ANALYSIS OF URBAN GROWTH AND INFRASTRUCTURAL CONDITION IN PERI-URBAN NEIGHBOURHOODS IN MINNA, NIGER STATE

The rapid expansion of cities in the 21st century is a cause for concern. More worrisome is the uncontrolled expansion of urban areas in the cities of developing countries and the associated housing and infrastructure deficit. Third world urbanization is associated with unplanned development at the periphery of cities, thus engendering unapproved land use and land cover changes. The aim of the study is to assess urban sprawl and infrastructure condition in peri-urban neighbourhoods of Minna. The data employed for this study were primary and secondary sources. The primary data were quantitative using structured questionnaire. A total of 390 residences were systematic random sampled from four (4) peri-urban neighbourhoods in Minna. The study revealed that all the selected peri-urban neighbourhoods exhibited significant level of urban sprawl between 1990 to 2020. The study found that four (4) factors are responsible for urban the growth of the neighbourhoods. The four factors had Eigenvalue >1 and contributed a total of 50.897% cumulative variance, these four factors are economic (17.874%), transportation (11.722%), housing preference (11.174%) and urbanization (10.128%). The study found infrastructure condition; educational, telecommunications and commercial rank 1st, 2nd and 3rd respectively with mean scores between 2.50 to 3.49, Water supply, access road, electricity supply and health rank 4th, 5th, 6th and 7th respectively with mean scores between 1.50 - 2.49, Drainage and recreational rank 8th and 9th respectively with mean scores between 1.00 – 1.49. The study therefore recommends that, the peri-urban areas in Minna are increasingly experiencing growth, therefore participatory planning approach in managing the areas and providing city wide infrastructure and improving on the existing ones are required for effective development of the neighbourhoods.

<center>**CHAPTER ONE**</center>

1.0   **INTRODUCTION**

1.1   **Background to the Study**

Urbanization has created numerous problems among which are urban insecurity and crime that has become a common phenomenon in all urban areas in both developed and developing nations of the world (Ghani, 2017; Muggah, 2012). The rate at which contemporary cities are growing as a dividend of rapid urbanization has given birth to the widespread conditions of insecurity of urban areas (Bako *et al*., 2018). The dilemma facing cities today is the high rate at which people abandon rural to urban area which posed greater challenges to infrastructure, therefore resulting in the diverse growing challenges of urban residential neighbourhood security in the developing countries of the world.

Urban insecurity and crime has increased worldwide in the last decade at a rate that has largely surpassed that of urbanization (Olajide and Kolawole, 2013). About half a dmillion (437,000) crime committed globally, 31% occurred in Africa (United Nations Office on Drug and Crime, 2014). In recent times, Nigeria has witnessed a high level of insecurity. This has made the national security threat to be a major issue for the government and has prompted huge allocation of the national budget to security (Bako *et al*., 2018). The United Nations unveiled that most countries of the developing economy spend an average of between 9% and 14% of their annual budgets on crime prevention and security of lives (Olajide and Lizam, 2017).

In every five years, 60% of cities inhabitants have been victims of one form of crime or the other and over half of these crimes occurred in our residential neighbourhoods (Emmanuel and Lizam, 2015). The consequences of crime affect residents, the entire

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neighbourhood, government activities and in particular housing investment (Olajide and Lizam, 2016).

Building owners or users are often prone to various form of insecurity that includes man-made insecurity which constitutes mostly properties and violent crime (Olajide and Lizam, 2017). It is important to note that security of any residential properties is worth dealing with irrespective of whether it has an access gate with necessary control measures, fence mounted with appropriate cameras or security guards in check, users or occupiers within any property often feel secure knowing that they are protected against any ill issues.

Considering the levels of insecurity and crime, building owners or users relied on some security components to protect their lives and properties (Downing, 2007). Building security components which ranges from simple to sophisticated has surfaced over the years across the globe, such as restrictive barriers (high fencing and access gate), electronic security (Closed Circuit Television (CCTV) monitors, alarm systems, panic buttons, home automation, temperature, spikes floor and water sensors), security personal (24 hours security guard, vigilantes, trained dogs) and any type of anti-intruder perimeter control systems (Radetskiy *et al*., 2015). According to Olajide and Kolawole (2013), protecting a residential building, its inhabitants and valuables secure and safe cannot be overemphasised. Therefore, this study is to examine building security components and neighbourhood crime in Minna.

1.2   Statement of the Research Problem

According to De Biasi (2017), crime have a negative impact on the emotional, physical, and social activities of residents and neighbourhoods. The security of the people is one of the fundamental purposes of the Nigerian government, according to the constitution

of the Federal Republic of Nigeria, which was adopted in 1999. Except for individuals in high-ranking government positions who are normally governed by all sorts of security measures, this constitutional mandate has long failed to create a safe and secure environment for properties, lives, individual everyday operations, and economic events (Okonkwo *et al.*, 2015).

The disturbing insecurity level in Nigeria has increased crime rate in different states of the country with Minna not excluded. The crime rate across the country keep breeding destruction of live and properties as well as increasing fear of insecurity. Neighbourhoods which include residential property otherwise known as housing is ranked high among other classes of properties, since it serves as living accommodation and source of investment among others. Therefore, its sustainability becomes non-negotiable (Olajide and Lizam, 2017). Unfortunately, in recent time apart from the natural disaster, housing has been in continuous trouble by a man-made disaster of which is well-known among others is insecurity and crime, which come in the forms of burglary and theft, incivility and street crime, vandalism, robbery and violent crime (Olajide and Lizam, 2016).

