems associated with geographical locational disadvantages and also attract other private investors to invest in other outer or commuter areas.
3. Government and other agencies saddled with the responsibility of infrastructural development should undertake a massive infrastructural facilities development particularly in the high density residential areas and improve on the number and quality of the existing amenities in the medium density areas of the metropolis. This action will attract investors in the housing sector to develop quality housing in the neighborhood and by so doing, the wide variations in the rental values can be closed drastically.

4. Adequate provision of waste disposal facilities in every part of the metropolis especially in the high density residential neighborhoods where it is characterized with a high population and littering of waste. This will help in the reduction of littering in the area but this can be achieved when a taskforce is put in place to ensure compliance of individuals in the appropriate dumping of waste facilities provided. In addition, this waste should be evacuated from the neighborhood regularly by Niger state environmental protection board.
5. The variations in the rental values of residential properties across the the different neighbourhoods in Minna should be adequately monitored and documented by the relevant authorities in order to ascertain the degree to which the neighbourhood attributes influences the rental values. This will also guide the estate surveyors and valuers in the study area with relevant information for their valuation exercises.

### **5.3 Suggestion for Further Studies**

Further studies are required to address the neighbourhood not covered. Different methodology could also be deployed by further researchers to obtain more pressing data in the study area to determine its impact on rental values.

Subsequent studies may use more residential neighborhoods as sample from each of the residential density areas to investigate the impact of neighborhood characteristics on rental values of residential properties in Minna.

Secondly, the current study adopted the current annual rental values of residential properties as the dependent variable, thus subsequent researchers on this field could looked at it from the angle of capital value.

Thirdly, the scope of the current study covers only three categories of residential properties which include one bedroom, two bedroom and three bedroom apartments respectively. However, further studies could include housing accommodations with more bedrooms or even a different class of residential property.

In addition, further studies may also look at how neighborhood attributes affect rental values of commercial properties instead of the residential properties under investigation.

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## Appendix I

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**  
**SCHOOL OF POSTGRADUATE STUDIES**  
**DEPARTMENT OF ESTATE MANAGEMENT AND VALUATION**

**RESEARCH QUESTIONNAIRE FOR ESTATE SURVEYORS AND VALUERS**

**RESEARCH TITLE:**

**THE IMPACT OF NEIGHBOURHOOD CHARACTERISTICS ON RENTAL  
VALUES OF RESIDENTIAL PROPERTIES IN MINNA, NIGERIA**

The research is titled: “the impact of neighbourhood characteristics on rental values of residential properties in Minna, Nigeria”.

Your sincerity is needed to accomplish the main objectives of the study .In anticipation of your sincere response; I sincerely appreciate your time and cooperation towards me.

I promise that all responses provided will be treated with strict confidentiality and will be used only for this academic research purpose.

Thank you very much for your time and cooperation.

Yours sincerely.

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1. What is the name of your Firm?  
.....
2. Address of the Firm  
.....
3. Years of existence (a) 1-5yrs ( ) (b) 5-10yrs ( ) (c) 10-15yrs (d) 15yrs and above.
4. Do you have have a residential property under your management in F-layout. Tunga lowcost or Bosso town area?  
(a)Yes (b)No
5. If yes, please identify the types and their location.

Types of residential property	F-layout	Tunga locost	Bosson town
One bedroom			
Two bedroom			
Three bedroom			

6. What is the rent passing in the following types of property in the neighborhood ticked above?

Types of residential property	Year(s) and rent paid in naira(₦) per annum in thousand				
	2015	2016	2017	2018	2019
<b>One bedroom</b>	(a)Less than 50 (b)50-100 (c)100-150 (d)150 and above				
<b>Two bedroom</b>	(a)50-100 (b)100-150 (c)150-200 (d)200 and above				
<b>Three bedroom</b>	(a)100-150 (b)150-200 (c)200-250 (d)250 and above				

**SECTION B: RESPONDENT OPINION ON THE FACTORS  
INFLUENCING RENTAL VALUES OF RESIDENTIAL PROPERTIES**

7. As an Estate Surveyor and Valuer, what are the factors influencing the rental values of residential properties in this neighbourhood?

<b>F-lay out</b>					
<b>FACTORS</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly disagree</b>
Well planned neighbourhood					
Proximity to social services					
Proximity to economic activities'					
Sociocultural belief of the neighbourhood (Culture, ethnic group & social behavior)					
Nature of environment					
Proximity and adequacy of utilities in the neighbourhood					

Others, specify.....

.....

.....

<b>Tunga Lowcost</b>					
<b>FACTORS</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly disagree</b>
Well planned neighbourhood					
Proximity to social services					
Proximity to economic activities'					
Sociocultural belief of the neighbourhood (Culture, ethnic group & social behaviour)					
Nature of environment					
Proximity and adequacy of utilities in the neighbourhood					

Others, specify.....  
.....  
.....

<b>Bosso Town</b>					
<b>FACTORS</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly disagree</b>
Well planned neighbourhood					
Proximity to social services					
Proximity to economic activities'					
Sociocultural belief of the neighbourhood (Culture, ethnic group & social behavior)					
Nature of environment					
Proximity and adequacy of utilities in the neighbourhood					

Others, specify.....  
.....  
.....

8. Base on your professional opinion, do you agree that residential properties of these neighbourhoods are in adherence to the following planning elements?

