

## **IMPACT OF SOCIAL INFRASTRUCTURE PROVISION ON THE RESIDENTS WELLBEING IN FEDERAL CAPITAL TERRITORY (FCT), NIGERIA**

Social infrastructure plays a vital role in the creation and development of healthy communities. It is seen as the backbone for every society to thrive and become habitable. Inadequate delivery and maintenance of quality social infrastructure at the neighbourhood level constitute a serious challenge in Abuja. This study focused on impact of social infrastructure on resident's wellbeing in the FCT. Distribution pattern, physical conditions of existing social infrastructures were examined as well as their impact on resident's wellbeing. Quantitative method which involved the use of structured questionnaire was employed to obtain data from the households. The total of 425 households were sampled using systematic random sampling with a multi stage sampling approach in five selected districts-Wuse, Maitama, Asokoro, Garki and Guzape respectively. Descriptive statistics which include percentages, spearman rank correlation and geospatial techniques including nearest neighbor analysis were employed. The results from the nearest neighbor analysis shows that social infrastructures in the study areas are adequately dispersed (z-score =7.5,  $p < 0.01$ ). Spearman rank correlation was used to test the relationship between social infrastructure and residents wellbeing and the findings show that there is a statistical significant relationship between social infrastructure ( $\rho = 0.95$ ,  $p < 0.01$ ), and residents wellbeing. The research reject null hypothesis ( $H_0$ ) and accept alternative hypothesis ( $H_1$ ). The research concludes that social infrastructure have impact on residents wellbeing. Hence, government should partner with relevant private developers and communities to harness resources, provide and maintain social infrastructure in order to improve residents wellbeing in the FCT.

## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background to the Study

The adequate supply of social infrastructure and maintenance in the last two decades have been a subject matter of discussion at the global level, due to the drive to achieve sustainable development goals which is the aspirations of all nations (Jorgensen and Siegel, 2019). Years of economic decline and stagnated living standards have ranked the Sub Saharan Region among the poorest in the world (Calderon and Serven, 2010). The trend of infrastructure inequalities in the region is on the increase and the existing ones has not met global standards as it has been left behind in delivery and maintenance of quality infrastructures (Satterthwaite, 2017). The increase in population in the urban centre's due to rural urban migration and search for a better life has resulted to congestion in the cities and increased their fragility, this trend has become a threat to the existing infrastructures in the urban areas which can affect the livability of resident's (Seto *et al.*, 2014).

The world Bank through a study conducted by the Organization for Economic Cooperation and Development (OECD) discovered that total world expenditures in energy, transportation, water and infrastructures from 2000 to 2030 will require up to \$57 trillion (in constant 2000 US\$) just to measure up to expected economic growth rates and the emerging economies constitute the highest percentage in need of additional infrastructures (OECD, 2013). The population of Africa will account for above fifty percent of the world's population in the next two decades and this will increase the demand for services ranging from education, health care and housing facilities (Julia and Alex, 2017). Recall that the primary objective of Sustainable Development Goals SDGs is to end all forms of Poverty everywhere so as to improve the living conditions of people (Comim, 2008).

The fourth most populous city after Lagos, Kano and Ibadan is Abuja (Abubakar & Doan, 2010). More so, population within the satellite towns in the city are rapidly on the increase at about 20% per annum and this has increased the pressure on the existing infrastructures within the city Centre (Satterthwaite, 2017). Abuja is a planned modern city with supporting infrastructures for each phase with a proposed population as follows; phase (I) 20,000 phase (II) 585,000 phase (III) 640,000 and phase (IV) 1.7 million (AGIS, 2013). However, the population of Abuja has increased steadily over time since 1978 as recorded by the 2006 National Population Census, it was 113,000 in 1976 when implementation started in phase one and the city Centre, thereafter it was 378,671 in 1991 which witnessed gradual development of phase two and three and 1.4 million in 2006 where development had expanded towards phase four.

Sustained investment in social infrastructure in the region is inevitable to achieve the objectives of sustainable development which will go a long way to reduce all forms of inequalities as it will increase the production capacity and improve service delivery thereby contributing immensely to human development at large (Osagie and Dawam, 2016).

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

Social infrastructure is the life wire of every society, this is because they form a network of platforms which enhance inclusive development and make people to interact, participate and have a sense of belonging to their immediate environment (Fekete, 2011). The social amenities provided in a community impact health and wellbeing of the resident's as well as improve their living standards (Davern *et al.*, 2018). Abuja has a current population estimated to be over 3 million people and population in the day gets to 7 million (Iro, 2007). It is among the sub-Saharan African cities facing chains of social infrastructural deficit which are also referred to as fragile cities because municipal authorities and their institutions are incapable or reluctant to provide basic

services to urban resident's (Muggah, 2016). The Federal Capital Territory (FCT) has a population growth rate of 8.32% yearly which has placed it as one of the metropolis in Africa with rapid population increase (Myers, 2011). The swift urban population growth without urban governance structures in place that can put these challenges in check and manage the changes therein have brought the city to its current situation of inadequate supply of social infrastructures and services (Satterthwaite, 2017).

The idea of developing Abuja as the new capital city with the view to address issues of congestion and overstretching of social amenities as encountered in Lagos has not being fully implemented over the years (Adeponle, 2013). More so, the concept of a city which will create a sense of place for every Nigerian irrespective of tribe, religion or ethnicity, be a symbol of unity and the seat of power serviced with state of the art infrastructures, which will serve as a meeting point for the entire nation is yet to be fully realized (Jibril, 2006). Planning efforts over the years towards implementation of the Original Master Plan of the cities which are faced with rising population, inadequate facilities and services has become a thing of concern (Abubakar and Doan, 2010). Also, the planning authorities in the FCT have been reactive instead of being proactive as to issues regarding monitoring and implementation of physical developments in the city which has led to forceful evictions. The idea of forceful evictions and demolition of illegal settlements could not solve the problem of restoring orderliness to physical developments in the city completely rather it increased hardship and rendered a lot of the middle and low income earners homeless (COHRE and SERAC, 2006). This category of people has regrouped in other unplanned areas and are still using the available social infrastructures in the city.

The proliferation of illegal developments known as squatter settlements grew as a result of population explosion in the city and this has exerted pressure on the existing social infrastructures

(Ejaro and Abubakar, 2013). In most developing countries alteration of original physical plan of a city during the course of implementation has become a trend and Abuja Master Plan is not an exception (Jibril, 2006). Nevertheless, the growth of the satellite town and suburbs are not at par with supply of social infrastructure, and this is worrisome. Education and Health infrastructures among others constitute critical social infrastructures provided mostly by the public sector, some of the neighbourhoods in the FCT does not have adequate education facilities and where they are provided, they are characterized by poor maintenance culture which is rampant with public infrastructures (Jinadu, 2004).

Though several authors have discussed issues bordering social infrastructure provisions in the Africa such as Abubakar (2014), contemporary challenges in African new towns (Keeton and Nijhuis, 2019) among others but these issues were not narrowed down to the neighbourhood level. Also, issues of adequacy and sustainability which will bring about healthy and livable communities where people want to live and work have been neglected especially in health and education facility provisions (Ortiz *et al.*, 2012). The pressure on the existing social infrastructures have led to increase private sector activities in order to close the gap and this will alter the land use budget of the Master Plan, leading to reclamation of open spaces and green areas for physical developments. However, the current outcome of the city has resulted to challenges of congestion and poor supply of adequate social infrastructures (Ojiako *et al.*, 2015).

The importance of social infrastructure provisions to resident's wellbeing cannot be exaggerated in the pursuit to realize sustainable development goals. Therefore, it is necessary for development policies in the FCT to be in line with best global best practices in the world so as to improve it's ranking among contemporary global cities. Hence, it is against this backdrop that this study decides to carry out a study on the impact of social infrastructure on resident's wellbeing in the FCT with

the view to buttress the need to adopt better governance strategies which are in line with global practices and people oriented in order to bridge the research gaps identified and provide the basis for proper execution of policies and physical plans that will create a conducive environment for living and working in the FCT.

### **1.3 Research Questions**

These research questions ensued from the problem statement and will direct the study.

- i. What is the socio- economic characteristics of the resident's?
- ii. What is the distribution pattern of social infrastructure in the FCT?
- iii. What is the current state of infrastructure in the FCT?
- iv. What is the impact of social infrastructure on resident's wellbeing in the FCT?

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

The research is aimed at examining the impact of Social infrastructure on resident's wellbeing in the (FCT) with a view to identify areas of poor implementations and proffer solutions to meet the aspirations of urban dwellers. The following specific objectives were pursued so as to achieve this aim and answer the research questions.

The objectives of this research are to;

- i. Examine the socio-economic characteristics of the resident's.
- ii. Examine the distribution pattern of social infrastructure in the FCT.
- iii. Assess the physical conditions of social infrastructure in the FCT.
- iv. Examine the impact of social infrastructure on resident's wellbeing in the FCT.

### **1.5 Hypothesis**

Null Hypothesis: (H0) There is no statistically significant relationship between social infrastructure and resident's wellbeing in the FCC.

Alternative Hypothesis: (H1) There is statistically significant relationship between social infrastructure and residence wellbeing in the FCC.

## **1.6 Scope of the Study**

The research was carried out in the Federal Capital City which includes four Phases Namely Phases I, II, III, and IV radiating outward from Phase I located at the center (Figure. 2). The master plan's implementation concentrated on Phase I, which is now complete and includes the residential districts of Maitama, Wuse, Garki, Asokoro, and Guzape, which house the majority of the city's elites as well as several foreign embassies, international agencies, and multinational corporations. The Phase II, was expected to accommodate about half a million people in fifteen residential districts, only the five districts of Kado, Jabi, Utako, Wuye, and Gudu/Apo are nearly fully developed (IPA, 1979).

Because of the slow pace of infrastructure construction, the rest are in various states of development. Phase III, which includes seventeen residential zones, was supposed to boost Abuja's total population to 1.64 million people by the year 2000. (IPA, 1979). However, this dream is yet to be realized as only two districts (Gwarimpa I and Life Camp) have been fully constructed, hence this concept is yet to come true. Nbora and Lokogoma, meanwhile, are still unfinished. The study will focus on the situation in the central Abuja municipal area council (AMAC), which includes Gwagwalada, Bwari, Abaji, Kwali, Kuje, and the central Abuja municipal area council (AMAC), totaling six. where almost all the districts have experienced about 90% level of development in infrastructure to examine the impact of social infrastructures and resident's wellbeing.

The study will concentrate mainly on two social infrastructures that are considered to be the basic needs of the urban dwellers namely; education and health facilities because they are yet to be discussed at the neighbourhood level in most areas. The research will examine socio- economic characteristics of the respondents, examine the distribution pattern of social infrastructure in the FCC, assess the condition of social infrastructure available to the resident's and examine the impact of social infrastructure on resident's wellbeing in the FCC.

### **1.7 Justification for the Study**

The Abuja Master plan was designed to operate as a sustainable city serviced with social infrastructure, regulate land uses, transportation systems and other components of the city that will enable it contain the needs of its proposed population and meet the aspirations of the future generation (Obiadi *et al.*, 2019). Originally the city was designed to house three million inhabitants with a maximum neighbourhood population of five thousand people with a primary school, dispensary and a community hall in each neighbourhood but there has been a deviation from this plan in some of the neighbourhoods (Adeponle, 2013).

Chakraborty (2011) noted that urbanization in the city without inclusive planning can result to developments of unplanned settlements known as shanty towns around the suburbs without basic social amenities provided for the resident's. This trend over the years have increased the congestion in the city and overcrowding of basic facilities provided in phase one of the city. The last known population of the Federal Capital Territory puts it at 3, 100, 000 and this population will continue to increase (Obiadi *et al.*, 2019). The 1999 Master Plan review conducted by the FCDA observed several distortions in the original planning document of the city mostly building without prevailing services resulted to an uncoordinated social infrastructure service provisions in the city. In order to reduce the adverse effects of the consequences of this trend, there is need to

carry out further studies to examine current situation in order to avoid similar issues in the phases that are yet to fully developed.

There should be a paradigm shift from the usual method of policy implementation to a more cohesive and inclusive strategy in order to bridge the gap in the area of social infrastructure provisions to enhance resident's wellbeing. The research will provide relevant information for policy makers on the choice of intervention that will be very effective and improve the living standards of resident's in the resident's. Finally, the research will establish the relationship between social infrastructure and resident's wellbeing in the study area.

## **1.8 The Study Area**

The Federal Capital Territory is located in the heart of the country, it stretches across 8000 square kilometers with a geographic location of latitude 7°25'N and 9°02'N of the equator and longitude 7°39'E and 8°02'E. Abuja is bounded on the north by Kaduna, on the South West by Kogi, on the West by Niger State and on the East by Nassarawa (Ojiako, *et al.* 2015).



Figure: 1.1 Map of Nigeria Showing (FCT)

### 1.8.1 Geographical location

The Federal Capital City is located on the Gwagwa Plains in the Federal Capital Territory's northeastern corner as shown in figure 1.1. It is bordered on the east by the Abuja Hills and on the south by the Zango-Kuku Hills. The site for the Federal Capital City was chosen because of its central location, mild climate, small population, and political considerations. The city is crescent-shaped and has a central axis with the Nigerian government's capital at its center. Peripheral roadways split residential areas on either side of the central region into sectors (Adeponle, 2013).