According to Gibbon (2004), prevention of crime has taken a significant part of our lives, as many people in our cities and neighbourhoods today worry about crime, ensuring doors are locked when leaving the house, installing CCTV and security alarm or avoiding a high crime neighbourhood. According to Alapata (2012), the concentration of crimes in major urban centres has been an indicator of the breakdown of our urban systems. Every city needs its strategy or approach to tackle the menace. Therefore, there is a need for every individual city to establish a unique and effective framework to prevent neighbourhood crime (Alapata, 2012).

Numerous researches have been carried out on crime prevention but building security components on crime prevention has been less researched. This study will therefore, examine the provision of housing building security components and neighbourhood crime rates in Minna.

1.3   Research Questions

1. What are the types and provision of building security components in Minna?

2. What are the factors that influences neighbourhood crime in Minna?

3. What are the types and rates of neighbourhood crime in Minna between 2015 to 2020?

4. Is there relationship between the provision of building security components and neighbourhhod crime rates in Minna?

1.4   Aim and Objectives

1.4.1 Aim

This study aim to examine provision of building security components and neighbourhood crime in Minna, with a view in curbing the prevalence of urban insecurity.

1.4.2 Objectives

The study has the following objectives:

1. Examining the types and provision of building security components in Minna.

2. Examining the factors influencing neighbourhood crime in Minna.

3. Identifing and examining the types and rates of neighbourhood crime in Minna between 2015 to 2020.

4. Examining the relationship between provision of building security components and neighbourhood crime rates in Minna.

1.5 Research Hypotheses

To address the research questions the following hypotheses are set:

H_0: There is no statistically significant relationship between the provision of building security component and neighbourhood crime rate in Minna.

H_1: There is a statistically significant relationship between the provision of building conponents and neighbourhood crime rate in Minna.

1.6 Significance of the Study

Urban insecurity that includes neighbourhood crimes, has been portrayed as a global problem in recent years (Hastings, 2008). Governments from all around the world have stepped up their efforts to reverse the trend of social evils through city and neighbourhood police, funded research, and policy formulation. According to studies, governments in various economies around the world have earmarked a significant portion of their annual budgets to combat crime over time (Emmanuel and Lizam, 2015).

The rate of reported crime cases in Nigeria urban areas, the police periodic crime and violence review bulletin, clearly indicates that robbery, houses and shop breaking, car theft, wilful murder, kidnapping, bombing, suicide and homicide, cases of breach of trust are rising at alarming rate and speed. Research of this nature is justified based on the fact that government spend a huge amount of money on insecurity. Therefore, there is the need to understand the dimension of the problems and to seek ameliorative measures.

1.7 Scope of the Study

The study covered different selected residential neighbourhoods in Minna. Namely:

Bosso Town, Saka Kahuta, Maitumbi, Tunga, Jikpan, Bosso Estate, F-Layout and GRA.

Selections of these areas are based on the density types: high, medium and low. The study only covered provision of security components in residential houses and crimes in residential neighbourhoods in Minna. The study firstly examines the types and provision of building security components in Minna, Secondly, it examines the factors influencing neighbourhood crime in Minna, followed by examining types and rates of neighbourhood crime in Minna between 2015 to 2020, and finally examines the relationship between the provision of building security components and neighbourhood crime rates in Minna.

1.8   The Study Area

1.8.1   Historical development of Minna

Minna is often regarded as an old settlement and referred to as a colonial town or a post-1900s settlement. The town is a Gbagyi settlement which before the 1900s comprised of separated entities settled at the various hill-tops dotting its landscape today. It took time before these indigenous groups finally come down to live amongst the people (mostly migrant workers) residing at the low lands. This was at the eve of the birth of modern Minna when European contacts with the region began from all corners of the emerging regional capital (Inuwa, 2016).

1.8.2   Geographical location of Minna

Minna is a metropolitan settlement located in the southern Guinea Savannah vegetation belt of central Nigeria. The settlement is located on Latitude 9˚ 37'N and Longitude 6˚ 33'E (FUT Minna, 2013) and bordered by the geographical coordinate of latitude 9°24'N-9°48'North and longitude 6°25'E-6°45'East (Kawu, 2016). Minna, is presently the administrative capital of Niger State, Nigeria, and, it is about 120km away from the Federal Capital Territory, Abuja through the south-eastern Minna-Suleja road.

1.8.3 Physical characteristics of Minna

Besides Minna being a regional administrative capital of Niger State, Minna is also the headquarters of Chanchaga and Bosso Local Government Area (Umar and Kawu, 2011). Minna is a large metropolitan area that is housing over 317, 465 people on a land of about 6,784 square kilometre encompassing dozens of residential neighbourhoods and political wards (Kawu, 2016).

According to Lock (1980), the administrative settlement is majorly to the north-east of the town, on a geological base of undifferentiated basement complex of predominantly gneiss and migmatite, a more or less continuous steep outcrop of granite occurs. These physical characteristics, together with appropriate annual rainfall and fertile soil, have put the town in a unique position for urban farming and related enterprises.

1.8.4 Economic characteristic of Minna

Minna is mainly comprised of civil servants who are majorly lower cadre staff. This characteristic has given the metropolis the symbol of a settlement peopled by largely low-income earners (Yunusa, 2013) lacking any stack differentiation in economic or social status in the real sense. The indigenous Gbagyi populations inhabiting the city fringe settlements of Gidan Mangoro and Gidan Kwano are mainly engaged in farming activities with Minna as their major market. These people are today increasingly facing the problems of urban encroachment as city development continue to engulf and annex these settlements and areas of livelihood (Kawu, 2016)

1.8.5 Growth and development of Minna

The history and spatial developments of Minna is closely tied to the commercial, administrative and technological changes brought by the colonial and later by the

indigenous governments after the country's independence in October 1960 (Kawu, 2016)

1.8.6 Neighbourhoods and density of Minna

Minna neighbourhoods are classified into three densities low, medium and high that are based on population density and income levels. Minna has twenty-six (26) neighbourhoods (Badiora *et al.*, 2017) that were identified based on population density, environmental qualities and other socio-economic attributes (Kawu, 2016).