<b>F-layout</b>					
<b>Planning Elements</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Undecided</b>	<b>Agree</b>	<b>Strongly Disagree</b>
Zoning ordinance					
Building codes					
Landscaping					
Green Areas					
Access road networks					
<b>Tunga lowcost</b>					
<b>Planning Elements</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Undecided</b>	<b>Agree</b>	<b>Strongly Disagree</b>
Zoning ordinance					
Building codes					
Landscaping					
Green Areas					
Access road networks					
<b>Bosso Area</b>					
<b>Planning Elements</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Undecided</b>	<b>Agree</b>	<b>Strongly Disagree</b>
Zoning ordinance					
Building codes					
Landscaping					

Green Areas					
Access road networks					

Others, specify.....  
.....  
.....

**Appendix II**

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

**SCHOOL OF POSTGRADUATE STUDIES**

**DEPARTMENT OF ESTATE MANAGEMENT AND VALUATION**

**RESEARCH QUESTIONNAIRE FOR TENANTS (OCCUPANTS)**

RESEARCH TITLE:

**THE IMPACT OF NEIGHBOURHOOD CHARACTERISTICS ON RENTAL  
VALUES OF RESIDENTIAL PROPERTIES IN MINNA, NIGERIA**

The research is titled: “the impact of neighbourhood characteristics on rental values of residential properties in Minna, Nigeria”.

Your sincerity is needed to accomplish the main objectives of the study .In anticipation of your sincere response; I sincerely appreciate your time and cooperation towards me.

I promise that all responses provided will be treated with strict confidentiality and will be used only for this academic research purpose.

Thank you very much for your time and cooperation.

Yours sincerely,

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---

**1. Gender:**

Male  Female

**2. Age of the respondent** (a) 10-20yrs ( ) (b) 20-30yrs ( ) (c) 30-40yrs (d) 40yrs and above

**3. Academic qualification:**

Informal education  Secondary certificate  
 Primary certificate  Higher education certificate

**4. Occupation:**

Unemployed/Student:  Business  
 Artisan  Civil/public servant

**5. Monthly income:**

Less than ₦18,000  ₦40,000 – ₦59,000  
 ₦18,000 - ₦25,000  ₦60,000 - Above  
 ₦26,000 - ₦39,000

**6. Where do you live in Minna?**

F-layout  KpakTungalowcost  Bosso town

**7. How long have you being living in this area?**

0 -5years  11 -15years  
 6 – 10years  16years - Above

**8. What is your status in this house?**

Tenant  Landlord  Other (specify).....

**9. What category of apartment do you occupy?**

One bedroom  Twobedroom  Three bedroom

**10. How much do you pay as rent per annum?**

(a) ₦50,000-₦100,000 ( ) (b) ₦100,000-₦150,000 ( ) (c) ₦150,000-₦200,000 ( )  
(d) ₦200,000 and above ( )

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**SECTION 3: PROXIMITY OF THE NEIGHBOURHOOD TO ECONOMIC ACTIVITIES**

---

Please indicate the approximate distance from your neighbourhood to the following places of economic activities:

<b>S/no.</b>	<b>Economic Activities</b>	<b>Less than 1km</b>	<b>1km</b>	<b>2km</b>	<b>3km</b>	<b>Above 3km</b>
1	Central market area					
2	Shopping center					
3	Light industries					
4	distance from your residential neighbourhood to CBD?					

---

**SECTION 4: PROXIMITY OF THE NEIGHBOURHOOD TO OTHER SOCIAL SERVICES**

---

Please indicate the approximate distance from your neighbourhood to the following places of services:

<b>S/no.</b>	<b>Place of services</b>	<b>Less than 1km</b>	<b>1km</b>	<b>2km</b>	<b>3km</b>	<b>3km And above</b>
1	Place of employment					
2	Schools					
3	Health care service					
4	Sporting centres					
5	Fire service department					
6	Public transport station					
7	Worship centres					

8	Post offices					
8	Banks/Atm services					
9	Police or security post					

---

**SECTION 5: CONDITION AND ADEQUACY OF NEIGHBOURHOOD ATTRIBUTES/ SERVICES**

---

Please indicate the level of adequacy of the following in your neighbourhood attributes:

S/n	Amenities	Grossly inadequate	Inadequate	Moderate	Adequate	Very Adequate
1	Security of the neighborhood?					
2	Provision of drainage facilities					
3	Health care facilities					
4	Recreational facilities					
5	Sporting facilities					
6	Waste disposal system					

How often do you enjoy the supply of the following basic amenities in your neighbourhood?

s/n	Amenities	Very rarely	Rarely	Occasionally	Very Frequent	Always
	Electricity Supply					
	Water Supply					

---

**SECTION 6: NEIGHBOURHOOD SOCIOCULTURAL BELIEF AND ACTIONS**

---

How would you describe your level of satisfaction with the socio cultural behaviour of the neighbourhood in terms of the following:?

S/n	SOCIOCULTURA BEHAVIOUR & ACTIONS	Not at all satisfied	Slightly satisfied	Moderately satisfied	Very satisfied	Extremely satisfied
1	Intra neighbourhood relationship					
2	Inter religious tolerance in the neighbourhood					
3	Inter-ethnic tolerance in the neighbourhood					
4.	Neighbourhood social behaviour					
5.	Community development cooperation					

---

**SECTION 7: NATURE OF NEIGHBOURHOOD ENVIRONMENT**

---

Do these environmental elements influence your decision to reside in this neighbourhood:?

S/n	Environmental Elements	Not at all influential	Slightly influential	Somewhat influential	Very influential	Extremely influential
1	Weather/Climae And temperature					
2	Soil structure and texture					

3	Waste disposal					
4	Topography/Gradient land					
5	Vegetation					
6.	Pollution					

Others, specify.....  
.....