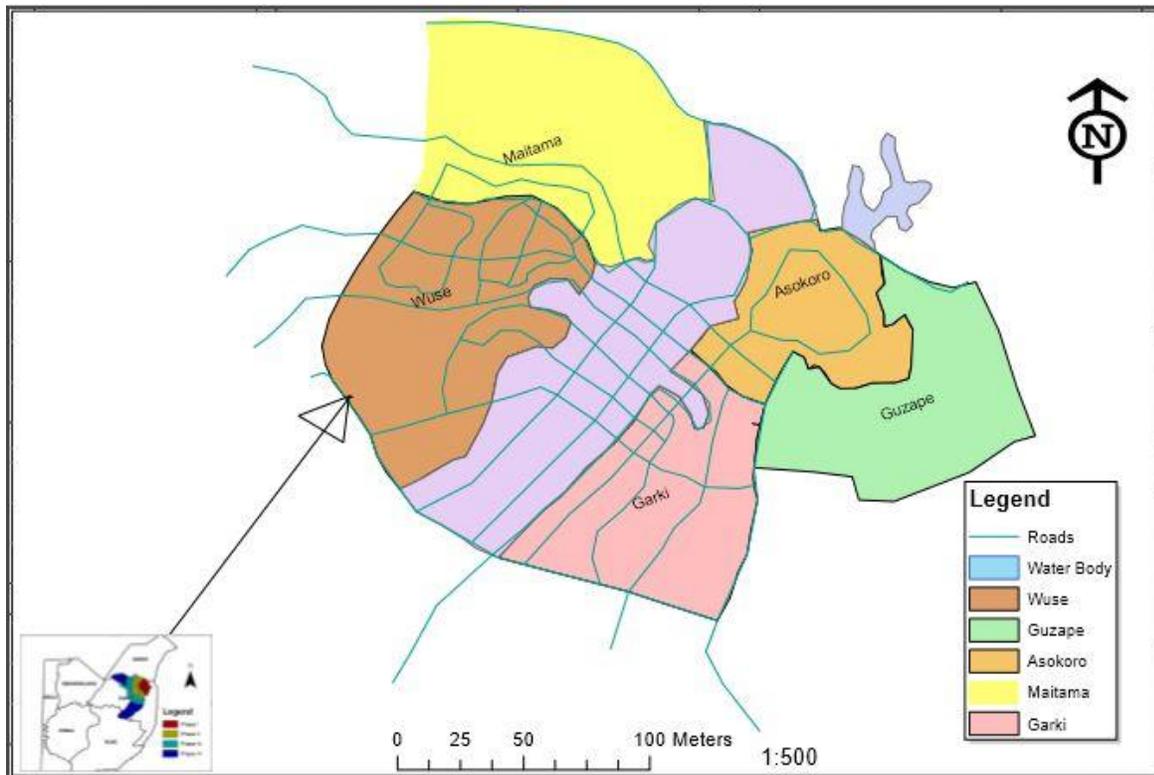


Figure: 1.2 Phase I in Context of (FCT)

### 1.8.2 Population and historical background of Abuja

Abuja the Federal Capital City came into existence on 3<sup>rd</sup> February 1976 as a result of its recommendation to the military government to be the suitable location of the seat of power because as at that time the congestion in Lagos was unbecoming. More so, it doubled as the commercial and industrial hub of the country with the major access to the sea since 1914. Hence Lagos effectively performed the dual role of State and Federal capital (Abubakar, 2014). The FCT is bounded by the states of Niger, Nasarawa, Kaduna, and Kogi, from which it was carved out. Niger State contributed the most to the FCT, with 6,738 square kilometers (84.2%), Nasarawa 903.8 square kilometers (11.3%), and Kogi 358.2 square kilometers (4.5%) (Akingbade *et al.*, 2012).

The census conducted in 2006 put the population of the city of Abuja at 776,298 which categorized it one of the ten most populous cities in Nigeria. The United Nations opined that Abuja grew by 139.7% between 2000 and 2010, presenting it as the city with the most rapid growth in the world.

Furthermore, as of 2015, the city had had annual growth of at least 35 percent, retaining its position as Africa's fastest-growing city and one of the world's cities with rapid population growth. Obiadi *et al.* (2018) noted that Abuja as at 2016 had a metropolitan population estimated at six million persons, which placed it behind only Lagos, as the most populous metro area in Nigeria. Figure 1.2 shows the study area which is within phase one in context of the FCT.

### **1.8.3 Socio economic characteristics of the study area**

The city's population is extremely diverse, the native resident's of Abuja are the Gbagyi as the dominant tribe, Gwandara, Gade, Igbira, Ganagana, Bassa, Koro etc. Agriculture food crop products such as maize grains, sorghum, millet, and cowpea are the main source of livelihood for the residents. Nonetheless, civil servants and private business owners make up the majority of today's population. Because of the country's ethnic and religious variety, plans have been evolved since independence to place the capital in a neutral geographical area that will accommodate all citizens, regardless of ethnic origin, and that is also relatively close to all parts of the country. The location was finally selected in the Centre of the country in the early 1970s as it indicated neutrality and national unity. In terms of administration, the (FCT) Abuja municipal has constituted six local area councils: Abaji, Bwari, Kuje, Gwagwalada, and Kwali. While Abuja city is part of the Abuja municipal area, it is governed directly by the federal capital territory administration (FCTA), which is led by a president-appointed minister (Abubakar, 2014).

### **1.8.4 Land use**

This is the allocation of space for different developments according to the proposed percentage by planning authorities within a given geographical location. The Federal Capital Territory Master Plan document has several allocations with respect to residential, commercial, Public Facility lines, Recreational, agricultural and industrial uses accordingly (Adiukwu, 2014). According to IPA

(1979) the Abuja Master Plan was designed to have basic facilities at all levels in different categories but the issues of poor implantation have led to several problems facing the city currently.

## **1.9 Definition of terms**

### **1.9.1 Social infrastructure**

Social infrastructure involves are referred to as the building blocks of every community, they are provided by the government and other developers alike when the need arises (Teriman *et al.*, 2010). They include infrastructure such as (such as schools, housing, sanitation, water and health facilities). They are the essential ingredients for the success of a modern economy, and they form part of the focus of this paper (Sun and Stewart, 2010)

### **1.9.2 Wellbeing**

The concept of wellbeing encompasses both concepts measuring people's subjective satisfaction with indications such as (happiness, relationships within families and with friends, relationships with coworkers, and so on) and objective indicators evaluating people's quality of life (Rees *et al.*, 2010).

### **1.9.3 Livability**

Livability is the extent to which an environment best suits the adaptive abilities of species in a practical to human society (Veenhoven, 2002) it indicates the fit of institutional arrangements with human needs and capacities.

### **1.9.4 Sustainability**

Sustainability refers to the ability of the present population to meet their needs without compromising the ability of the future generation to achieve their goals and aspirations, this has to do with the three pillars of sustainable development which include environment, economy and society (Teriman *et al.*, 2010).

### **1.9.5 Urbanization**

Urbanization is defined as the agglomeration of people in relatively large number at a particular location on the earth surface. It is an agent of economic development and also it is the catalyst of planning problems in contemporary cities (Agbola, 2004).

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 Concept of Social Infrastructure

Social infrastructure refers to crucial structures both tangible and intangible, it is always in the foreground when we talk about city development, quality of life in the urban sphere and it can be referred to "hard" and "soft" public assets, that deliver critical services to society (Saeid *et al*, 2015). Another study by Beeferman and Wain (2016) described social infrastructure as equipment, facilities, structures and similar assets that are important for people to thrive as individuals and participate in household, political, civic, economic and other roles viewed as relevant for their wellbeing in their society. They are those services that make up the live wire of every habitable society (Manggat *et al.*, 2018). Transportation and transportation systems, telecommunication, electrical grid, water supply system, bridges, roads, and other subsystems comprise the economic infrastructure, while healthcare, education, culture, tourism, and other subsystems comprise the social infrastructure (Popova, 2017). Another categorization is the tangible and non-tangible infrastructure; the tangible infrastructure is known as the "hard" while the non-tangible are referred to as "soft". Nonetheless both has been viewed by investors as an essential component of business and private life (Saeid *et al*, 2015).

Teriman *et al.* (2010) opined that soft infrastructure includes social services and programs which enhance participation and development of human capital in the community. Hence it can be viewed by policy makers and economist as investment in human capital. Social infrastructure is widely defined as systems which enable the society to work efficiently, they include physical human capital, social capital and public services (Saeid *et al*, 2015). More so, it is an acute component of infrastructure which cannot be overlooked social capital development and enhances cohesion in

the society (Teriman *et al.*, 2010). They are mostly considered as structures, built by humans to accumulate and support the delivery of goods and services in the community (Fekete, 2011). The contribution of social infrastructure towards building a healthy community which is habitable for living and working cannot be overemphasized. It is the reason why many countries in the global north thrive on the provision of necessary social infrastructure to drive their economies (Omoruyi, 2015). Within the context of urban sphere, social infrastructure is said to contain ingredients which promotes meaningful and positive impacts in the wellbeing of resident's (Teriman *et al.*, 2010).

## **2.2 Theoretical Framework**

Several definitions and concepts about social infrastructure have dominated literature over the years and to narrow the broad view of ideas concerning this subject which intends to explain the impact of social infrastructure on resident's wellbeing, theories such as; resource dependency theory, competitiveness theory and concept of sustainability were dissected.

### **2.2.1 Resource dependency theory**

This theory states that resources are needed to sustain organization existence in the long term (Pfeffer and Salanick, 1978) as cited by Ojeje and Adodo (2018). It can be hypothesized that the perception of government, policy makers and administrators on resource dependency theory should clearly play a large part in their reactions in rules to appropriating funds for specific interventions in the society to improve resident's wellbeing (Osuji, 2016). According to the assumptions of this theory, the provision of social infrastructure (Inputs) in the environment will bring about resident's wellbeing (Products) and having adequate infrastructure amid scarce resources will foster a livable and sustainable society.

The Resource Dependency Theory concentrates on importance and quality of social infrastructure (inputs) as to the major determinants of resident's wellbeing (Products). This theory explains the impact of external resources on the behavior of an organization. The major assumptions are as follows; resources originate from an organizations environment, the environment to a great extent contains other organizations and finally resources are the basis for power. As noted in Ojeje and Adodo, (2018) resource dependency theory is based on the assumption from economic sociology that organizations are immersed in networks of economic interdependence and social ties (Granovetter, 1985). This theory is used to drive home the idea behind the subject matter and give a specific interpretation of the impact of social infrastructure provisions on resident's wellbeing. This is because, the society doubles as an organization which rely on various resources (environmental and social) to thrive and without adequate provision of those resources (SI inputs) there is a tendency that society will not be livable or habitable and on a larger scale the society will be not be powerful. This is because every effective and efficient system depends highly on the quality and quality of resource base and how those resources have been deployed to impact the society positively.

### **2.2.2 Theory of competitiveness**

The theory of competitiveness has dominated the literature of economist and policy makers over centuries with a different terminology; productive power, national wealth, and good trade Reinert *et al.* (1994) as cited by Markatou (2015). Competitiveness refers to a country's ability to generate goods and services that can be sold on the global market under a free-trade and rational market environment. Previously, competitiveness was defined as the ability to export products and attract direct investment (Vazonien and Kiausiene, 2018). However, lately it encompasses ability to attract all activities that directly or indirectly generate economic wealth.

Ivanyna and Shah, (2010) described competitiveness as an aspect of economic knowledge which examines the realities and policies that form the aptitude of a nation to generate wealth and maintain the atmosphere that sustain more economic value. Nevertheless, the Greeks defined competitiveness as the capacity of a nation to preserve and improve the living conditions of all citizens, improve productivity levels, real cohesion and upgrade environment to reinforce employment (Cross, 2005) as cited in Markatou (2015). This theory has the following assumptions; Infrastructure has to be new, it comprises of networks, it has to be basically social, economically efficient and technically feasible and finally, it has to assist other sectors.

The assumptions of the competitive theory connect with social infrastructure impacts on resident's wellbeing in the sense that when quality infrastructure is provided it will serve as a building block and network of interconnectedness for development within the system. Nations are willing to promote their comparative advantage in various ways and this is feasible through investment in social infrastructure such as education and health which will in turn development human capital to become more efficient, productive and compete favorably with other emerging economies to meet global standards. More so, this will make the society to become powerful and resilient. Competitiveness shows the capacity of a country to attain continual high degrees of progress in GDP per Capita (UNDP, 2016).

### **2.2.3 Sustainability concept**

The concept of sustainability is a relatively new concept; yet, the drive as a whole was sparked by social justice, ecology, internationalism, and other historical movements with long histories, according to Brundtland Commission (1983) as referenced in UNDP (2016). Several of these ideas were combined in the call for "sustainable development" at the turn of the twentieth century. According to UNDP (2016), former Norwegian Prime Minister Gro Harlem Brundtland was

enticed to lead the new World Commission on Environment and Development by the UN. Many countries were still suffering from life-threatening poverty in 1983, after decades of struggle to enhance living standards through industrialization. Economic progress at the expense of environmental health and social fairness did not appear to lead to long-term prosperity.