High-density residential areas are usually located in the central area of pre-colonial neighbourhoods. These areas are often occupied by the first group of immigrants. It is usually with a density of over 300 persons per hectare (Coker *et al.*, 2007). Such districts in Minna are Kpagungu, Tunga, Gwari, Maitunbi, Jikpan, Barikui Sale, Anguan Dagi, Tayi Village, Tundu Fulani, Shango, Bosso Town and Chanchaga (Badiora *et al.,* 2017).

Medium-density residential areas are usually planned and laid out after the establishment of British rule. They were developed to satisfy the needs of middle-grade income households in the formal sector. The Medium density residential districts are usually with a population density of 100 to 300 persons per hectare (Efe and Eyefia, 2014). Medium-density residential districts in Minna are Minna Central, Sabo Gara, Nassarawa, Makere, Limawa, Dutse Kura Gwari and Fadipe (Badiora *et al.,* 2017).

Low-density residential areas are high-quality districts usually well laid out. They are not common in the old growing pre-colonial towns except those, which were once provisional headquarters. Low-density residential districts with less than 100 persons per hectare (Efe and Eyefia, 2014) encompasses such wards in Minna as GRA, F-

Layout and Bosso Estate (Badiora *et al.,* 2017). Minna the study area and selected

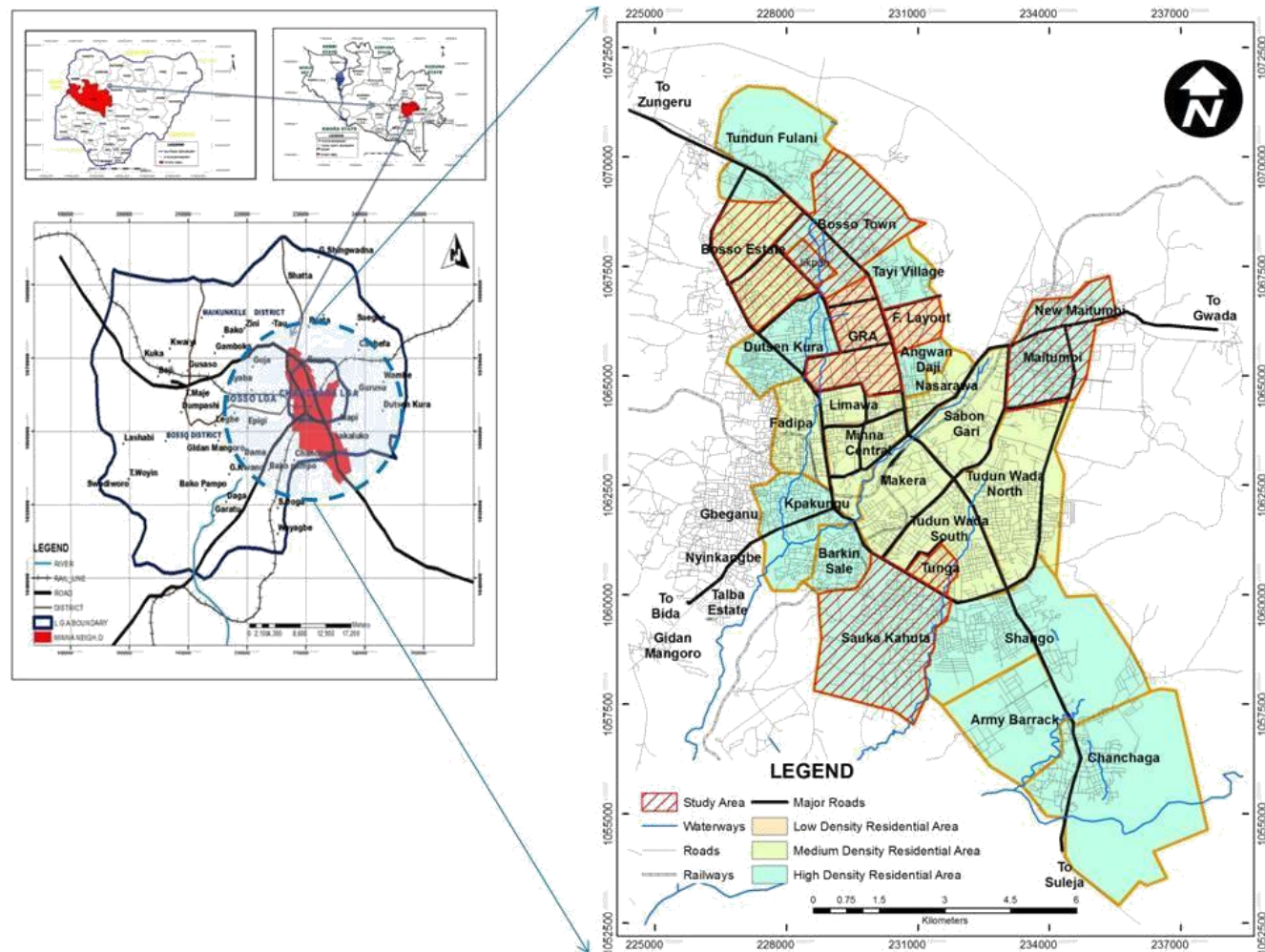neighbourhood for this study is presented in figure 1.1

Figure 1.1: The Study Area Minna and Neighbourhoods
Source: Author, 2020

<div align="center">**CHAPTER TWO**</div>

2.0 **LITERATURE REVIEW**

2.1 **Conceptual Framework**

2.1.1 **Underpinning concepts in crime prevention**

According to Natarajan (2013), crime is a frequent result of the interaction between criminally motivated individuals and opportunities. Motives are considered the root causes of crime, while opportunity refers to the possibility offered to commit a crime. According to related literature, measures to reduce crime, primarily in urban areas, are classified as preventive (crime prevention strategies). The most effective concepts that integrate both motive and opportunity in reduction of crime rates in residential neighbourhoods are Crime prevention through environmental design (CPTED) by Jeffery in 1971 and defensible space by Newman in 1972 (Saville and Cleveland, 2013).