### Appendix III

As an estate surveyor and valuer, the following factors are considered in influencing the rental values of residential properties in this neighbourhood

A=WELL PLAANED NEIGHBOURHOOD

B=PROXIMITY TO SOCIAL SERVICES

C=PROXIMITY TO ECONOMIC ACTIVITIES

D=SOCIOCULTURAL BELIEF OF THE NEIGHBOURHOOD (CULTURE, ETHNIC GROUP AND SOCIAL BEHAVIOR

E=NATURE OF ENVIRONMENT

F=PROXIMITY AND ADEQUACY OF UTILITIES IN THE NEIGHBOURHOOD

#### BOSSO NEIGHBOURHOOD

Factors	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Weighted Sum	Mean
<b>A</b>	0	1	1	9	1	26	2.17
<b>B</b>	2	1	1	7	1	32	2.67
<b>C</b>	2	7	1	1	1	44	3.67
<b>D</b>	2	8	1	1	0	47	3.92
<b>E</b>	1	2	7	1	1	37	3.08
<b>F</b>	3	1	2	5	1	36	3.00
							<b>3.09</b>

Source:Field survey,(2019)

#### ANALYSIS:

$$A:(0 \times 5) + (1 \times 4) + (1 \times 3) + (9 \times 2) + (1 \times 1) = 26/12 = 2.17$$

$$B:(2 \times 5) + (1 \times 4) + (1 \times 3) + (7 \times 2) + (1 \times 1) = 32/12 = 2.67$$

$$C:(2 \times 5) + (7 \times 4) + (1 \times 3) + (1 \times 2) + (1 \times 1) = 44/12 = 3.67$$

$$D:(2 \times 5) + (8 \times 4) + (1 \times 3) + (1 \times 2) + (1 \times 1) = 47/12 = 3.92$$

$$E:(1 \times 5) + (2 \times 4) + (7 \times 3) + (1 \times 2) + (1 \times 1) = 37/12 = 3.08$$

$$F:(3 \times 5) + (1 \times 4) + (2 \times 3) + (5 \times 2) + (1 \times 1) = 36/$$

## FLAY OUT NEIGHBOURHOOD

Factors	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Weighted Sum	Mean
A	2	6	3	1	0	42	3.50
B	1	8	1	1	1	43	3.58
C	1	1	2	7	1	30	2.50
D	1	2	6	2	1	36	3.00
E	2	2	6	1	1	39	3.25
F	6	2	2	1	1	47	3.92
							<b>3.29</b>

Source:Field survey,(2019)

### ANALYSIS:

$$A:(2 \times 5) + (6 \times 4) + (3 \times 3) + (1 \times 2) + (0 \times 1) = 42/12 = 3.51$$

$$B:(1 \times 5) + (8 \times 4) + (2 \times 3) + (1 \times 2) + (1 \times 1) = 43/12 = 3.58$$

$$C:(1 \times 5) + (1 \times 4) + (2 \times 3) + (7 \times 2) + (1 \times 1) = 30/12 = 2.50$$

$$D:(1 \times 5) + (1 \times 4) + (6 \times 3) + (2 \times 2) + (1 \times 1) = 36/12 = 3.00$$

$$E:(2 \times 5) + (2 \times 4) + (6 \times 3) + (1 \times 2) + (1 \times 1) = 39/12 = 3.25$$

$$F:(6 \times 5) + (2 \times 4) + (2 \times 3) + (1 \times 2) + (1 \times 1) = 47/12 = 3.92$$

## TUNGA LOW COST NEIGHBOURHOOD

Factors	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Weighted Sum	Mean
<b>A</b>	2	7	1	1	1	44	3.67
<b>B</b>	2	8	1	0	1	46	3.83
<b>C</b>	8	1	1	1	1	50	4.17
<b>D</b>	1	1	9	1	0	38	3.17
<b>E</b>	2	3	6	1	0	42	3.50
<b>F</b>	2	6	2	1	1	43	3.58
							<b>3.65</b>

Source:Field survey,(2019)

### ANALYSIS:

$$\mathbf{A:}(2 \times 5)_{+}(7 \times 4)_{+}(1 \times 3)_{+}(1 \times 2)_{+}(1 \times 1)=44/12=3.67$$

$$\mathbf{B:}(2 \times 5)_{+}(8 \times 4)_{+}(1 \times 3)_{+}(0 \times 2)_{+}(1 \times 1)=43/12=3.83$$

$$\mathbf{C:}(8 \times 5)_{+}(1 \times 4)_{+}(1 \times 3)_{+}(1 \times 2)_{+}(1 \times 1)=50/12=4.17$$

$$\mathbf{D:}(1 \times 5)_{+}(1 \times 4)_{+}(9 \times 3)_{+}(1 \times 2)_{+}(0 \times 1)=38/12=3.17$$

$$\mathbf{E:}(2 \times 5)_{+}(3 \times 4)_{+}(6 \times 3)_{+}(7 \times 2)_{+}(0 \times 1)=42/12=3.50$$

$$\mathbf{F:}(2 \times 5)_{+}(6 \times 4)_{+}(2 \times 3)_{+}(1 \times 2)_{+}(1 \times 1)=36/12=3.58.$$