It was evident that the world needed to find a method to balance environmental sustainability and economic growth. Four years later, the “Brundtland Commission” released its final report with the team “*Our Common Future*”. It famously defines sustainable development as: “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” Sustainability is a holistic approach that considers ecological, social and economic dimensions, recognizing that all must be considered together to find lasting prosperity.

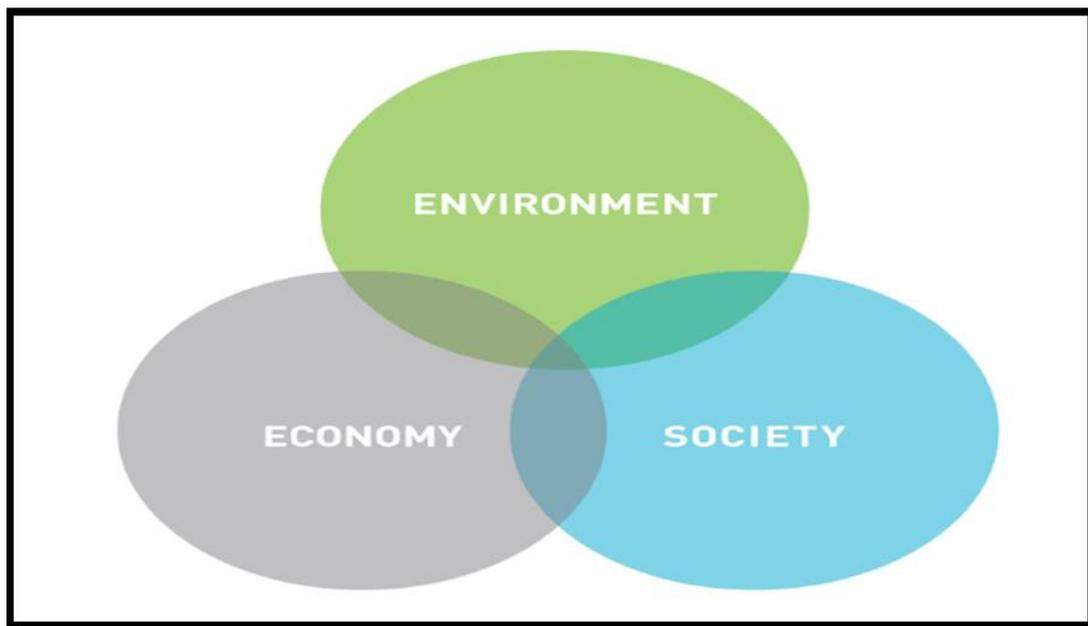


Figure 2.1: The Pillars of Sustainable Development  
Source: UNDP (2016)

In the same way that the three pillars of sustainable development rely on social infrastructure to thrive in society, the concept of sustainability is relevant to this research. Social infrastructure will

act as a foundation and a platform for the economy, environment, and society to interact in order to produce a livable and workable environment.

### **2.3 Concept of Wellbeing**

Generally, there is no agreed definition as to what the term 'well-being' entails. Frequently, it is used as an all-encompassing concept to describe the value of people's lives (Anand *et al.*, 2011). The term "well-being" has a lot of ambiguity attached to it. For example, well-being has been referred to by phrases such as happiness, quality of life, and life satisfaction (Allin, 2007). According to the New Economic Foundation (NEF), well-being is "the active process that gives people with a sense of how their lives are going, through the contact between their circumstances, activities, and psychological resources or "mental capital," as defined by the NEF. Other meanings emphasized achievement and the chance to reach one's full potential in the future.

Dodge *et al.* (2012) argued that, wellbeing is no fewer than what a gathering of people jointly agree makes a 'good life'. While there may be universal agreement on the indications that make up a sense of well-being, individuals may place varying degrees of significance on each indicator. For example, one person may prioritize financial security over the worth of his or her relationships, whereas another may emphasize the value of his or her relationships (Waldron, 2010).

The concept of wellbeing conveys a broad picture of the population's standard of living and the value of people's lives. As a result, according to Rees *et al.* (2010), it is a self-motivated condition that is heightened when people are able to achieve their personal and social goals, and it is manifested both in connection to objective measures such as household income, educational resources, and health status. Anand *et al.*, (2011) have suggested a different approach envisioning well-being as the balance between resources and challenges. He claims that individuals experience

stable well-being when they have the psychological, social, and physical resources they require to meet a specific psychological, social, and/or physical challenge.

### **2.3.1 Hedonic and eudaimonic wellbeing**

In terms of subjective well-being, there are two main intellectual traditions to consider: hedonic and eudaimonic approaches. According to Richard and Deci (2001), hedonic opinion is based on the idea that happiness is achieved through the satisfying of desires, and that people will want to take advantage of their happiness. The hedonistic viewpoint is even more so. The eudaimonic thinkers such as Alkire and Black (1997) suggested that Wellbeing is more than preference satisfaction for eudaimonic thinkers, according to his Nichomachean ethics, wellbeing cannot be based on the degree of pleasure experienced but originates from the representation of such assets as excellence, virtue and self-realization. Nonetheless, according to Nordbakke and Schwanen (2014) current eudaimonic understandings of wellbeing are based on Aristotle and emphasize purpose in life, personal growth, and 'flourishing,' i.e. the grasp of one's best qualities. Living in ways that reflect one's 'daimon,' or genuine self, is possible when one "identifies one's prospective strengths and limits and selects from among them."

### **2.3.2 Measurement of wellbeing**

There is a wide acceptance of the fact that well-being can be measured using two broad approaches namely: objective and subjective measures. Hence, the both approaches are necessary.

### **2.3.3 Objective measurement of wellbeing**

Objective measures establish criteria for an individual's well-being and then use indicators to determine how well those criteria have been met (Ryff *et al.*, 2003). Economic (GDP and household income), quality of life (life expectancy, crime rates, and educational attainment), and

environmental (life expectancy, crime rates, and educational attainment) are the three key areas they commonly measure (air pollution and water quality). According to Guillén-Royo and Velazco (2005), objective measures have been used for many years, but it is becoming increasingly clear that objective measures alone cannot fully measure a nation's progress because perception cannot be measured objectively, necessitating the introduction of subjective measures for wellbeing assessment.

### **2.3.4 Subjective measurement of wellbeing**

The subjective well-being approach views well-being as people's perceptions of their own health. In terms of worth, well-being is something that occurs in the realm of the person rather than in the area of objects (Diener *et al.*, 2015). Although objects and factors have a role in determining well-being, they are not well-being (Rojas, 2014). As a result, subjective measurements are frequently used to gauge people's feelings about their own well-being. The only method to know if someone is happy or satisfied is to ask them, according to the New Economics Foundation (NEF, 2011). Hence, subjective ratings account for inflation and differences in people's values. Not because they are self-reported, but because the question asks a person to rate how they feel (Hicks, 2011). Perceptions, unlike objective measures, are required to comprehend subjective well-being. The quest for comparable subjective metrics has prompted countries around the world to establish programs to improve subjective well-being assessment.

## **2.4 Approaches Employed in Measurement of Subjective Wellbeing**

### **2.4.1 Evaluative approach**

This comprises a person assessing their overall life satisfaction as well as contentment with a specific aspect of their lives such as their education, career, or health. Likert scales or a Cantrell ladder are always utilized (e.g. at the bottom of the ladder worst possible health and at the top of

the ladder best possible health). The evaluative method is commonly employed. According to studies, including a specific time period in the question (for example, health in the previous week) enhances response; otherwise, some people find it difficult to respond (Dolan *et al.*, 2011).

#### **2.4.2 Experience (affect) approach**

To analyze the emotional quality of one's life, this method involves accumulating positive and negative feelings such as happiness, sadness, anxiety, and energy levels. It's customary to inquire about a person's feelings from the preceding week or day. Other means of data collection, such as diaries, are rarely employed. Negative sentiments such as pain, worry, and suffering, according to Tinkler and Hicks (2011), should be fundamental questions in every adult survey. The reason is that negative emotions are those that can be influenced by public policy, but there has been a reluctance to implement the advice, partially due to ambiguity about the optimal means to collect negative emotions and, second, a concern of diminishing responsiveness.

#### **2.4.3 Eudemonic approach**

The psychological approach is defined as an individual's assessment of their own world (Richard and Veronika, 2009). The method is intended to assess feelings such as self-efficacy, positive connections, a sense of purpose, accomplishment, and autonomy. These initiatives are sometimes referred to as 'flourishing' measures (Tinkler and Hicks, 2011).

### **2.5 Definition of Quality of Life**

The WHO noted that the good health is not only the absence of infirmity or diseases but however, a state of physical, social and mental wellbeing (WHO, 2010). Individuals, researchers, communities, and governments have all worked to better understand, measure, and improve the human experience. Quality of life (QOL) is a phrase that has been used to describe the overall evaluation of human experience in a variety of fields, including psychology, medicine, economics,

environmental science, and sociology (WHO, 2010). We analyze the condition of human affairs or suggest policies to enhance them in an attempt to define quality of life, and we naturally start from assumptions about the characteristics of a good life and tactics for attaining them (Chaturvedi and Muliya, 2016). We might believe, for example, that having access to certain things is a necessary component of a happy life. As a result, boosting economic productivity per capita is a good objective to set. Our basic assumptions are rarely challenged and established, which is unfortunate. As a result, we require a more fundamental definition of quality of life (QOL) to guide our efforts to improve people's daily lives (Camfield *et al.* 2009).

## **2.6 Relationship Between Wellbeing and Transport Infrastructure**

The importance of transportation infrastructure in the country's economic prosperity cannot be overstated. Infrastructure that is extremely sophisticated reduces production costs by changing delivery times, the practical status of transportation, minimizing negative externalities, and saving enterprises' working capital (Barro, 2013). Transport infrastructure can have an impact on the economy at a national level by improving the efficiency of other production factors such as capital, labor, and aggregate factor productivity. More importantly, it has an impact on the country's worldwide competitiveness; for example, the density of transportation and communication infrastructure has a substantial impact on international trade (Charles *et al.*, 2017).

When new industries are clustered around existing industrial clusters, infrastructure becomes the foundation for production agglomeration (Teriman *et al.*, 2010). Transport is a vital tool for achieving social, economic, and foreign-policy objectives since it provides the essential conditions for the active operation of a country's economy and society. It has evolved into a critical tool for accomplishing national goals. Simultaneously, any economy's transportation system can be a

bottleneck, as transportation system problems stimulate infrastructural development. Enhancing the network of roads and green infrastructure in rural part of the country can also facilitate further development of the regions and involvement of new territories into active economic environment. Transport infrastructure is a key factor for investments (Norton *et al.*, 2015). According to Kessidies (2004), governments use these investments not only as a powerful tool for enhancing the country's economic development or laying the groundwork for the advancement of specific industries within the national economy, but also for rational resource allocation between industries, stimulating economic activities, and governmental regulation of business.

## **2.7 Relationship Between Wellbeing and Health Infrastructure**

Apart from financial condition, employment, leisure, and housing, health and environment are the key aspects that contribute to the idea of subjective well-being, which refers to how people perceive the quality of their lives based on their emotional reactions and cognitive judgments (Dennis and James, 2016). These notions, according to modern well-being and happiness experts, are similar, and they can be used in empirical studies on the level of community health. A sense of excellent quality of life is sometimes associated with health as a welfare, however this concept is considerably broader. Subjective well-being is linked to health, and persons who assess their general health as good have higher subjective well-being.

## **2.8 Relationship Between Wellbeing Traditions and Poverty**

The three traditions in the study of well-being: presumption, imputation, and subjective well-being will reflect in the conceptions of well-being deprivation and in consequence in the understanding and measurement of poverty (Richard and Deci, 2001). Recent approaches have also relied on the imputation tradition to create a conceptualization of poverty that goes beyond money by

integrating additional dimensions that are regarded necessary for living a happy life; as a result, a substantive approach is used, with dimensions enumerated (Waterman, 1993).

## **2.9 Relationship Between Wellbeing and Education**

Gomati (2011) described education infrastructure as classrooms, laboratories, sport facilities, open spaces other equipment within the school premises that are used to improve the learning abilities of students. More so, overcrowded and unattractive school buildings has a negative impact on academic performance of students (Owoeye and Yara, 2011). Education is associated to subjective wellbeing both directly and indirectly, though there is much less research on this connection. In social sciences literature, theorizing proposes that because education improves capabilities, it should lead to more favorable assessments of wellbeing (Chowdhury and Squire, 2006). However, as already noted, the wellbeing of learners and teachers have an impact on educational outcomes either by aiding students to be motivated or by inspiring teachers to perform effectively (Watson, 2011).