2.1.2 **Crime prevention through environmental design (CPTED)**

Crime Prevention through Environmental Design (CPTED) was by Jeffery in 1971. CPTED is based on the concept that proper design and effective use of the built environment can lead to reduction of crime and fear of crime. CPTED works in residential, commercial, and industrial areas, and according to security experts CPTED has been successfully applied to entire neighbourhood and also to a single housing unit (Security Design Beyond the Acronym, 2020). CPTED concept is based on four main approaches, access control, surveillance, territorial reinforcement and maintenance (Goyal and Jha, 2021).

Access control: Access control aims to tighten access points to selected people and reduce opportunities for criminality. It can be done by physical elements like doors entrance, shrubs, fences, gates, security guard and or other physical elements (Goyal and Jha, 2021).

Surveillance: refers to the arrangement of physical design features involved with the activities and the people in order to maximize opportunities for surveillance, consequently leading to crime discouragement. It can be achieved by placing windows, providing adequate lighting and landscaping that allow for unobstructed views, and also human for patrol or security (Goyal and Jha, 2021).

Territorial reinforcement: defined marking of an area that is limited to one's needs, which is the identity of ownership of a person or group of people in a place. It can be applied by using design elements such sidewalks, landscaping, porches, and other elements that establish the boundaries between public and private areas (Goyal and Jha, 2021).

Maintenance: Maintenance is an aspect related to territorial strengthening. Buildings that are not properly maintained will become fertile ground for criminal activity because they indicate a lack of control (Goyal and Jha, 2021).

2.1.3 Defensible space

The concept of defensible space was created by Newman in 1972, The concept, which contains elements of crime theory as well as a set of urban design principles, became popular in the 1970s as crime problems in the urban areas increased (Donnelly, 2010). It is a crime prevention approach that has gained considerable global acceptance. According to Donnelly (2010), that Newman states that defensible space is a concept that can slow down crime in residential settings, that includes buildings (houses) and entire neighbourhoods. According to Covington and Taylor (2013), defensible space is an approach for crime prevention when properly implemented. Newman explained that defensible space can be implemented based on a few principles. The principles combine to promote a sense of ownership, community, and responsibility in residents to secure

and maintain a safe, productive, and wellmaintained neighbourhood (Cozens and Love, 2015).

The five principles that make defensible space according to (Al-Ghiyadh and Al-Khafaji, 2021). Territoriality: Use of physical or symbolic barriers to enhance the feeling of territoriality of residents in their area. Natural Surveillance: The physical characteristics that allow the resident to monitor their environment. Building image: Prevent residents from being stigmatized by choosing proper materials and design ideas. The juxtaposition of other facilities: Housing areas should blend in with commercial areas and other facilities, as this helps reduce crime and increase security. Safe Adjoining Area: residents gain the ability to inspect adjoining spaces through designing the adjoining area.

2.2 Building Security Components

In today's world, according to Azid and Kumar (2011), security is a prominent thing which everyone needs to guarantee their comfort and safety. Building security components are also referred to as physical security elements or crime prevention mechanisms in the built environment for surveillance, perimeter protection, access control, and target/building hardening (Ebong *et al*., 2017). Building security components is an essential feature of human life, hence, different technological development have emerged across the globe to aid security of life and property at all times (Budijono *et al*., 2014). Where crime exists, individual desires proper measures to prevent intrusions or damages to their live and properties (Ajibade and Adediran, 2019).

Building Security measures in developing countries such as Nigeria commonly applied through the erection of high walls, huge gates and sturdy locks, provision of security guards, watch dogs, vigilante groups, burglar proof, presence of lighting facilities and

application of advanced security systems such as CCTV and alarms (Olajide and Kolawole, 2013; Ajibade and Adediran, 2019).

Building security components provide functional physical expression to the well-known security objectives for target hardening known as the 4Ds of crime prevention (deter, detect, delay and deny) (Federal Emergency Management Agency, 2007). Firstly, the concept of deter focuses primarily on denying access to an area. It is equally critical to detect when a breach in security is being attempted. Finally, facilities should assure obstacles are in place to delay access until response can occur (Security Design Beyond the Acronym, 2020).

Building security components for physical environment security come in many varieties and are categorised into the following: site layout components, building components and monitoring/detection components (Ebong *et al*., 2017). The Site layout components are those components placed in the areas around the building. They include perimeter barriers, landscape elements, lighting (main and emergency), landform, boulders, fence, general site barrier elements (Ebong *et al*., 2017). The building components are those components directly associated with the building (US Department of the Army, 2001).

They are target hardening measures and include burglary proof, gates, protective glazing, special mounting hardware on doors and windows to make them hard to remove or tamper with, reinforced walls and floors, mechanical access control systems and other elements required to protect the building. Monitoring/detection elements include CCTV systems, lighting systems, intrusion detection systems, access control, weapon and explosive detectors and x-ray machines (US Department of the Army, 2001). Housing security component involve two main components: the perimeter barrier to prevent unauthorised entry and access control points for screening and inspection

before access to site is permitted (Federal Emergency Management Agency, 2007). The main aim of applying building security components into houses is to architecturally influence behaviour for crime prevention. There are various studies relating to security in the built environment that pointed out several building security components influencing the sense of security in the built environment.