## Appendix IV

### CONDITION AND ADEQUACY OF NEIGHBOURHOOD CHARACTERISTICS/ SERVICES

The following are the amenities in neighbourhood

A= SECURITY OF THE NEIGHBOURHOOD

B= PROVISION OF DRAINAGE FACILITIES

C= HEALTH CARE FACILITIES

D= RECREATIONAL FACILITIES

E= SPORTING FACILITIES

F= WASTE DISPOSAL SYSTEM

#### BOSSO NEIGHBOURHOOD

	Grossly Inadequate	Inadequate	Moderate	Adequate	Very Adequate	Weighted Sum	Mean
A	0	25	133	62	0	623	2.83
B	0	25	133	62	0	623	2.83
C	0	162	58	0	0	822	3.74
D	0	149	71	0	0	809	3.68
E	0	59	161		0	719	3.27
F	0	35	185	0	0	695	3.16
							<b>3.25</b>

Source:Field survey,(2019)

#### ANALYSIS:

$$A: (0 \times 5) + (25 \times 4) + (133 \times 3) + (62 \times 2) + (0 \times 1) = 623 / 220 = 2.83$$

$$B: (0 \times 5) + (25 \times 4) + (133 \times 3) + (62 \times 2) + (0 \times 1) = 623 / 220 = 2.83$$

$$C: (0 \times 5) + (162 \times 4) + (58 \times 3) + (0 \times 2) + (0 \times 1) = 6822 / 220 = 3.74$$

$$D: (0 \times 5) + (149 \times 4) + (71 \times 3) + (0 \times 2) + (0 \times 1) = 804/220 = 3.68$$

$$E: (59 \times 5) + (0 \times 4) + (161 \times 3) + (6 \times 2) + (0 \times 1) = 719/220 = 3.27$$

$$F: (0 \times 5) + (35 \times 4) + (185 \times 3) + (0 \times 2) + (0 \times 1) = 695/220 = 3.16.$$

### TUNGA LOW COST NEIGHBOURHOOD

	Grossly Inadequate	Inadequate	Moderate	Adequate	Very Adequate	Weighted Sum	mean
A	0	34	110	56	0	578	2.89
B	0	34	110	56	0	578	2.89
C	0	75	125	0	0	675	3.38
D	0	29	171	0	0	629	3.15
E	0	114	86	0	0	714	3.57
F	0	0	23	177	0	423	2.11
							<b>3.00</b>

Source: Field survey, (2019)

### ANALYSIS:

$$A: (0 \times 5) + (34 \times 4) + (110 \times 3) + (56 \times 2) + (0 \times 1) = 578/200 = 2.89$$

$$B: (0 \times 5) + (34 \times 4) + (110 \times 3) + (56 \times 2) + (0 \times 1) = 578/200 = 2.89$$

$$C: (0 \times 5) + (75 \times 4) + (125 \times 3) + (0 \times 2) + (0 \times 1) = 75/200 = 3.38$$

$$D: (0 \times 5) + (29 \times 4) + (171 \times 3) + (0 \times 2) + (0 \times 1) = 629/200 = 3.15$$

$$E: (0 \times 5) + (114 \times 4) + (86 \times 3) + (0 \times 2) + (0 \times 1) = 714/200 = 3.57$$

$$F: (0 \times 5) + (0 \times 4) + (23 \times 3) + (177 \times 2) + (0 \times 1) = 423/200 = 2.11.$$

## F-LAYOUT NEIGHBOURHOOD

	Grossly Inadequate	Inadequate	Moderate	Adequate	Very Adequate	Weighted Sum	mean
A	0	18	77	106	0	515	2.56
B	0	18	77	106	0	515	2.56
C	0	0	85	116	0	487	2.42
D	0	34	91	76	0	561	2.80
E	0	58	143	0	0	661	3.29
F	0	0	64	137	0	466	2.32
							<b>2.66</b>

Source:Field survey,(2019)

### ANALYSIS:

$$A: (0 \times 5) + (18 \times 4) + (77 \times 3) + (106 \times 2) + (0 \times 1) = 578 / 201 = 2.56$$

$$B: (0 \times 5) + (18 \times 4) + (77 \times 3) + (106 \times 2) + (0 \times 1) = 578 / 201 = 2.56$$

$$C: (0 \times 5) + (0 \times 4) + (85 \times 3) + (116 \times 2) + (0 \times 1) = 487 / 201 = 2.42$$

$$D: (0 \times 5) + (34 \times 4) + (91 \times 3) + (76 \times 2) + (0 \times 1) = 561 / 200 = 2.80$$

$$E: (0 \times 5) + (58 \times 4) + (143 \times 3) + (0 \times 2) + (0 \times 1) = 661 / 200 = 3.29$$

$$F: (0 \times 5) + (0 \times 4) + (64 \times 3) + (137 \times 2) + (0 \times 1) = 466 / 201 = 2.32.$$

### HOW OFTEN DO YOU ENJOY THE SUPPLY OF THE FOLLOWING BASIC AMENITIES IN YOUR AREA?

A=ELECTRICITY SUPPLY

B= WATER SUPPLY

### BOSSO NEIGHBOURHOOD

Amenities	Very Rarely	Rarely	Occasionally	Very Frequent	Always	Weighted Sum	Mean
A	0	113	107	0	0	773	3.51
B	7	63	150	0	0	440	2.00
							<b>2.76</b>

Source:Field survey,(2019)

#### ANALYSIS:

$$A: (0 \times 5) + (113 \times 4) + (107 \times 3) + (0 \times 2) + (0 \times 1) = 773/220 = 3.51$$

$$B: (7 \times 5) + (63 \times 4) + (150 \times 3) + (0 \times 2) + (0 \times 1) = 440/220 = 2.00$$