## **2.10 Review of Methods and Case Studies from Similar Studies**

### **2.10.1 Social infrastructure services for local community wellbeing in Lithuania**

This research was conducted among the Baltic states in Europe's northeastern area. Social infrastructures, according to the study, are a variety of services provided to community members that allow each individual to completely integrate and participate in society. To collect and analyze data on the topic area, the study used both theoretical and empirical methodologies. The findings suggested that social infrastructure should be evaluated more thoroughly in the domain of wellbeing, as those services play critical roles in residents' welfare in terms of where they live, how they feel, and how they view their future living (Vazonien and Kiausiene, 2018). Nonetheless, because this study focused on rural communities, it would be reasonable to replicate

it in an urban setting to assess the adequacy of available social infrastructure. In addition, the situation in European local communities differs significantly from that in poorer countries.

### **2.10.2 Impact of basic and social infrastructure investment on South African's**

The study focused on the provision of basic social infrastructure can address the issues of wide spread inequalities and divided societies. A balance panel dataset for rural and urban areas was created, with infrastructure, economic, demographic, and social indicators. In addition, synthetic indexes of basic and social infrastructure were created using principal component analysis (Nordbakke and Schwanen, 2014). The result indicates that the elasticities of basic and social infrastructural investments generally are more pronounced for economic growth and social development indicators in rural areas. This data could potentially influence policy decisions in provision of social infrastructure.

### **2.10.3 Urban infrastructure and quality of life; a case study of Warri metropolis**

The research focused on the inadequacies of social infrastructure provisions in developing countries. The authors noted that issues of social infrastructure provisions have attracted interest from development experts in recent times as a result of their inherent problems and economic indicators for measuring resident's wellbeing (Asikhia and Uyoyoghene, 2015). The research employed simple random sampling in the distribution of 400 questionnaires to collect data within the sampling frame. Also, empirical verification of the data using chi square analysis shows that the quality of life in Warri metropolis is on the average. The research suggested that adequate social infrastructure should be provided to improve resident's wellbeing. However, it is necessary to repeat the same research in other regions of the country in order draw comparisons and reach a balance conclusion on the subject matter to further enrich the existing literature.

### **2.10.4 Education infrastructure in Nigeria**

Ojeje and Adodo, (2018) in their study of education infrastructure in Nigeria employed a descriptive survey design. The method was aimed at the systematic evaluation of the characteristics of a population and profiling of available infrastructure in within the study area to determine their adequacy in supply. The Resource Dependency Theory was employed as a framework to drive the study, the stratified and simple random sampling method was adopted in selecting 30 secondary schools in the study area. Descriptive data analysis was done using frequency counts and percentages. More so, the results reviewed that most of the schools lack adequate school buildings to support education programmes as projected. The research suggested that emphasis be placed on provision of functional buildings.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Research Design**

This research is carried out in an observatory manner, it is also empirical in nature since secondary and primary data were obtained from the study area. Using a representative subset of a given study area at a specific point in time. Data was collected based on the description of the situation in the present moment. More so, this study will comprise of both geospatial and quantitative survey employed to make inferences or gather preliminary data about possible relationships to support further research and experimentation.

#### **3.2 Source and Type of Data**

##### **3.2.1 Primary data**

The primary data required for this study will be obtained from the survey of the following in the study area

- i. Socio-economic characteristics of the respondent's which includes; Age, marital, income, marital status, occupation, household size, educational status and others.
- ii. Geospatial data on the distribution pattern of social infrastructure. Geospatial data are referred to as data that has geographic components attached to it. It means that such data in a particular data set rely heavily on locational reference or information's such as coordinate points to map out the pattern of distribution of social infrastructure.
- iii. Physical conditions of social infrastructure in the study area; this was obtained through reconnaissance survey and observations recorded by the researcher.

### **3.2.2 Secondary data required**

Secondary data needed for this survey includes; District maps obtained from the google earth platforms and (FCDA). Others materials involve journals, published and unpublished materials, magazines, research works, seminars, conferences and working papers.

### **3.3 Instruments for Data Collection**

The instruments used for data collection in the study includes a structured questionnaire to collect all relevant primary data within the study area. Global positioning system (GPS), android phone and a check list table designed to examine resident's wellbeing in their neighbourhoods which is shown in appendix B.

#### **3.3.1 Questionnaire**

The structured questionnaire drafted for this research and shown in appendix A, consists of three sections (A-C) and each Section is designed to answer the questions emanating from the objectives of the research. Section A was drafted to collect socio economic and demographic data of the respondents which includes; Age, Gender, Marital Status. Section B obtained information with the aid of a check list which was used for observation by the researcher to assess the conditions of infrastructure in the study area. Finally, section C was used to collect information on resident's opinion on wellbeing in the study area.

#### **3.3.2 Reconnaissance survey and observation**

Reconnaissance survey was employed by this study to identify units of residential buildings except schools, hospitals, church, mosque and shopping malls that form the sampling frame of the study. This was used to collect data on the distribution of social infrastructure, also physical observations were carried out by the researcher to examine the conditions of social infrastructure in the study area. This was used to score the check list used to gather data on the study area.

### **3.4 Hypothesis Testing**

This is the pairing down of the research problem to make it testable and falsifiable, in order to validate the relationship that exist between the variables under consideration. This research used chi square to detect whether there is a relationship that exist between social infrastructure and resident's wellbeing.

### **3.5 Data Analysis**

This is the act of inspecting, cleansing, modelling and transforming data with the goal of discovering useful information, informing conclusions and supporting decision making in the research process. The primary data was analyzed with the use of statistical software's such as SPSS, JASPS, MS EXCEL and Arc GIS 10.5 software.

### **3.6 Data Presentation**

The results of the analyzed data are presented with the use of statistical charts such as tables and bar graphs. The findings and recommendations will be developed from the results of the analysis.

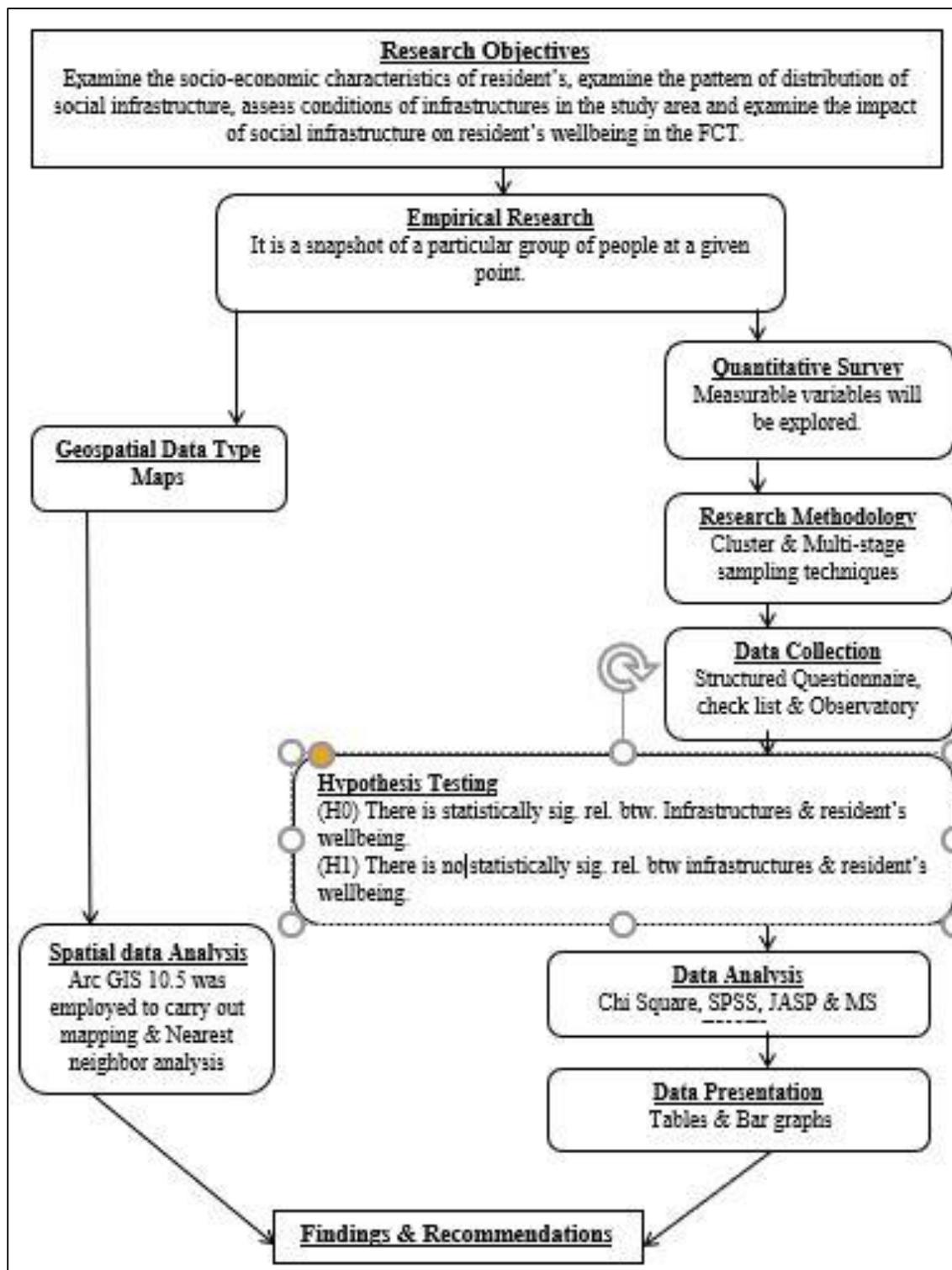


Figure: 3.1 Flow Chart of Research Design

### **3.7 Sampling Procedure**

#### **3.7.1 Study population**

The unit of analysis for the study is household, therefore, the sample frame for this study is the total number of households in the study area. However, the 2006 National Population Census data did not provide population information on neighborhood basis, rather the population data was provided on Area Council (AC) level. Therefore, a surrogate approach was adopted to estimate the population of the study area. First, the number of houses within each of the neighborhood under study was determined through manual counting of residential buildings excluding non-residential uses and un-occupied structures with aid of the image obtained from the Google Earth Platform coupled with manual observations.

The total number of buildings in the selected neighborhoods is presented in Table 3.1, the table shows that a total of 460 houses were identified in Wuse zone Six (6), 250 in Guzape District, 490 in Asokoro District, 360 in Maitama and 350 in Garki respectively. The total number of houses identified in each study area were summed up to arrive at a value of (1910) and it was multiplied by six (6) which is the Nigeria National average household size according to National Bureau of statistics survey (NBS, 2016) to arrive at a total population of eleven thousand four hundred and sixty (11,460) for the selected study area. Note that the counted structures were occupied residential buildings excluding schools, shops and hospitals. More so, the research has a basic assumption that all households in the study area are occupied by one household in order to address the discrepancies that may arise as a result of buildings that are multi stories. Hence this value was adopted as sample frame for the research.



**Table 3.1: Study Population by Neighborhood**

Districts	Sample Neighbourhood	Number of Houses
Wuse I (A02)	Zone six (6)	460
Maitama (A05)	Around Abuja Clinic	360
Asokoro (A04)	Around ECOWAS	490
Garki (A01)	Area One (1)	350
Guzape (A09)	COZA Church Area	250
	<b>Total</b>	<b>(1910x6) = 11,460</b>

### 3.7.2 Sample size

In order to arrive at a representative sample size for the study, the Yamane (1967) sample size formula was adopted. The formula is written as follows;  $n = N/1+N(e)^2$

Where n = Sample size

N = Population size

e = Level of precision or sampling error which is usually  $\pm 5\%$

Hence  $(n) = 11460 / \{1 + 11460(0.05)^2\}$

$(n) = 11460 / 29.65 = 386.50$

In order to account for shortfalls that may arise as a result of wrong filling or missing result 10% of the sample size was added to arrive at a sample size of 425. The total of 425 households was selected for sampling in the study area. Furthermore, the sample size was distributed across each of the neighborhood base on the proportion of the household population of the selected areas to the total household population in all the five locations under study. Table 3.2 shows the number of samples that were selected from each of the five neighborhoods selected.

**Table 3.2 Proportion of Questionnaires to be Distributed per Study Area**

<b>Neighborhood</b>	<b>Number of Houses</b>	<b>Proportion</b>	<b>Sample Size</b>
Wuse Zone six (A02)	460	0.24	102
Maitama (A05)	360	0.19	81
Asokoro (A04)	490	0.26	111
Garki (A01)	350	0.18	76
Guzape (A09)	250	0.13	55
	<b>(1910 x 6= 11,460)</b>	<b>1.0</b>	<b>425</b>

### 3.7.3 Sampling techniques

This study used multi-stage sampling technique whereby more than one sampling technique was employed in the course of the exercise. Firstly, the simple random sampling technique was used to select five districts in phase one. Table 3.4 which is displayed as appendix B shows the percentage completion level for infrastructures within the different phases and phase one was eventually selected by the study because it has the highest level of complexions in physical developments compared to other phases within the FCT. Thereafter, the systematic random sampling procedure was used to pick neighborhoods from each of the districts and finally both systematic and random sampling were combined in the selection of the different households for the sampling. Here the first house was selected at random while the subsequent households was selected at a specific interval of four (4) for all the households in the selected area of study. The sample interval is arrived at by dividing the number of houses in each study area by the sample size of the neighborhood.