Table 2.1: Types of Building Security Components

Authors	Security Components
Llewelyn *et al.* (2004)	Entrances gate, lights, CCTV, fencing of territories.
Vetter *et al.* (2013)	Bars on windows and doors (Burglary proof), High walls (fence), Barbed wire, Surveillance camera (CCTV), Electronic alarm, Security gate, Security guard.
Tahir and Malek (2017)	CCTV system, fence/wall, Guardhouse, walkways, Entry/exit gate, adequate Lighting, Security Guard.
Tahir and Malek (2018)	CCTV, fence, guardhouse, lighting, access.
Ajibade and Adediran (2019)	Fencing, Guards, Burglar proof, Security Dogs, Alarm System, CCTV System.
Sakina (2020)	Entrances gate, fence, lights, guard (watch man).
Lim *et al.* (2020)	CCTV, access control, security guard services, safety alarm, lighting, signage.

Source: Author, 2020

Teeuw and de Boer (2011), opined effective surveillance, access control and territorial control can be used to enforce safe behaviour to counter crime. In that sense a fence creates territorial influence and signals to people that the premise is controlled and that

questions will be asked and actions taken. Gates and gatehouses/security posts signify access control for security checks. They create delay and possible apprehension of would-be offenders. Lighting enhances surveillance and creates psychological deterrence that there is the possibility of recognition and apprehension.

2.3   Crime

Crime in urban areas has been framed and understood in a variety of ways. However, no consensus has been established among authors on the adoption of a universal definition of these terms (Wa Teresia, 2011), as it is naturally defined from the perspective of the person who defines it. Due to the intricacy of crime, attempts by modern criminologists to conceptualize it have proved problematic (Oluduro, 2012). These challenges are not unrelated to legal classifications that reflected the gravity of various sorts of anti-social or damaging behavior since they embodied power rather than morality.

Crime is viewed as a social problem that impacts people's lives and property, and as a result, it instills a great deal of dread in towns and neighbourhoods. Theft, break-ins, rape, murder, and armed robbery are all regarded major dangers to people's safety (Agbola, 1997). Crime is a multi-faceted and complex phenomenon. Behavioural, psychological, criminological, spatial (geographic), managerial, correctional, and perceptual elements are all common in crime, according to Breetzke and Horn (2008).

 Eme (2012), defines crime as a violation of both the fundamental foundations of law and order as well as the norms of civilized behaviour. Crime is also viewed as a harmful socioeconomic issue, and as a result, the hunt for the cause of the crime is ongoing. A transgression of societal rules of behaviour as interpreted and articulated by a criminal law code developed by people in positions of social and political authority is referred to as a crime (Siegel, 1995). Crime, according to Davies (2005), is not an empirically

proven truth. Rather, it is an anti-normative process that necessitates a comparison of anti-social behaviour, criminality and actual crime.

According to the Oxford Dictionary of Sociology a crime is considered an offence when it extends beyond the personal and into the public sphere, when it violates prohibitory rules or laws, which are subject to legitimate punishments or sanctions, and when it necessitates the intervention of a public authority (Scott and Marshall, 2009). Crime has alternatively been defined as a pattern of behaviour that violates a socio-legal restriction. According to UN-Habitat (2007), crime is defined as anti-social behaviour that breaches a law and is punishable. It can also be a violation of established regulations or laws for which a governing authority might impose a penalty. Crime and violence are increasingly being recognized as major roadblocks to achieving development goals.

However, according to Weatherburn and Lind (2001), the term crime is potentially deceptive because it includes everything from non-payment of parking fees to armed robbery or murder. As a result, the author highlighted that what is considered a crime in various works of literature are significant offenses for which persons are brought to court when arrested. Weatherburn and Lind (2001), went on to list examples of crime, including theft, sexual offenses, driving offenses, drug offenses, and other crimes that are regarded to include violence in some way. Poverty, unemployment, and inequality, according to the author, have all been found to make particular locations or neighbourhoods more prone to crime.

According to Marzbali *et al*. (2012), high rates of crime and violence often result in fear among the citizenry, inflict trauma on victims, and the criminal justice system often outcasts perpetrators, as high rates of crime and violence often result in fear among the

citizenry, inflict trauma on victims, and the criminal justice system often outcasts perpetrators (Jahic and Mitrani, 2010). The ramifications of crime are believed to spread beyond the direct victims in many cases, as relatives and friends suffer at the hands of a delayed and incompetent criminal justice system. According to the authors, a large portion of crime in many poor nations is never recorded in official police data since it is frequently unreported. Because most crimes are never reported to the police, a significant portion of crime is never recorded in official statistics or databases.

Igbo (2015), made an attempt to clarify the two ideas of crime and insecurity. Igbo (2015), defined crime as actions or behaviours that contravene a country's criminal laws and are met with an official response from the state's law enforcement agency in the form of punishment or censure. As a result, according to Igbo (2015), crimes are state-sponsored offenses. Igbo (2015), however on the other hand, defined insecurity as an overpowering state, situation, or condition of feeling insecure, unsafe, scared, and always aware of the existence of danger, as well as an environment of doubt regarding one's life, property, family, or country's protection or safety. As a result, the argument here is that crime, particularly violent crime, generates or promotes insecurity.

2.4   Types of Crime

The types of crime that exist in human cultures, particularly in urban areas, are various. Several attempts at classification in the literature have resulted in the identification of three distinct types of crime. Personal crimes, property crimes, and crimes against public order are the three types of crimes (Igbo, 2015).