### TUNGA NEIGHBOURHOOD

	Very Rarely	Rarely	Occasionally	Very Frequent	Always	Weighted Sum	Mean
A	0	27	173	0	0	627	3.14
B	0	18	69	113	0	505	2.53
							<b>2.84</b>

Source:Field survey,(2019)

#### ANALYSIS:

$$A: (0 \times 5) + (27 \times 4) + (173 \times 3) + (0 \times 2) + (0 \times 1) = 627/200 = 3.14$$

$$B: (0 \times 5) + (18 \times 4) + (69 \times 3) + (113 \times 2) + (0 \times 1) = 505/200 = 2.53$$

### FLAY OUT NEIGHBOURHOOD

	Very Rarely	Rarely	Occasionally	Very Frequent	Always	Weighted Sum	Mean
A	0	0	90	111	0	492	2.64
B	0	33	93	75	0	561	2.80
							<b>2.62</b>

Source:Field survey,(2019)

**ANALYSIS:**

$$\mathbf{A: (0 \times 5) + (0 \times 4) + (90 \times 3) + (111 \times 2) + (0 \times 1) = 492 / 201 = 2.64}$$

$$\mathbf{B: (0 \times 5) + (33 \times 4) + (93 \times 3) + (75 \times 2) + (0 \times 1) = 561 / 201 = 2.80}$$

## Appendix V

### PROXIMITY OF THE NEIGHBOURHOOD TO ECONOMIC ACTIVITIES

These are approximate distance from your neighbourhood to the following economic activities

A= CENTRAL MARKET AREA

B= SHOPPING CENTER

C= LIGHT INDUSTRY

D= DISTANCE FROM YOUR RESIDENTIAL NEIGHBOURHOOD TO CBD

#### BOSSO NEIGHBOURHOOD

	Less Than 1km	1km	2km	3km	Above 3km	Weighted Sum	Mean
A	0	108	112	0	0	768	3.50
B	135	85	0	0	0	1015	4.61
C	15	205	0	0	0	895	4.07
D	07	201	12	0	0	875	3.98
							<b>4.04</b>

Source:Field survey,(2019)

#### ANALYSIS:

$$A: (0 \times 5) + (108 \times 4) + (112 \times 3) + (0 \times 2) + (0 \times 1) = 768 / 220 = 3.50$$

$$B: (133 \times 5) + (85 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 1015 / 220 = 4.61$$

$$C: (15 \times 5) + (205 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 895 / 220 = 4.07$$

$$D: (7 \times 5) + (201 \times 4) + (12 \times 3) + (0 \times 2) + (0 \times 1) = 875 / 220 = 3.98$$

## TUNGA NEIGHBOURHOOD

	Less Than 1km	1km	2km	3km	Above 3km	Weighted Sum	Mean
A	44	156	0	0	0	844	4.22
B	82	118	0	0	0	882	4.41
C	82	112	0	6	0	870	4.35
D	00	13	178	9	0	586	2.93
							<b>3.98</b>

Source: Field survey, (2019)

### ANALYSIS:

$$A: (44 \times 5) + (56 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 844/200 = 4.22$$

$$B: (82 \times 5) + (118 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 882/200 = 4.41$$

$$C: (82 \times 5) + (112 \times 4) + (0 \times 3) + (6 \times 2) + (0 \times 1) = 870/200 = 4.35$$

$$D: (0 \times 5) + (13 \times 4) + (178 \times 3) + (9 \times 2) + (0 \times 1) = 586/220 = 2.93$$

## F LAY OUT NEIGHBOURHOOD

	Less Than 1km	1km	2km	3km	Above 3km	Weighted Sum	Mean
A	50	50	101	0	0	753	3.75
B	183	18	0	0	0	987	4.91
C	45	50	100	06	0	737	3.67
D	20	181	0	0	0	824	4.09
							<b>4.10</b>

Source: Field survey, (2019)

### ANALYSIS:

$$A: (50 \times 5) + (50 \times 4) + (101 \times 3) + (0 \times 2) + (0 \times 1) = 753/201 = 3.75$$

$$\text{B: } (183 \times 5) + (18 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 987 / 201 = 4.91$$

$$\text{C: } (45 \times 5) + (50 \times 4) + (100 \times 3) + (6 \times 2) + (0 \times 1) = 737 / 201 = 3.67$$

$$\text{D: } (20 \times 5) + (181 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 824 / 201 = 4.09$$

## APPENDIX VI

### PROXIMITY OF THE NEIGHBOURHOOD TO OTHER SOCIAL SERVICES

What is the approximate distance from your neighbourhood to the following place of services

A= PLACE OF EMPLOYMENT

B= SCHOOLS

C= HEALTH CARE SERVICES

D= SPORTING CENTER

E= FIRE SERVICE DEPARTMENT

F=PUBLIC TRANSPORTATION

G= WORSHIP CENTER

H= POST OFFICE

I= BANK/ATM SERVICES

J= POLICE OR SECURITY POST

#### F-LAYOUT NEIGHBOURHOOD

	Less Than 1km	1km	2km	3km	Above 3km	Weighted Sum	Mean
A	0	0	1	180	20	383	1.40
B	94	34	1	70	2	751	3.74
C	70	100	30	01	0	842	4.19
D	100	100	1	0	0	903	4.50
E	128	40	33	0	0	899	4.47
F	25	76	100	0	0	729	3.63
G	23	178	0	0	0	827	4.11
H	46	49	100	6	0	738	3.67
I	201	0	0	0	0	1005	5.00
J	201	0	0	0	0	1005	5.00
							<b>3.97</b>