**Table 3.3 Percentage Completion of Infrastructures in the Phases**

<b>Phase One</b>	
Districts	% Completion of Infrastructure in the Phases
Maitama (A05/A06)	100
Wuse I (A02)	90
Wuse II (A07/A08)	95
Central Area (A00)	70
Garki I ( A01)	100
Garki II (A03)	100
Asokoro (A04)	78
Guzape (A09)	78
Guzape II	98
Guzape II Phase II	17
Utako ( B05)	100

Source: Federal Capital Territory Administration (2013)

## CHAPTER FOUR

### 4.0 RESULTS AND DISCUSSIONS

#### 4.1 The Socio-Economic Characteristics of Resident's in the Study Area

The Socio-Economic attributes of resident's in the pilot areas were assessed in 5 order to give a clear idea of the category of people residing in those areas. The variables that were put into consideration by this research includes; gender, age, marital status, primary job, income and household size of the respondents.

##### 4.1.1 Gender of respondents

The result from table 4.1 shows the distribution of male and female respondents in the study area. According to the results, in Wuse area 74 males which accounts for 72.5% and 28 females (27.5%), in Garki 58 males (76.3%) and 18 females (23.7%), in Asokoro 87 males (78.4%) and 24 females (21.6%), in Maitama 49 males (60.5%) and 32 females (39.5%), in Guzape 35 males (63.6%) and 20 females (36.3%) respectively. Conclusively, the result shows that a total of 351 males and 117 females took part in the exercise.

**Table 4.1: Gender of Respondents**

Variable	Wuse		Garki		Asokoro		Maitama		Guzape	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Male	74	72.5	58	76.3	87	78.4	49	60.5	35	63.6
Female	28	27.5	18	23.7	24	21.6	32	39.5	20	36.3
<b>Total</b>	<b>102</b>	<b>100</b>	<b>76</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>55</b>	<b>100</b>

##### 4.1.2 Age distribution of respondents

The age distribution of the respondents was classified into five categories. They include between 30.5-35.5 years, 35.5-40.5 years, 40.5-45.5 years, 45.5-50.5 years and 50.5 years above. Table 4.2 shows the age distribution of resident's in the FCT. The results indicate that in all the locations

between 30.5-35.5 and 35.5-40.5 years accounted for zero respondents. More so, in Wuse 40.5-45.5 accounted for 28 respondents (27.55%), Garki 20 respondents (26.3%), Asokoro 38 respondents (34.2%), Maitama 16 respondents (19.8%), Guzape 16 respondents (19.8%). For the range of 45.5-50.5 years, Wuse accounts for 42 respondents (41.2%), Garki 37 respondents (48.7%), Asokoro 37 respondents (33.3%), Maitama 32 respondent's (39.5%) and Guzape 32 respondents (39.5%). For 50.5 years and above Wuse accounts for 32 respondents (31.4%), Garki 19 respondents (25.0%), Asokoro 13 respondents (14.8%), Maitama 33 respondents (40.7%) and Guzape 33 respondents (40.7%) respectively. This result shows that across all the five study areas the age category that dominates includes 40.5-45.5 years, 45.5-50.5 years and 50.5 years above which constitute the household age bracket that is targeted by the research.

**Table 4.2: Age distribution of respondents**

Variables	Wuse		Garki		Asokoro		Maitama		Guzape	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Age										
30.5-35.5	0	0	0	0	0	0	0	0	0	0
35.5-40.5	0	0	0	0	0	0	0	0	0	0
40.5-45.5	28	27.5	20	26.3	40	38.2	16	19.8	16	19.8
45.5-50.5	42	41.2	37	48.7	37	47.9	32	39.5	32	39.5
50.5 above	32	31.4	19	25.0	13	14.8	33	40.7	33	40.7
<b>Total</b>	<b>102</b>	<b>100</b>	<b>76</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>55</b>	<b>100</b>

#### 4.1.3 Marital Status of respondents

The marital status of the respondents is categorized into four namely; married, single, divorced and separated. According to results from table 4.3, in Wuse 91 respondents are married and it accounts for (89.2%), single and divorced have no representation, separated 11 (10.8%)

respectively. In Garki 66 respondents are married (86.8%), divorced 10 (13.2%), single and separated have no representation. In Asokoro 99 respondents are married (89.2%), divorces 12 (10.8%) while single and separated is nil. Maitama has a representation of 68 married (84.0%), divorced 9 (11.1%), separated 4 (4.9%) and finally, Guzape with 39 married (59.1%), divorced 12 (18.2%), separated 4 (6.1%). This findings, shows that a good number of all the respondents are married, hence the research will get relevant data with respect to their households.

**Table 4.3: Marital Status of Respondents**

Variables	Wuse		Garki		Asokoro		Maitama		Guzape	
	Freq	%	Freq	%	Freq	%	Fre	%	Freq	%
Married	91	89.2	66	86.8	99	89.2	68	84.0	39	59.1
Single	0	0	0	0	0	0	0	0	0	0
Divorced	0	0	10	13.2	12	10.8	9	11.1	12	18.2
Separated	11	10.8	0	0	0	0	4	4.9	4	6.1
<b>Total</b>	<b>102</b>	<b>100</b>	<b>76</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>55</b>	<b>100</b>

#### 4.1.4 Primary job of respondents

The research grouped the primary job of respondents into four categories namely; Public Servant (Government employees), Civil servants (employees of organized private sector), self-employed (formal professional), self-employed (informal sector). The result from table 4.4 shows that in Wuse public servants has 70 respondents which accounts for (68.6%), civil servants 21 respondents (20.6%), organized private sector 11 respondents (10.8%), while the formal sector has no representation. In Garki 47 respondents which accounts for (61.8%), civil servants 29 respondents (38.2%), organized private sector and the formal sector has no representation. In Asokoro 51 respondents which accounts for (45.9%), civil servants 48 respondents (43.2%),

organized private sector 12 respondents (10.8%), while the formal sector has no representation. More so, in Maitama 16 respondents which accounts for (19.8%), civil servants 33 respondents (40.7%), organized private sector 32 respondents (39.5%), while the formal sector has no representation. This analysis shows that a high percentage of the resident's in most of the study areas are either public servants, civil servants and self-employed professionals.

**Table 4.4: Primary Job of Respondents**

Variables	Wuse		Garki		Asokoro		Maitama		Guzape	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Public servant (government employee)	70	68.6	47	61.8	51	45.9	16	19.8	33	50.0
Civil servant (employee of organized private sector)	21	20.6	29	38.2	48	43.2	33	40.7	22	32.4
Self-employed (formal; professional)	11	10.8	0	0	12	10.8	32	39.5	11	16.7
Self-employed; (informal)	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>102</b>		<b>76</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>55</b>	<b>100</b>

#### 4.1.5 Household size of respondents

The research categorized household size of respondents from 2-6. The result from table 4.5 shows that in Wuse household size of two has no representation, household size of three is 22 with (21.6%), house size of four is 31 with (30.4%), household size of five is 49 with (48.0%), household size of six is 31 with (30.4%). In Garki household size of two has no representation, household size of three is 27 with (35.5%), house size of four is 39 with (51.3%), household size of five is 10 with (13.2%), household size of six is 39 with (51.3%). In Asokoro household size of two is 12 with (10.8%), household size of three is 49 with (44.1%), house size of four is 37 with (33.3%), household size of five is 13 with (11.7%), household size of six is 37 with (33.3%).

In Maitama household size of two has no representation, household size of three is 16 with (19.8%), house size of four is 49 with (60.5%), household size of five is 16 with (19.8%), household size of six is 49 with (60.5%). Finally, in Guzape household size of two is 11 with (20.0%), household size of three is 11 with (20.0%), house size of four is 11 with (20.0%), household size of five is 22 with (40.0%), household size of six is 11 with (20.0%). The result shows that in the entire study area the household size of four and six have the highest percentage among the resident's. This finding is not far from the National average for household size which is six.

**Table 4.5: Household Size of Respondents**

Variables	Wuse		Garki		Asokoro		Maitama		Guzape	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
2	0	0	0	0	12	10.8	0	0	11	20.0
3	22	21.6	27	35.5	49	44.1	16	19.8	11	20.0
4	31	30.4	39	51.3	37	33.3	49	60.5	11	20.0
5	49	48.0	10	13.2	13	11.7	16	19.8	22	40.0
6	31	30.4	39	51.3	37	33.3	49	60.5	11	20.0
<b>Total</b>	<b>102</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>76</b>	<b>100</b>	<b>55</b>	<b>100</b>

#### 4.1.6 Income of respondents

The research grouped the income distribution of respondents in the study area as follows; less than 100,000, 100,000-200,000, 200,000-300,000, 300,000-400,000 and 400,000 above. The result from table 4.6 shows that in all the study area no respondent earns less than 100,000 monthly. More so, in Wuse 28 respondents earn between 100000-200000 with (27.5%), 63 respondents earn between 200,000-300,000 with (61.8%), 11 respondents earn between 300,000-400,000 with

(10.8%) while 400,000 above have no representation. Also, in Garki 8 respondents earn between 100000-200000 with (10.5%), 68 respondents earn between 200,000-300,000 with (89.5%) while between 300,000-400,000 and 400,000 above have no representation.

In Asokoro 13 respondents earn between 100000-200000 with (11.7%), 86 respondents earn between 200,000-300,000 with (77.5%), 12 respondents earn between 300,000-400,000 with (10.8%) while 400,000 above is 13 respondents with (11.7%). The average monthly income analysis shows that Less than 100000 and 400,000 above have less representation while 200,000-400,000 have a high percentage.

**Table 4.6: Income of Respondents**

Variables	Wuse		Garki		Asokoro		Maitama		Guzape	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Monthly income										
Less than 100000	0	0	0	0	0	0	0	0	0	0
100000-200000	28	27.5	8	10.5	13	11.7	0	0	1	1.8
200000-300000	63	61.8	68	89.5	86	77.5	13	16.0	10	18.2
300000-400000	11	10.8	0	0	12	10.8	30	37.0	33	60.0
400000 Above	0	0	0	0	13	11.7	38	46.9	11	20.0
<b>Total</b>	<b>102</b>	<b>100</b>	<b>76</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>55</b>	<b>100</b>

## 4.2 Examine the Distribution Pattern of Social Infrastructure in the FCT

### 4.2.1 Distribution pattern of social infrastructure in the FCT

The reconnaissance survey on existing social infrastructure in the FCT. According to the result on Figure 4.1, the research observed that in all the pilot neighbourhoods, there is one primary school each except that of Guzape district which is not available. Also at the district level there are general hospitals which are servicing several neighbourhoods within the district. However, in Guzape

district there is no general hospital in place. Hence, in view of this it is necessary to provide education and health facilities in neighbourhoods within Guzape district. Furthermore, primary health care centers should be provided at all neighbourhood levels within the FCT as the study noted that the PHCs are missing in most of the neighbourhoods. Plate I shows the satellite image of the study areas demarcated within Phase one of the Federal Capital Territory as follows; Wuse area has the blue, Maitama has red, Asokoro has Green, Garki has Brown and Guzape has Purple.