Personal crimes, often known as crimes against person, are a variety of offenses that typically involve causing physical pain or injury, death, or the threat of bodily harm. Homicide, manslaughter, armed robbery, kidnapping, assault, rape, and suicide are all

examples of these types of crimes. Property crimes, on the other hand, are typically less serious and violent, yet they nonetheless have significant negative consequences for people and the quality of life in general. Crime against person includes, Theft, burglary, or housebreaking, arson, car snatching or theft, vandalism and trespassing are among them. Moral breaches are considered as crimes against public order according to UN-Habitat (2007), and this includes fraud, forgery, public disturbance, gambling, conspiracy, and perjury are all crimes that fall under this category. Table 2.2 shows the type of crimes.

Table 2.2: Types of Crime

Crime		
Against Persons	**Against Property**	**Against Public Order**
Abduction	Burglary	Arson
Abortion	Housebreaking	Attempt to commit a crime
Adultery	Theft	Membership of a gang of
Armed Robbery	Trespass	thieves
Assault		Breach of public peace
Breach of Trust		Bribery and corruption
Causing Hurt		Escape from lawful custody
Cheating		Forgery
Child stealing		Gambling
Defamation of character		Mischief
Homicide		Unlawful possession
Impregnating underage girl		Perjury
Kidnapping		
Manslaughter		
Murder		
Rape		
Suicide		

Source: Jinadu *et al.* (2012)

2.5 Causes of Crime

According to United Nation on crime and development in African, has identified the causes of crime. That includes, rapid rates of urbanisation, Income inequality, unemployment, low incomes, youthful population, bad living circumstances, urban cultural shocks, and poor quality urban management methods are among others. One of the most reliable quantitative correlations of official crime rates is income inequality and Africa has among of the world's most unequal countries, on average, the richest 10% earn 31 times more than the lowest 10% (United Nation Office on Drugs and Crime, 2005).

2.5.1 Causes of residential neighbourhood crime

Three major causes of residential neighbourhood crime have been identified in the literature. One, crime arising as a result of poor environmental design (Armitage, 2013; Crowe, 2000; Cozens and Davies, 2013); second, crime arising as a result of offender having ample opportunity without adequate restriction (Ozkan, 2011); third, crime arising as a result of lack of social development, which most often appears in the form of poverty (Ozkan, 2011) and crime resulting from a lack of social development, which is most often manifested as poverty, unemployment, homelessness, corruption and a lack of family and community cohesion are just a few of the issues (Hastings, 2007).

Attempts to link these factor to the Nigerian scenario get the following results: According to a recent World Bank assessment on Nigeria's poverty rate, the country ranks third in the world with 33.1% of the population living in poverty (World Bank, 2014). In a similar way, research studies have backed up this claim (Aigbokhan, 2000; Ogwumike, 2002). Poverty, according to Agbola (1997), is one of the primary reasons of neighbourhood crime in Nigeria.

Nigeria has received negative ratings in terms of educational policy (Obanya, 2002), budgetary allocation to education (Dike, 2005), and the terrorist group's threat to Western education in some parts of the country. Illiteracy is one of the socioeconomic causes of crime in Nigeria, according to Omotor (2010). Similarly, Dike (2005) and Smith (2010) asserted that there is a link between crime rates and income. Nigeria too has a lot of corruption. In his study, Ucha (2010) claimed that corruption is a factor in determining poverty and that they are all linked to crime.

When it comes to the environment and building design as a risk factor, first, there is a weakly enforceable rule in Nigeria that governs the pattern of residential neighbourhood design that we have in developed countries. Government Reservation Areas (GRAs) receive a little exemption, which only lasts for a short time after complete development. Second, the government's responsibility in layout planning (in the form of a site and service scheme) and construction and government control over development is not widely felt in most Nigerian urban areas because master planning and monitoring are not successfully executed. Furthermore, the high level of poverty among the middle and lower income groups, which account for more than 75% of the working class, appears to preclude proper residential neighbourhood planning, as the government appears to be inactive in the areas of making housing affordable through housing finance and provision of neighbourhood infrastructure, among other things (Adepoju, 2014).

Table 2.3: Factors/Variable that Influences Neighbourhood Crime

Factors/Variables		
Demographic	**Economic**	**Social**
Age	Poverty	Social coherence
Education level	Unemployment	Family disruption
Gender	Income inequality	Access to alcohol and drugs
Population growth	Deprivation of services	Cultural and family background
		Race
		Peer groups
		Lifestyle and behaviour
		Religion

Sources: Omotor (2010); Smith (2010); Armitage (2013); Crowe (2000); Cozens and Davies (2013); Ozkan (2011); Hastings (2007).

2.6   Crime Wave within Nigerian Urban Areas

As early as the 1980s, an increase in Nigeria's crime rate was observed. The country was characterized by insecurity issues created by offenders, and lives were no longer safe. In essence, urbanization and the creation of large cities are not new in Nigeria; rather, the current increase in crime is. Nigeria has, in fact, created huge towns and cities for over a century, but the reality of insecurity, particularly from criminals, is relatively new. Nigeria's crime wave and level of violence are increasing in frequency, offensiveness, and horror. More violent crimes are being reported on a daily basis (Fabiyi, 2004).

The unanticipated surge in urban insecurity has been linked to the escalation of poverty that has become entrenched in most African cities. Poverty has been continuously increasing in Nigeria; for example, in 1985, 27.2% of Nigerians were categorized as

poor; in 1990, it was measured at 56% in 2000, it was believed to be around 66% 2014, Nigeria was ranked as the world's third poorest country (World Bank, 2014). Insecurity and poverty work in tandem to make living in most Nigerian cities unpleasant and annoying.