Source:Field survey,(2019)

## ANALYSIS:

$$A:(0 \times 5) + (0 \times 4) + (1 \times 3) + (180 \times 2) + (20 \times 1) = 383/201 = 1.40$$

$$B:(94 \times 5) + (34 \times 4) + (1 \times 3) + (70 \times 2) + (2 \times 1) = 751/201 = 3.74$$

$$C:(70 \times 5) + (100 \times 4) + (30 \times 3) + (1 \times 2) + (0 \times 1) = 842/201 = 4.19$$

$$D:(100 \times 5) + (100 \times 4) + (1 \times 3) + (0 \times 2) + (0 \times 1) = 903/201 = 4.50$$

$$E:(128 \times 5) + (40 \times 4) + (33 \times 3) + (0 \times 2) + (0 \times 1) = 899/201 = 4.47$$

$$F:(25 \times 5) + (76 \times 4) + (100 \times 3) + (0 \times 2) + (0 \times 1) = 729/201 = 3.63$$

$$G:(23 \times 5) + (178 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 827/201 = 4.11$$

$$H:(46 \times 5) + (49 \times 4) + (100 \times 3) + (6 \times 2) + (0 \times 1) = 738/201 = 3.67$$

$$I:(201 \times 5) + (0 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 1005/201 = 5.00$$

$$J:(201 \times 5) + (0 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 1005/201 = 5.00$$

## TUNGA LOW COST NEIGHBOURHOOD

	Less Than 1km	1km	2km	3km	Above 3km	Weighted Sum	Mean
A	0	20	150	30	0	590	2.95
B	20	180	0	0	0	820	4.10
C	0	100	100	0	0	700	3.50
D	100	100	0	0	0	900	4.50
E	198	2	0	0	0	998	4.99
F	167	33	0	0	0	967	4.84
G	180	20	0	0	0	924	4.62
H	0	1	49	150	0	451	2.26
I	189	11	0	0	0	989	4.95
J	19	181	0	0	0	819	4.09
							<b>4.08</b>

Source: Field survey, (2019)

## ANALYSIS:

$$A:(0 \times 5) + (20 \times 4) + (150 \times 3) + (30 \times 2) + (0 \times 1) = 590/200 = 2.95$$

$$B:(20 \times 5) + (180 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 820/200 = 4.10$$

$$C:(0 \times 5) + (100 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 700/200 = 3.50$$

$$D:(100 \times 5) + (100 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 900/200 = 4.50$$

$$E:(198 \times 5) + (2 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 998/200 = 4.99$$

$$F:(167 \times 5) + (33 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 967/967 = 4.84$$

$$G:(180 \times 5) + (2 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 924/200 = 4.62$$

$$H:(0 \times 5) + (1 \times 4) + (49 \times 3) + (150 \times 2) + (0 \times 1) = 45/200 = 2.26$$

$$I:(189 \times 5) + (11 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 989/201 = 4.95$$

$$J:(19 \times 5) + (181 \times 4) + (0 \times 3) + (0 \times 2) + (0 \times 1) = 819/200 = 4.09$$

## BOSSO NEIGHBOURHOOD

	Less Than 1km	1km	2km	3km	Above 3km	Weighted Sum	Mean
A	0	0	20	20	180	280	1.27
B	30	180	10	0	0	900	4.09
C	20	170	20	10	0	860	3.91
D	0	10	40	170	0	500	2.27
E	0	10	188	22	0	648	2.95
F	0	30	50	140	0	550	2.50
G	100	100	12	8	0	952	4.33
H	0	16	22	182	0	494	2.25
I	56	100	40	24	0	848	3.85
J	105	100	15	0	0	970	4.41
							<b>3.18</b>

Source: Field survey, (2019)

## **ANALYSIS:**

$$\mathbf{A: (0 \times 5) + (0 \times 4) + (20 \times 3) + (20 \times 2) + (180 \times 1) = 280 / 220 = 1.27}$$

$$\mathbf{B: (30 \times 5) + (180 \times 4) + (10 \times 3) + (0 \times 2) + (0 \times 1) = 900 / 220 = 4.09}$$

$$\mathbf{C: (20 \times 5) + (70 \times 4) + (20 \times 3) + (10 \times 2) + (0 \times 1) = 860 / 220 = 3.91}$$

$$\mathbf{D: (0 \times 5) + (10 \times 4) + (40 \times 3) + (170 \times 2) + (0 \times 1) = 500 / 220 = 2.27}$$

$$\mathbf{E: (0 \times 5) + (10 \times 4) + (108 \times 3) + (22 \times 2) + (0 \times 1) = 648 / 220 = 2.95}$$

$$\mathbf{F: (0 \times 5) + (30 \times 4) + (50 \times 3) + (140 \times 2) + (0 \times 1) = 550 / 220 = 2.50}$$

$$\mathbf{G: (100 \times 5) + (100 \times 4) + (12 \times 3) + (8 \times 2) + (0 \times 1) = 952 / 220 = 4.33}$$

$$\mathbf{H: (0 \times 5) + (16 \times 4) + (22 \times 3) + (182 \times 2) + (0 \times 1) = 497 / 220 = 2.25}$$

$$\mathbf{I: (56 \times 5) + (100 \times 4) + (40 \times 3) + (24 \times 2) + (0 \times 1) = 848 / 220 = 3.85}$$

$$\mathbf{J: (105 \times 5) + (100 \times 4) + (15 \times 3) + (0 \times 2) + (0 \times 1) = 970 / 220 = 4.41}$$