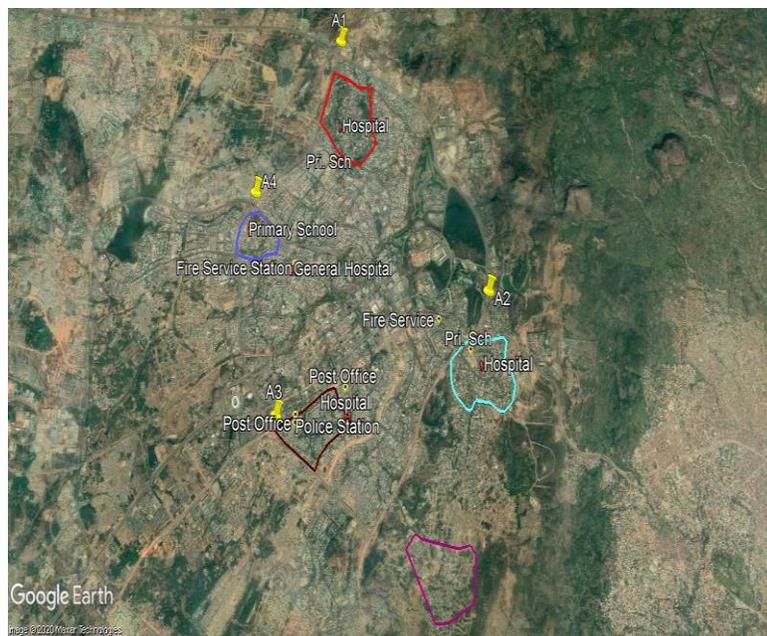


Plate I: Satellite image of Federal Capital City Phase One  
Source: Google image platform (2020)

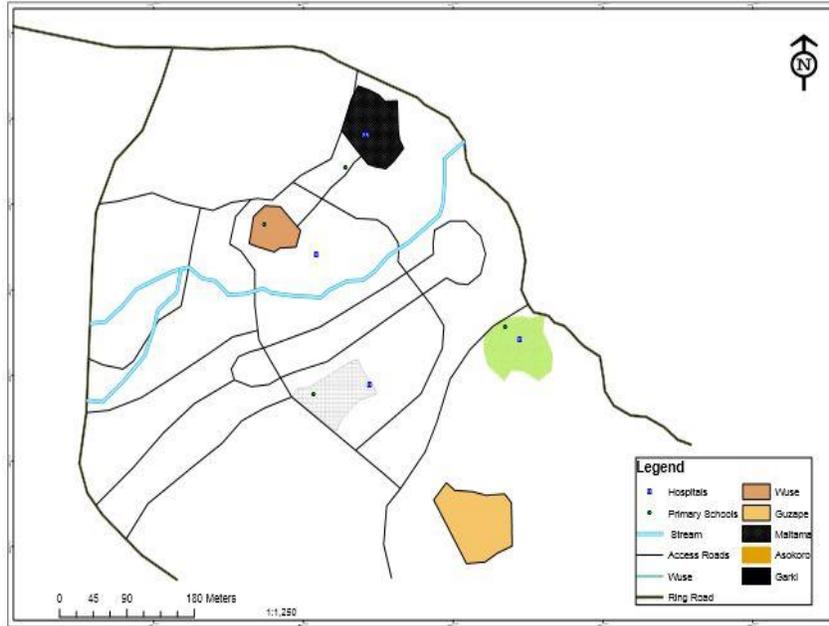
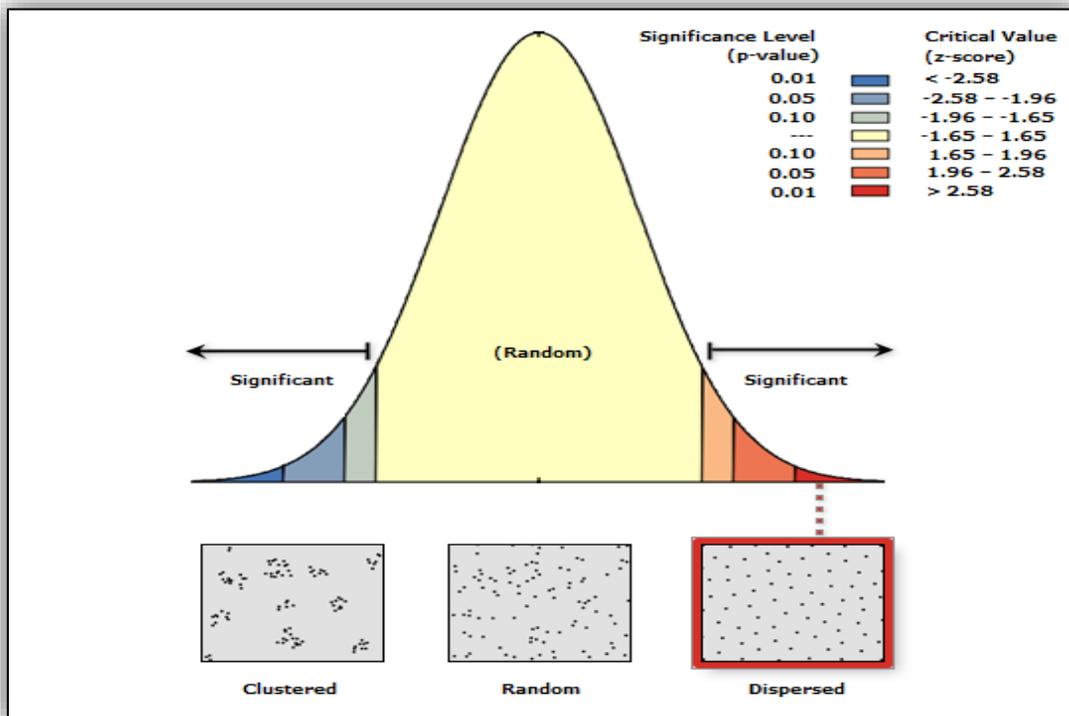


Figure 4.1: Social Infrastructure Distribution in the FCT



Average Nearest Neighbor Summary		Dataset Information	
Observed Mean Distance:	4261.4710 M	Input Feature Class:	Primary School
Expected Mean Distance	1440.4506 M	Distance Method:	EUCLIDEAN
Nearest Neighbor Ratio:	2.958429	Study Area:	33198368.28
z-score:	7.493224	Selection Set:	FALSE
p-value:	0.012234		

### **Figure 4.2: Nearest Neighbor Analysis for Primary School Distribution**

Given the z-score of 7.5 there is a less than 1% likelihood that this dispersed pattern could be result of random chance. Also, the nearest neighbor ratio for schools in the entire study area is 2.9 indicating a dispersed distribution within the entire study area. The research adopts this pattern for the distribution of hospitals as well, since they are spread across the study area in different districts.

## **4.3 Conditions of Social Infrastructures in the FCT**

### **4.3.1 Conditions of infrastructures in Wuse**

The research carried out physical observation of social infrastructure in the study area to ascertain their level of functionality and adequacy. The assessment was done on infrastructure such as schools and health facilities alone which formed the subject scope of the research. Nevertheless, it was observed that only schools were made available at neighbourhood level while health facility was available at the district level. The research observed that there is inadequate distribution of primary schools and primary health care centers. The checklist result is displayed on Figure 4.3 for physical condition of social infrastructure. it shows that the score of 1.9% accounts for observations for very good state 4.9% for good, 9.8% for fair, 68.6% accounts for poor conditions and 14.7% for very poor. This is very evident from plate II showing inside a classroom within Wuse neighbourhood. This result emanated from the high level of physical obsolescence occurring

in the building components and other equipment's of the existing infrastructure especially education facilities. This existing situation contradicts the proposed standards for neighbourhood design approach adopted by the Master plan document of the FCT.

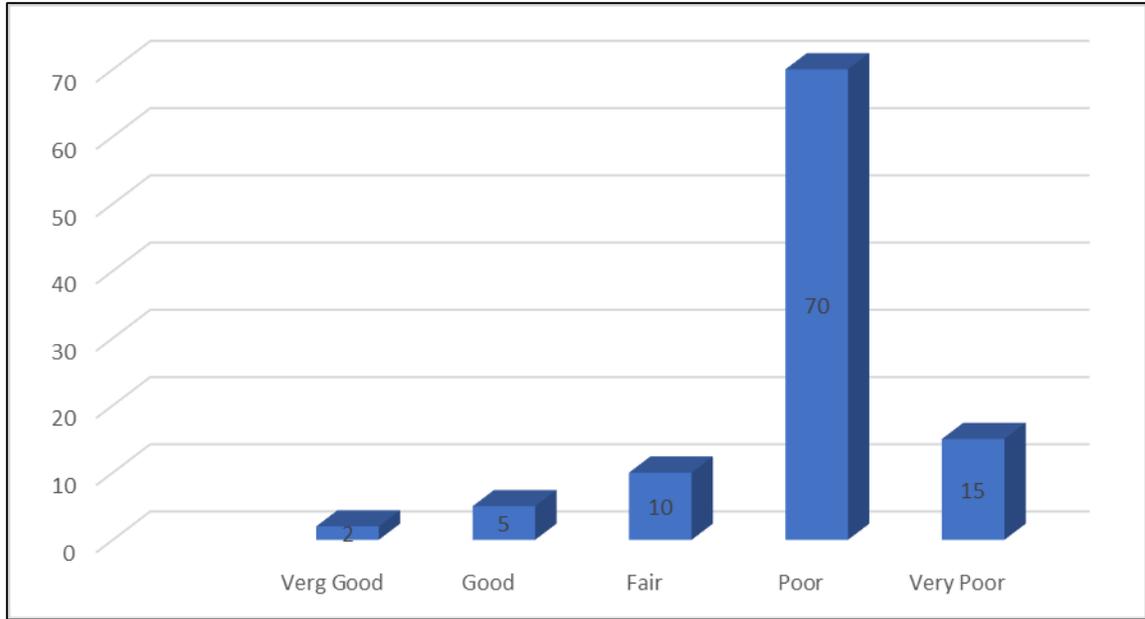


Figure 4.3: Condition of Infrastructures in Wuse



Plate II: LEA Primary school wuse

### 4.3.2 Conditions of infrastructures in Garki

The condition of social infrastructure in Garki study area is displayed on the bar chart in figure 4.4, very good score is 6.1%, good is 7.1%, fair accounts for 37.0%, poor is 30.8% and very poor is 12.3%. Also, plate III shows the current state of a classroom in Garki area. The result shows that social infrastructure condition in Garki is rated as fair or poor since they have the highest percentage from the assessment.

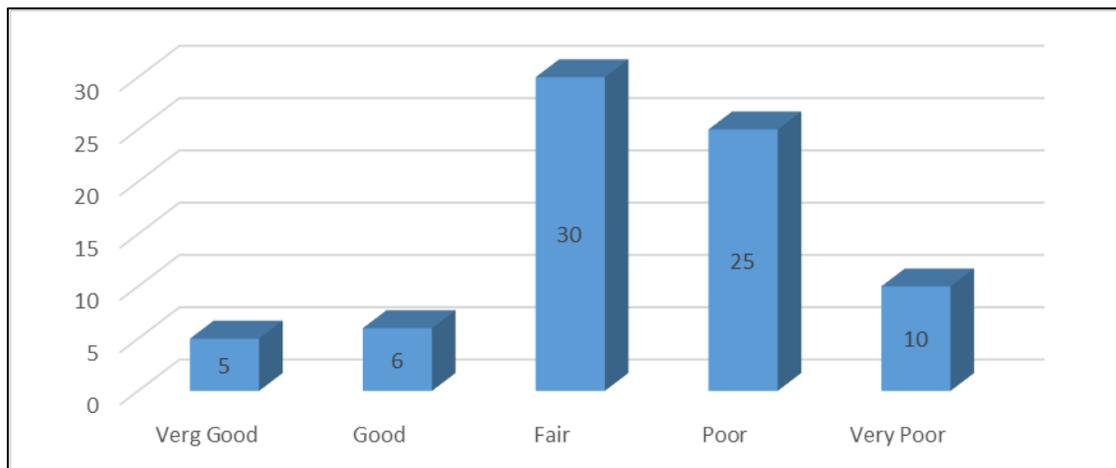


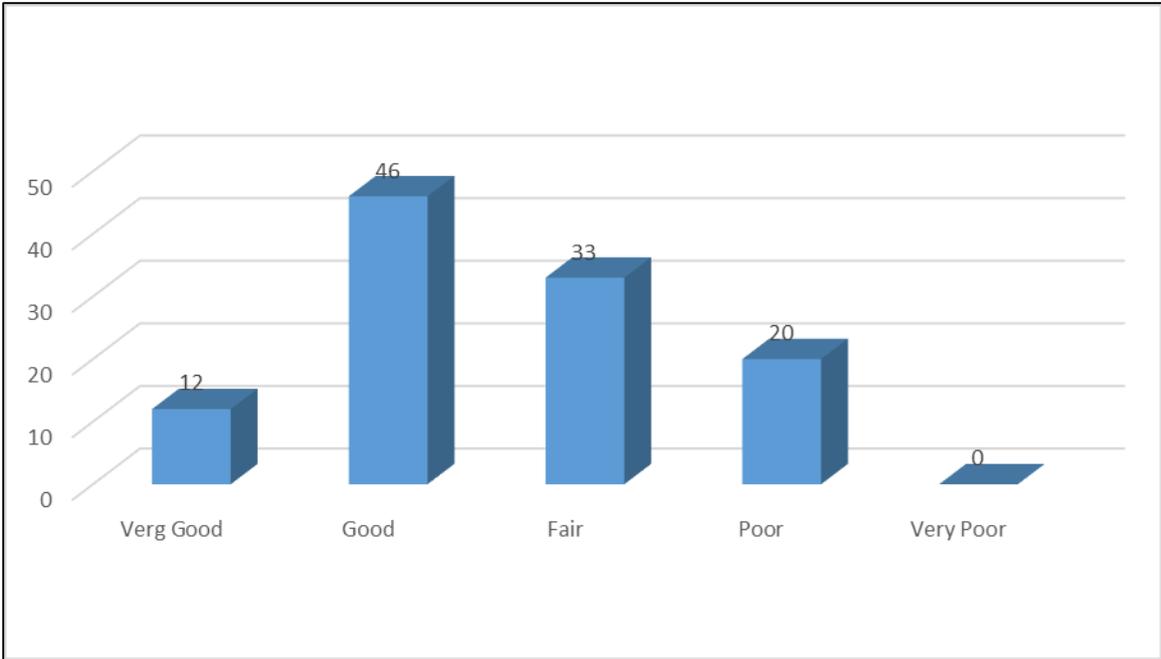
Figure 4.4: Condition of Infrastructures in Garki