Fabiyi (2004), identified the 1966-1970 civil war as another key factor of the rise in crime in Nigeria, claiming that the civil war taught Nigerians how to murder themselves with impunity, to have no respect for human life, and to take pleasure in pouring blood. Nigeria's formal security structure is woefully inadequate in addressing the country's security issues. This is primarily due to a lack of resources to effectively combat crime, as well as a high level of poverty that has resulted in unchecked corruption within the security institutions (Onibokun, 2003; Fabiyi, 2004).

Olufolabo *et al.* (2015), listed eighteen (18) key categories of crimes linked with Nigerian metropolitan areas, claiming that stealing/theft/burglary was the most commonly committed crime in most cities. Illiteracy, a broken household, poor company, a permeable environment, and the failure of police and other judicial agencies to deliver justice were all mentioned as major causes of residential urban crime.

2.7   Effects of Crime

The effect of crime to public safety is enormous. They cause a considerable deal of human pain and material damage to individuals and groups, as well as putting an immense strain on the metropolitan social network (Agbola, 1997). By diminishing citizens' sense of safety and security, crime erodes the social fabric, although most people agree that crime suppressed urban development (Glasson and Cozens, 2011). crime causes threat to social stability, and they are progressively becoming serious roadblocks to development.

Crime is the main effect of social concern in today's world (Badiora and Fadoyin, 2014). Igbo (2015) has also noted that crime has important and varied effects on human development. Both direct and indirect costs and repercussions are included. The direct costs, according to these authors, include deaths and injuries, as well as the destruction of public infrastructure, while the indirect costs include psychological trauma, population displacement, social service disruption, reduced economic growth, brain drain, and increased law enforcement spending. Igbo (2015) divided the costs of crime in Nigeria into five categories: social, economic, psychological, biological-physical, social-legal, and political.

The repercussions of urban crime, according to UN-Habitat (2008), are diverse and multilayered. Injury, death, trauma, and constant nursing and living in fear are among them. The agency found that crime and violence stifle foreign investment, lead to capital flight and brain drain, and hamper or discourage international tourism at the national level. It has also been known to result in the stigmatization of some urban neighborhoods or entire cities, with such locations becoming known as bad neighborhoods.

According to Alemika and Chukwuma (2005), crime frequently results in the loss of lives and property, and has major implications for democracy, economic development, social capital, and everyday life. Many citizens have been unable to enjoy the benefits of city living as a result of urban crime and violence, prompting them to seek all types of safety. As a result, they've gradually changed that safety into safe havens or refuges, which have subsequently evolved into maximum security enclaves, leading to self-segregation (Alkimim *et al*., 2013).

2.8   Trends of Crime Rate in Nigeria

Assault, murder, smuggling, stealing, armed robbery, sex crime, drug, human trafficking, cultism and forgery, are crimes in Nigeria. Assault was found to have ranged from a peak of 7,602 incidents in 2007 to a low of 5,491 in 2010. Except for 2011, when the number of violent crimes such as murder fell to 9,220, there has been an increase in their incidence. In 2010, this reached a peak of 22,689 cases. In a similar line, smuggling cases in Nigeria have increased from 6,359 reported cases in 2007 to 5,657 cases in 2010, but have decreased to 3,933 cases in 2011. It can be shown that stealing occurred 46,740 times in 2007, 41,496 times in 2008, 34,958 times in 2009, 23,868 times in 2010, and 11,504 times in 2010. This indicates that the rate of thievery has decreased dramatically in Nigeria, whereas robbery has increased over time.

Similarly, armed robbery peaked in 2010 with 19,507 incidents and peaked again in 2011 with 9,193 incidents. From 2007 to 2009, there were 4,162 cases of sexual offences; however that number dropped to 2,330 in 2010. Since the advent of democracy in Nigeria, the number of traffic violations has decreased from 6,393 in 2007 to 2,206 in 2008, and then to 2,048 in 2010. In 2011, however, it rises to 3,568. Currency fraud has been on the rise in recent years, with the largest number of cases recorded in 2011 at 3,143.

The National Drug Law Enforcement Agency (NDLEA) prohibits the taking of drugs because of its harmful effects on recipients' health. drug crime peaked at 11,635 in 2007, then dropped to 4,777 in 2008, before rising to 5,855 in 2009 and then 8,578 in 2010. In 2011, however, it dropped to 5,664 people. Human trafficking has been shifting over time, with numbers as low as 439 in 2008 and as high as 4,939 in 2007.

Finally, cultism or ritual offence was very low (35 cases) in 2008 and very high (1,612) in 2011. In a similar vein, forgery instances fluctuated throughout time, rising from 2,616 in 2007 to 1,400 in 2008, rising to 2,479 in 2009, falling to 1,920 in 2010, and then rising to 2,946 in 2011. Presented in table 2.4

Table 2.4: Trend of Crime in Nigeria for Some Selected Years

Crimes	2007	2008	2009	2010	2011
Assault	7602	5432	5537	5491	6001
Murder	10467	11058	11419	22689	9220
Smuggling	6359	1344	2164	5657	3933
Stealing	46704	41496	34958	23868	11504
Robbery	8594	16567	16127	19298	8083
Armed robbery	10774	17517	14682	19507	9193
Sex offences	3542	3562	4162	2330	4008
Doing drug	11635	4777	5855	8578	5664
Human trafficking	4939	35	1890	3815	3533
Cultism/ritual	1379	83	1447	1284	1612
Forgery	2616	1400	2479	1920	2946

Source: National Bureau of Statistics (NBS, 2014)

2.9   The Link between Neighbourhood and Crime

The importance of the neighbourhood aspect to the nature of crime incidence has also been highlighted in the literature. The nature and form of urban neighbourhoods are frequently cited as contributing factors to crime. Various disciplines address the relationship between neighbourhood design and crime with different assumptions, according to (Foster *et al*., 2013).