## Appendix VII

### NEIGHBOURHOOD SOCIOCULTURAL BELIEF AND ACTIONS

The following describes the level of satisfaction with the socio-cultural behaviour of the neighbourhood

A= INTRA NEIGHBOURHOOD RELATIONSHIP

B= INTER RELIGIOUS TOLERANCE IN THE NEIGHBOURHOOD

C= INTER-ETHNIC TOLERANCE IN THE NEIGHBOURHOOD

D= NEIGHBOURHOOD SOCIAL BEHAVIOR

E= COMMUNITY DEVELOPMENT COOPERATION

### BOSSO NEIGHBOURHOOD

	Not At All Satisfied	Slightly Satisfy	Moderately Satisfied	Very Satisfied	Extremely Satisfied	Weighted Sun	Mean
A	0	120	50	50	0	950	4.32
B	20	67	133	0	0	767	3.49
C	25	158	27	10	0	858	3.90
D	87	38	95	0	0	872	3.96
E	27	139	54	0	0	853	3.88
							<b>3.91</b>

Source: Field survey, (2019)

#### ANALYSIS:

$$A: (0 \times 5) + (120 \times 4) + (112 \times 3) + (50 \times 2) + (0 \times 1) = 950 / 220 = 4.32$$

$$B: (20 \times 5) + (67 \times 4) + (133 \times 3) + (0 \times 2) + (0 \times 1) = 967 / 220 = 3.49$$

$$C: (25 \times 5) + (158 \times 4) + (37 \times 3) + (10 \times 2) + (0 \times 1) = 858 / 220 = 3.90$$

$$D: (87 \times 5) + (38 \times 4) + (95 \times 3) + (0 \times 2) + (0 \times 1) = 872 / 220 = 3.96$$

$$E: (27 \times 5) + (39 \times 4) + (54 \times 3) + (0 \times 2) + (0 \times 1) = 853 / 220 = 3.88$$

### TUNGA LOW COST NEIGHBOURHOOD

	Not At All Satisfied	Slightly Satisfy	Moderately Satisfied	Very Satisfied	Extremely Satisfied	Weighted Sun	Mean
A	0	146	50	4	0	645	3.22
B	11	34	148	7	0	649	3.25
C	15	61	121	3	0	688	3.44
D	6	74	64	49	7	623	3.11
E	58	105	37	0	0	821	4.10
							<b>3.42</b>

Source:Field survey,(2019)

#### ANALYSIS:

$$A: (0 \times 5) + (146 \times 4) + (50 \times 3) + (4 \times 2) + (0 \times 1) = 645/200 = 3.22$$

$$B: (11 \times 5) + (34 \times 4) + (148 \times 3) + (7 \times 2) + (0 \times 1) = 949/200 = 3.25$$

$$C: (15 \times 5) + (61 \times 4) + (121 \times 3) + (3 \times 2) + (0 \times 1) = 688/200 = 3.44$$

$$D: (6 \times 5) + (74 \times 4) + (64 \times 3) + (49 \times 2) + (7 \times 1) = 623/200 = 3.11$$

$$E: (58 \times 5) + (105 \times 4) + (37 \times 3) + (0 \times 2) + (0 \times 1) = 821/200 = 3.88$$

### F- LAY OUT NEIGHBOURHOOD

	Not At All Satisfied	Slightly Satisfy	Moderately Satisfied	Very Satisfied	Extremely Satisfied	Weighted Sun	Mean
A	7	79	71	44	0	652	3.25
B	4	35	65	97	0	549	2.73
C	0	71	35	91	4	575	2.86
D	25	33	108	35	0	651	3.24
E	26	63	90	22	0	696	3.46
							<b>3.10</b>

**Source: Field survey,(2019)**

**ANALYSIS:**

$$\mathbf{A: (7 \times 5)_+ (79 \times 4)_+ (44 \times 3)_+ (0 \times 2)_+ (0 \times 1) = 652/201 = 3.25}$$

$$\mathbf{B: (4 \times 5)_+ (35 \times 4)_+ (65 \times 3)_+ (97 \times 2)_+ (0 \times 1) = 549/201 = 2.73}$$

$$\mathbf{C: (0 \times 5)_+ (7 \times 4)_+ (35 \times 3)_+ (91 \times 2)_+ (4 \times 1) = 575/201 = 32.86}$$

$$\mathbf{D: (25 \times 5)_+ (33 \times 4)_+ (108 \times 3)_+ (35 \times 2)_+ (0 \times 1) = 696/200 = 3.46}$$

$$\mathbf{E: (26 \times 5)_+ (63 \times 4)_+ (90 \times 3)_+ (22 \times 2)_+ (0 \times 1) = 696/200 = 3.46}$$

## Appendix VIII

### NATURE OF NEIGHBOURHOOD ENVIRONMENT IN THE NEIGHBOURHOOD

The following are the environmental elements

A= WEATHER/CLIMATE AND TEMPERATURE

B= SOIL STRUCTURE AND TEXTURE

C= WASTE DISPOSAL

D= TOPOGRAPHY/GRADIENT LAND

E= VEGETATION

F= POLLUTION

### BOSSO NEIGHBOURHOOD

	Not At Influential	Slightly Influential	Some What Influential	Very Influential	Extremely Influential	Weighted sum	Mean
A	135	51	32	2	0	979	4.45
B	109	55	56	0	0	933	4.24
C	106	58	56	0	0	930	4.22
D	109	55	56	0	0	933	4.24
E	109	55	56	0	0	933	4.24
F	112	40	58	10	0	914	4.15
							<b>4.96</b>