Plate III: Picture of Classroom

#### **4.3.3 Conditions of infrastructures in Asokoro**

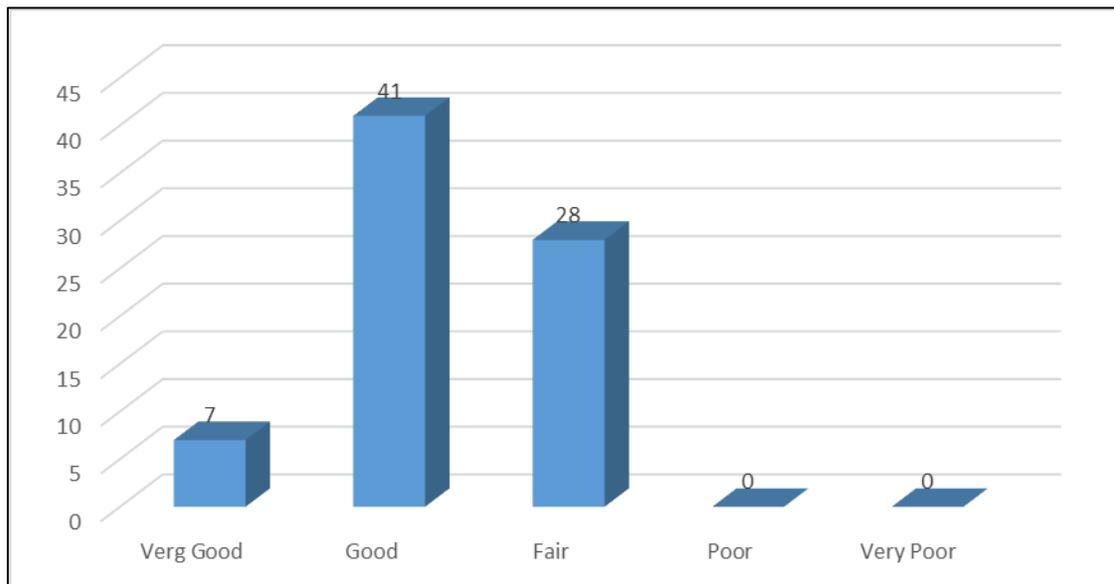
The results from figure 4.5 shows the rating of social infrastructure condition in Asokoro. The outcomes indicate that 10.8% accounts for very good, 41.4% accounts for good, 29.7% accounts for fair, 18.0% is poor and very poor has nil. According to the check list assessment report, Asokoro compared to wuse and Garki have better social infrastructure conditions.



**Figure 4.5:** Condition of Infrastructures in Asokoro

#### 4.3.4 Conditions of infrastructures in Maitama

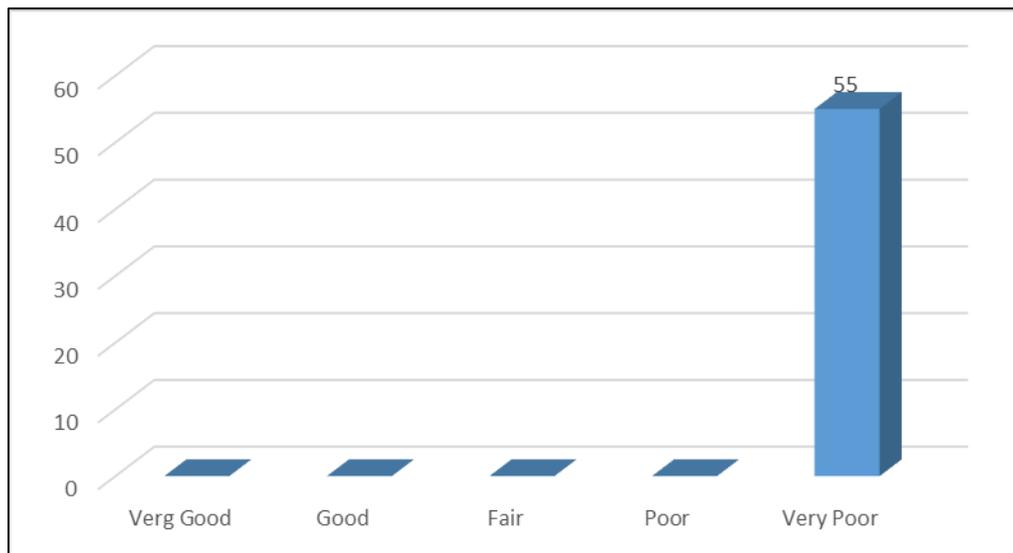
The result from the bar graph as shown in figure 4.4 indicates 9.2% accounts for very good on the rating of infrastructure, 53.9% represents good, 36.8% accounts for fair while poor and very poor have no representation. According to the findings, the general observation in the study area shows that the condition of infrastructure is good and fair having the highest representation of the percentage of rating.



**Figure 4.6:** Condition of Infrastructures in Maitama

### 4.3.5 Conditions of infrastructures in Guzape

The bar graph in figure 4.5 shows that the state of infrastructures especially in areas like schools, health care is completely lacking in Guzape study area and this opinion is displayed on the graph with a 100% representation of very poor.



**Figure 4.7:** Condition of Infrastructures in Guzape

### 4.4 Examine Impact of Social Infrastructure on Residents Wellbeing in the FCT

The research examined the resident's on different areas of their lives as regards delivery of social infrastructures services in order to determine their general wellbeing. Social services such as health and education facilities were used to assess their opinion on their general wellbeing in the community in order to bring out the subjective dimension of the research since some of the resident's noted that they patronize alternative service providers to enhance their wellbeing. A rating scale was employed starting from strongly agree, agree, slightly agree, mixed or neither agree nor disagree, slightly disagree, disagree and strongly disagree by the research to capture the different opinions of the resident's. In Wuse 29.4% strongly agreed, 39.2% agree, 9.8 slightly

agree, 14.7 mixed opinion, 4.9 slightly disagree while those that disagree and strongly disagree had no representation.

In Garki 17.2% strongly agreed, 55.5% agree, 30.8 slightly agree, 12.3 mixed opinion, 7.4 slightly disagree while those that disagree and strongly disagree had no representation. In Asokoro 31.5% strongly agreed, 45.1% agree, 9.0 slightly agree, 5.4 mixed opinion, 6.3 slightly disagree, 2.7 disagree while strongly disagree had no representation. More so, in Maitama 46.5% strongly agreed, 32.8% agree, 15.7 slightly agree, 10.5 mixed opinion, 1.3 slightly disagree while those that disagree and strongly disagree had no representation. Finally, in Guzape 14.5% strongly agreed, 27.2% agree, 54.5 slightly agree, 3.6 mixed opinion while slightly disagree, disagree and strongly disagree had no representation. However, the result from Table 4.8 shows that residents recorded high wellbeing values in the different study locations probably because of the presence of alternative basic service providers that have filled the gap created by inadequate supply of basic social infrastructure in the FCT. On a general note the research has observed that social infrastructure provisions in the FCT has an impact on resident's wellbeing from the result on table 4.7 and this level of satisfaction varies from one neighbourhood to another with respect to their supply of social infrastructure.

**Table 4.7: General Living Conditions of Resident's in your Neighbourhood**

General living conditions	Wuse		Garki		Asokoro		Maitama		Guzape	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Strongly Agree	30	29.4	14	17.2	35	31.5	35	46.5	8	14.5
Agree	40	39.2	45	55.5	50	45.1	25	32.8	15	27.2
Slightly Agree	10	9.8	25	30.8	10	9.0	12	15.7	30	54.5
Mixed or neither Agree or Disagree	15	14.7	10	12.3	6	5.4	8	10.5	2	3.6
Slightly Disagree	5	4.9	6	7.4	7	6.3	1	1.3	0	0

Disagree	0	0	0	0	3	2.7	0	0	0	0	<b>4.4.1</b>
Strongly Disagree	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>102</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>76</b>	<b>100</b>	<b>55</b>	<b>100</b>	

**Relationship between social infrastructures and wellbeing in the FCT**

The research obtained wellbeing values from table 4.8, units of social infrastructure under study which includes public schools and hospitals from the different study areas and Chi square was used to carry out a relationship test on the variables.

**Table 4.8: Variables for Hypothesis Testing**

Wellbeing index	Social infrastructure units
40	2
45	3
50	3
35	2
15	1
<b>185</b>	<b>11</b>

The social infrastructure index was correlated against the wellbeing figures of residents generated from table 4.9 and the result from the correlation table 4.10 shows how strongly the pair of variables are associated hence, the research has established that there is relationship between social infrastructure and residents wellbeing in the Federal Capital Territory. According to the result, the value of rho is 0.95 which means there is a strong positive correlation between the two variables and the p value of 0.01 which is less than the critical table value of 0.05 indicates that there is a statistical significance between social infrastructure and resident’s wellbeing in the FCT. Hence the research will reject the null hypothesis(H0) and accept alternative hypothesis (H1).

**Table 4.9: Spearman Correlations**

Variables	Spearman		Kendall	
	rho	p	Lower 95% CI	Upper 95% CI

<b>Social Infrastructure Index</b>	<b>Wellbeing</b>	<b>0.95</b>	<b>0.01</b>	<b>1.00</b>
			<b>0.41</b>	

\* p < .05, \*\* p < .01, \*\*\* p < .001

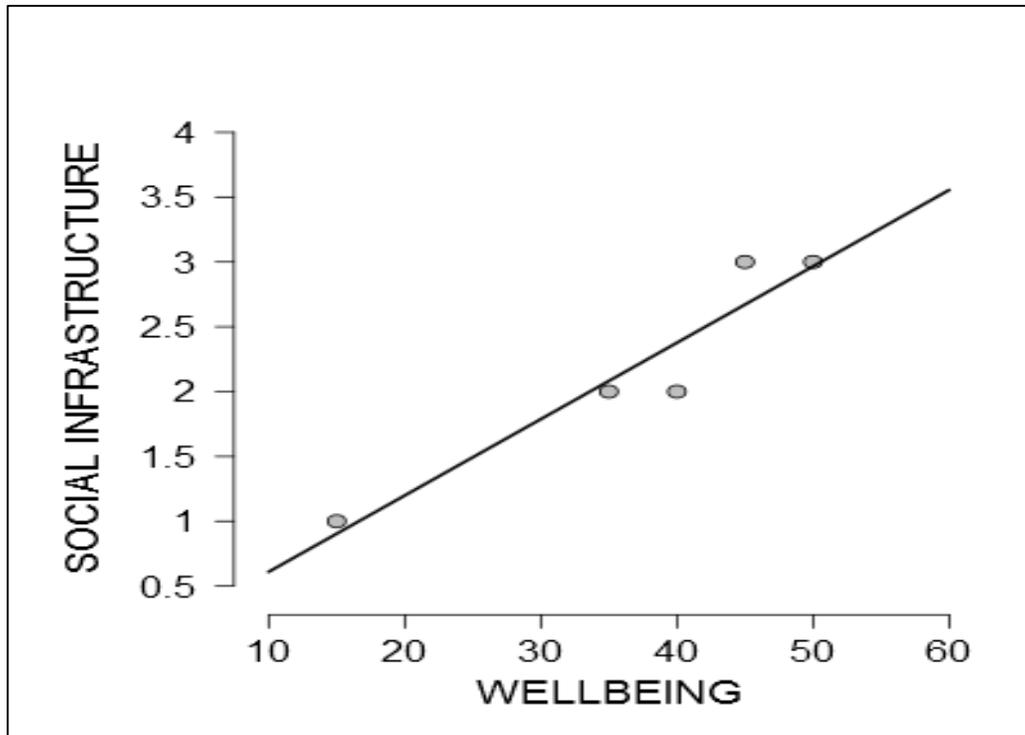


Figure 4.8: Correlation Plot

#### 4.5 Summary of Findings

The study discovered that in Wuse study area accounts for (72.5%) males and (27.5%) females, Garki accounts for (76.3%) males and (23.7%) females, in Asokoro male respondents are (78.4%) while females are (21.6%), in Maitama males are (60.5%) and females are (39.5%), in Guzape males accounts for (63.6%) while females are (36.3%). More so, age distribution in the study area shows that across all the five study areas the age category that dominates includes 40.5-45.5 years, 45.5-50.5 years and 50.5 years above which constitute the household age bracket that is targeted by the research and they have the highest percentage throughout the study areas.

The result from marital status shows that about 70% of the respondents within the study area are married and have households. Also, reports on the occupation of the respondents indicates that

most of the resident's within the study areas are either public servants, civil servants and self-employed professionals. Furthermore, the study showed that the household size of four and six have the highest percentage among the resident's. This finding is not far from the National average for household size which is six. Finally, the study noted that on the average for monthly income analysis, less than 100,000 and 400,000 above have less representation while 200,000-400,000 have a high percentage.

The results from the observation with checklist for the condition of social infrastructures in the entire study area shows that most of the facilities present are experiencing physical obsolescence and deterioration. The nearest neighbor analysis shows that social infrastructures in the study areas are adequately dispersed ( $z$ -score = 7.5,  $p < 0.01$ ). Furthermore, spearman rank correlation was used to test the relationship between social infrastructure and residents wellbeing and the findings show that there is a statistical significant relationship between social infrastructure ( $\rho = 0.95$ ,  $p < 0.01$ ), and residents wellbeing in the study area.