Source: Field survey, (2019)

#### ANALYSIS:

$$A: (135 \times 5) + (51 \times 4) + (32 \times 3) + (2 \times 2) + (0 \times 1) = 979 / 220 = 4.45$$

$$B: (109 \times 5) + (55 \times 4) + (56 \times 3) + (0 \times 2) + (0 \times 1) = 933 / 220 = 4.24$$

$$C: (106 \times 5) + (58 \times 4) + (56 \times 3) + (0 \times 2) + (0 \times 1) = 930 / 220 = 4.24$$

$$D: (109 \times 5) + (55 \times 4) + (56 \times 3) + (0 \times 2) + (0 \times 1) = 933 / 220 = 4.24$$

$$E: (109 \times 5) + (55 \times 4) + (56 \times 3) + (0 \times 2) + (0 \times 1) = 933 / 220 = 4.24$$

$$F: (112 \times 5) + (40 \times 4) + (58 \times 3) + (10 \times 2) + (0 \times 1) = 914/220 = 4.15$$

### TUNGA NEIGHBOURHOOD

	Not At Influential	Slightly Influential	Some What Influential	Very Influential	Extremely Influential	Weighted sum	Mean
A	79	106	15	0	0	864	4.32
B	101	47	50	0	0	843	4.21
C	111	33	53	3	0	852	4.26
D	112	43	45	0	0	867	4.33
E	112	43	45	0	0	867	4.33
F	107	53	40	0	0	867	4.33
							<b>4.30</b>

Source: Field survey, (2019)

#### ANALYSIS:

$$A: (79 \times 5) + (106 \times 4) + (15 \times 3) + (0 \times 2) + (0 \times 1) = 864/200 = 4.32$$

$$B: (101 \times 5) + (47 \times 4) + (50 \times 3) + (0 \times 2) + (0 \times 1) = 943/220 = 4.21$$

$$C: (111 \times 5) + (33 \times 4) + (53 \times 3) + (3 \times 2) + (0 \times 1) = 852/200 = 4.26$$

$$D: (112 \times 5) + (43 \times 4) + (45 \times 3) + (0 \times 2) + (0 \times 1) = 867/200 = 4.33$$

$$E: (112 \times 5) + (43 \times 4) + (45 \times 3) + (0 \times 2) + (0 \times 1) = 867/200 = 4.33$$

$$F: (107 \times 5) + (53 \times 4) + (40 \times 3) + (0 \times 2) + (0 \times 1) = 867/200 = 4.33$$

### F-LAY OUT NEIGHBOURHOOD

	Not At Influential	Slightly Influential	Some What Influential	Very Influential	Extremely Influential	Weighted sum	Mean
A	100	68	33	0	0	871	4.33
B	80	71	42	8	0	826	4.10
C	86	65	34	16	0	824	4.09
D	99	38	27	37	0	802	3.99
E	112	43	45	0	0	867	4.31
F	100	45	35	21	0	827	4.11
							<b>4.15</b>

**Source:Field survey,(2019)**

#### ANALYSIS:

$$A: (100 \times 5) + (68 \times 4) + (33 \times 3) + (0 \times 2) + (0 \times 1) = 871 / 201 = 4.33$$

$$B: (80 \times 5) + (71 \times 4) + (42 \times 3) + (8 \times 2) + (0 \times 1) = 826 / 201 = 4.10$$

$$C: (86 \times 5) + (65 \times 4) + (34 \times 3) + (16 \times 2) + (0 \times 1) = 824 / 201 = 4.09$$

$$D: (99 \times 5) + (38 \times 4) + (27 \times 3) + (37 \times 2) + (0 \times 1) = 802 / 201 = 3.99$$

$$E: (112 \times 5) + (43 \times 4) + (45 \times 3) + (0 \times 2) + (0 \times 1) = 867 / 201 = 4.31$$

$$F: (100 \times 5) + (45 \times 4) + (35 \times 3) + (21 \times 2) + (0 \times 1) = 827 / 201 = 4.11$$

## Appendix IX

### Average Rental values of residential properties across the neighbourhoods

One bedroom		
BOSSO	TUNGA	F-LAYOUT
#75,00 P.A	#125,000 P.A	#175,000
Two bedroom		
BOSSO	TUNGA	F-LAYOUT
#175,000	#225,000	#275000
Three bedroom		
BOSSO	TUNGA	F-LAYOUT
#225,000	#225,000	#300,000

**ONE BEDROOM (BOSSO)**=  $50,000 + 100,000/2=75,000$ P.A

**ONE BEDROOM (TUNGA)**= $100,000+150,000/2=125,000$ P.A

**ONE BEDROOM (F-LAYOUT)**= $150,000+200,000/2=175,000$ P.A

**TWO BEDROOM (BOSSO)**= $150,000+200,000/2=175,000$ P.A

**TWO BEDROOM (TUNGA)**= $200,000+250,000/2=225,000$ P.A

**TWO BEDROOM (F-LAYOUT)**= $250,000+300,000/2=275,000$  P.A

**THREE BEDROOM (BOSSO)**= $200,000+250,000/2=225,000$  P.A

**THREE BEDROOM (TUNGA)**= $200,000+250,000/2=225,000$  P.A

**THREE BEDROOM (F-LAYOUT)**= 300,000-----