## **CHAPTER FIVE**

### **5.0 CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Conclusion**

The study examined the impact of social infrastructure on resident's wellbeing in the FCT. The study examined the socio-economic characteristics of the study area, it also examined the distribution pattern of social infrastructure in the study area and it concludes that social infrastructure distribution pattern in the study area is dispersed in nature. Furthermore, the study assessed the condition of social infrastructure in the study area and it was discovered that in Wuse the physical condition of social infrastructure is poor with a percentage of 68.6%. in Garki it is fair with 37.0%, in Asokoro it is good with 41.1%, in Maitama it is 53.9% and in Guzape since most of the social infrastructure are not developed it was recorded as poor state. More so, the research deduced that social infrastructure have impact on resident's wellbeing in the FCT and this impact varies from one district to another according to the level of supply and maintenance. Finally, the social infrastructure index was correlated against the wellbeing figures of residents generated from table 4.9 and the result from the correlation table 4.10 respectively and the outcome shows how strongly the pair of variables are associated hence, the research has established that there is relationship between social infrastructure and residents wellbeing in the Federal Capital Territory.

According to the result, the value of rho is 0.95 which means there is a strong positive correlation between the two variables and the p value of 0.01 which is less than the critical table value of 0.05

indicates that there is a statistical significance between social infrastructure and resident's wellbeing in the FCT. Therefore, the study rejects null hypothesis (Ho) which states that there is no statistically significant relationship between wellbeing of resident's and social infrastructure and accepts alternative hypothesis (H1) which states that there is a statistically significant relationship between wellbeing of resident's and social infrastructure across the five different study areas in the survey. Hence, the study has shown that the impact of social infrastructures on resident's wellbeing cannot be over emphasized. Nevertheless, it has been observed that resident's wellbeing varies from one neighborhood location to another in the study area with respect to the level of adequacy in provision.

## **5.2 Recommendations**

The research recommends the following for the study area in order to improve wellbeing of resident's in the FCT.

1. Government through its relevant agencies saddled with the responsibilities of monitoring the implementation of physical development in the FCT should partner with private estate developers and communities to bridge the gap in adequate infrastructure provisions and maintenance.
2. Based on the analysis and findings of the study carried out on adequacy and distribution of social infrastructure and its relationship to resident's wellbeing, the research recommends that facilities such as primary health care centers and schools should be provided in the neighbourhoods that does not have at all within the study area.
3. The study observed that most of the available social infrastructure are experiencing physical obsolescence especially education facilities, hence relevant authorities responsible for routine maintenance should swing into action in order to remedy the current trend. Nevertheless, more

health facilities should be developed in the newly developing districts to reduce the pressure on the existing ones in phase one of the capital city and the education facilities in those areas should be properly equipped with all necessary facilities.

4. Concerning the general resident's wellbeing status in the FCT, the research recommends that the FCT administration should partner with private service providers to improve provision of schools and hospitals where necessary so as to improve resident's wellbeing.
5. Unlike, Wuse, Garki, Maitama and Asokoro that have a considerable amount of social infrastructure at the neighbourhood and district levels. In Guzape district none is in existence. Hence, proper attention should be given by relevant government agencies to implement the original design for social infrastructure in order to maintain orderliness and compliance with development control standards.
6. The research suggests that the government should be proactive rather than reactive to solving problems of inadequate social infrastructure. Residents should be carried along in planning and implementation of physical development in order to promote inclusive planning strategies which will improve resident's wellbeing and meet up with best global practices in physical planning. Nevertheless, there should be further investigation in the FCT on the area of the number of social amenities that will serve a particular population adequately and the issue of affordability of the alternative service providers to be able to strike a balance in delivery of services across the FCT.
7. Finally, this research has contributed to the body of literature in physical planning implementation and monitoring developments to ensure that every phase of development should be people oriented. Also, it has further exposed an area of study on basic facility

provisions at the neighbourhood level which will create a more habitable society for living and working.

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## APPENDICES

### Appendix A

#### Percentage Completion of Infrastructure Phase Two

Districts	% completion of infrastructure in the phases
Jabi (B04)	99
Gudu I (B01)	100
Gudu II (B01)	100
Katampe extension (B19)	100
Wuye District (B03)	70
Jahi District (B08)	37
Kado (B09)	Design completed
Katampe (B07)	Currently under construction using the PPP arrangement at 23% completion.
Mabushi (B06)	Design completed
Dakibiyu (B10)	Design completed
Kukwaba recreational park (B00)	Design completed but to be reviewed
Kaura (B11)	Design completed
Durumi (B02)	Design completed
Doboyi (B12)	Design completed
Gaduwa (B13)	Design completed
Dutse (B14)	Design completed
Sector Centre (B15)	Yet to be designed
Sector Centre (B16)	Yet to be designed
Sector Centre (B17)	Yet to be designed
Sector Centre (B18)	Yet to be designed

## Appendix B

### Percentage Completion of Infrastructure Phase Three

Districts	% completion of infrastructure in the phases
<b>Idu industrial Area &amp; Extension (C16)</b>	69
<b>Mbora District (C06)</b>	10
<b>Karimo Residential area (C01)</b>	93
<b>Wupa (C15)</b>	Yet to be designed
<b>Bunkoro ( C18)</b>	Yet to be designed
<b>Gwarimpa I (C02)</b>	Yet to be designed
<b>Gwarimpa II (C03)</b>	Constructed by FHA Although not to FCDA Standard
<b>Kafe (C05)</b>	Yet to be designed
<b>Dape ( C04)</b>	Yet to be designed
<b>Institutions &amp; Research (C00)</b>	Yet to be designed
<b>Industrial Area South/ Pyakasa (C17)</b>	Yet to be designed
<b>Galadimawa (C07)</b>	Design Completed
<b>Okanje (C13)</b>	Design Completed
<b>Dakwo (C08)</b>	Design on going remaining only the bridges
<b>Lokogoma (C09)</b>	Design Completed
<b>Wumba (C10)</b>	Design on going remaining only the bridges
<b>Kabusa (C12)</b>	Yet to be designed

**Appendix C**  
**Percentage Completion of Infrastructure Phase Four**

<b>Districts</b>	<b>% completion of infrastructure in the phases</b>
<b>Sector Centre E (C19)</b>	Yet to be designed
<b>Sector Centre F (C20)</b>	Yet to be designed
<b>Sector Centre G (C21)</b>	Yet to be designed
<b>Sector Centre H (C22)</b>	Yet to be designed
<b>District 1 North West (Kagini)</b>	10
<b>Karsana East (D01)</b>	Under Procurement Process
<b>Karsana South (D02)</b>	Design is on going
<b>Idogwan (D03)</b>	Yet to be designed
<b>Idu – Sabo ( D04)</b>	Yet to be designed
<b>Karsana North (D05)</b>	Yet to be designed
<b>Karsana South (D06)</b>	Yet to be designed
<b>Sabo Gida (D07)</b>	Yet to be designed
<b>Kodo (D08)</b>	Yet to be designed
<b>Filindabo (D11)</b>	Yet to be designed
<b>Kaba (D12)</b>	Yet to be designed
<b>Ketti North (D13)</b>	Design on going remaining only the bridges
<b>Gwagwa (D10)</b>	Yet to be designed
<b>Sheretti (D14)</b>	Under Land swap initiative
<b>Sheretti Cheche (D15)</b>	Under Land swap initiative
<b>Waru Pozema (D10)</b>	Under Land swap initiative
<b>Ketti (D17)</b>	Under Land swap initiative
<b>Ketti East (D18)</b>	Under Land swap initiative
<b>Burun West (D19)</b>	Under Land swap initiative
<b>Burun (D20)</b>	Under Land swap initiative
<b>Bude West (D23)</b>	Under Land swap initiative
<b>Bude (D24)</b>	Under Land swap initiative
<b>Chafe (D27)</b>	Under Land swap initiative
<b>Jaite (D28)</b>	Under Land swap initiative
<b>Gidari Bahagwo (D23)</b>	Not yet Designed
<b>Gwari (D22)</b>	Not yet Designed
<b>Kpoto West (D25)</b>	Not yet Designed
<b>Kpoto East (D26)</b>	Not yet Designed
<b>Mamusa (D29)</b>	Not yet Designed
<b>Parfun North (D31)</b>	Not yet Designed
<b>Parfun South (D32)</b>	Not yet Designed
<b>Sector Centre K (D31)</b>	Not yet Designed
<b>Sector Centre L(D32)</b>	Not yet Designed
<b>Sector Centre M (D33)</b>	Not yet Designed
<b>Sector Centre N (D34)</b>	Not yet Designed

## Appendix D

### Percentage Completion of Infrastructure Phase Five

Districts	% completion of infrastructure in the phases
Abuja West Central (D40)	Not yet designed
Bakusa	Not yet designed
Industrial Area Phase 4 (D42)	Not yet designed
Kyami District Zone A	Design Completed
Kyami District Zone B	Design Completed
Kyami District Zone C	Contractor has mobilized to site and site clearing has commenced
Gousa East (E04)	Not yet designed
Lugbe Central (E07)	Not yet designed
Lugbe South (E09)	Not yet designed
Lugbe North (E 25)	Not yet designed
Lugbe East (E29)	Not yet designed
Lugbe West (E30)	Not yet designed
Wawa (E23)	Not yet designed
Gousa West (E04)	Not yet designed
Jiwa II (E21)	Not yet designed
Bwari District (1 & 2)	79
Kubwa District (4 & 5)	69
Karshi District (1 & 2)	76
Kuje	Engineering Design is on going
Kusaki Yanga	Engineering Design is on going
Dobi	Engineering Design is on going
Anagada	No Engineering Design yet

**Appendix E**

**DEPARTMENT OF URBAN AND REGIONAL PLANNING  
FEDERAL UNIVERSITY OF TECHNOLOGY MINNA, NIGER STATE,  
NIGERIA**

Questionnaire for Field Survey on Infrastructure and Residents Wellbeing in the Federal Capital Territory. Note: This research field work is part of the requirements leading to the award of masters of Technology Degree in Urban and Regional planning; M. Tech (URP). All information's supplied will be used purely for this academic purpose and shall be treated with utmost confidentiality. You are therefore kindly requested to tick from the options provided.

Thank You Sir/*Ma*

**Section A: (Demographic Factors)**

Objective one: Assess the socio economic characteristics of respondents in the Federal Capital Territory. A questionnaire was drafted to capture all relevant information on the socio economic characteristics of the respondents.

Age of respondents .....

Gender of respondents (a) Male (b) Female

Marital Status of respondents (a) Married (b) Single (c) divorced (d) Widow (e)Widower

Primary Job of respondents (a) Public Servant (Government employees) (b) Civil servants (employees of organized private sector) (c) self-employed (formal professional) (d) self-employed (informal sector)

Household size of respondents (a) 2 (b) 3 (c) 4 (d) 5 (e) 6

Income of respondents (a) less than 100,000 (b) 100,000-200,000 (c) 200,000-300,000 (d) 300,000-400,000 (e) 400,000 above

Objective two: Assess the distribution pattern of social infrastructure in the FCT. Satellite imagery from Terra incognita and Google earth will be processed with Arc GIS 10.5 Software to show the spatial distribution of social infrastructures in the pilot areas with the aid of a map.

Objective three: Assess the conditions of infrastructures in the Federal Capital Territory. The checklist approach will be adopted to assess the conditions of infrastructure.

**Section B: (Check list on functionality and adequacy of social infrastructure)**

*Score rating; 5 > 1 (5) Very Good (4) Good (3) Fair (2) Poor (1) Very Poor*

**7. Functionality and adequacy of health facility**

S/N	Location	Wuse	Garki	Maitama	Asokoro	Guzape
	Components Indicators					
1	Adequate bed space					
2	Ceiling fan					
3	Parking lots					
4	Alternative power supply					
5	Sanitation					

8.	6	Service delivery					
		Total					

Functionality and adequacy of education facility

S/N	Location	Wuse	Garki	Maitama	Asokoro	Guzape
	Components Indicators					
1	Population of students					
2	Presence of ceiling fan					
3	Playground and open space					
4	Alternative power supply					
5	Sanitation					
6	Structure quality					
7	Size of the school					
8	Adequate classroom desks					
	Total					

**Section C: (Impact of social Infrastructure on resident's well-being)**

The checklist approach will also be adopted to examine resident's opinion on impact of social infrastructure on their wellbeing.

Score rating; (a) Strongly Agree (b) Agree (c) Slightly Agree (d) Disagree (e) Mixed Opinion (f) Slightly Disagree (g) Disagree (h) Strongly Disagree

9. Health Facility Indicator

S/N	Location	Wuse	Garki	Maitama	Asokoro	Guzape
	Health Facility Indicator					
1	Strongly Agree					
2	Agree					
3	Slightly Agree					
4	Mixed Opinion					
5	Slightly Disagree					
6	Disagree					
7	Strongly Disagree					
	Total					

10. Education Facility Indicator

S/N	Location	Wuse	Garki	Maitama	Asokoro	Guzape
	Education Facility Indicator					
1	Strongly Agree					
2	Agree					
3	Slightly Agree					
4	Mixed Opinion					
5	Slightly Disagree					
6	Disagree					
7	Strongly Disagree					

	Total					
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