It is a common argument among urban planners that mixed-use neighbourhoods attract more foot activity, making streets safer through natural monitoring, or what is frequently referred to as eye on the street (Cozens, 2008). On the other hand, criminological research suggests that the safest neighbourhoods are those characterized by residential housing exclusively, few destinations to lure people to the area, and curved street layouts, according to Foster *et al*. (2013). According to Cozens (2008), several other researchers have backed up the idea that the nature and design of an urban neighbourhood's physical environment can be just as effective as the presence of crime in instilling feelings of fear and insecurity.

CHAPTER THREE

3.0   RESEARCH METHODOLOGY

3.1   Research Design

This study used a quantitative research strategy; quantitative research is a systematic analysis of phenomena by the collection of measurable data and the application of statistical, mathematical, or computer techniques. Quantitative research uses sampling procedures that use numerical data or contain data that may be quantified to gather knowledge. It necessitates the use of research tools such as questionnaires for data gathering, as well as data collation and analysis methodologies.
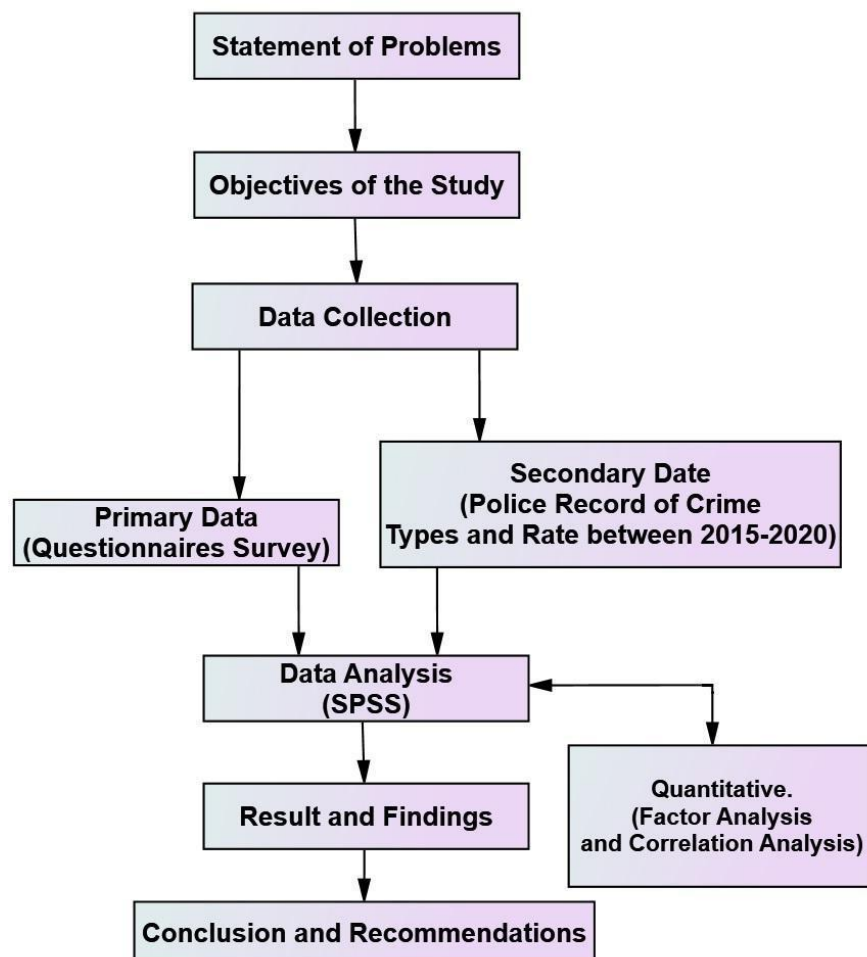
Figure 3.1: Research design flowchart
Source: Author, 2020

3.2   Population Figure

The particular target population for this study will be the household of selected neighbourhoods in Minna. The household number of the neighbourhoods were generated from the projected 2006 population using the 3.2 growth rate of the National Populaion Commission and divide by (6) the number of persons estimated to live per household. The projected population is therefore divided by 6 which gave rise to estimated households in the study area.

Table 3.1: Population Projection

S/N	Neighbourhoods		Population 2006	Projected Population 2020
	Name	**Density**		
1	Bosso Town	High	43,856	68,162
2	SaukaKahuta	High	4,274	6,642
3	Maitumbi	High	17,775	27,626
4	Tunga	Medium	6,494	10,093
5	Jikpan	Medium	583	906
6	Bosso Estate	Medium	6,494	10,093
7	F-Layout	Low	6,604	10,264
8	GRA	Low	2576	4003
	Total		**88,686**	**137,789**

Source: National Populaion Commission (2010) and Author population projection (2020).

3.3   Sample frame

Eight (8) residential neighbourhoods were randomly selected from the high, medium and low density of Minna. The total number of households in the selected neighbourhoods forms the sample frame, from which respondents were drawn to obtain the required data for the study. Therefore the sample frame or population of the study is 22,964 households within the eight selected neighbourhoods. Table 3.2

Table 3.2: Estimated Household Size

S/N	Neighbourhoods				
	Name	Density	Population 2006	Projected Population 2020	Estimated Household Size
1	Bosso Town	High	43,856	68,162	11,360
2	SaukaKahuta	High	4,274	6,642	1,107
3	Maitumbi	High	17,775	27,626	4,604
4	Tunga	Medium	6,494	10,093	1,682
5	Jikpan	Medium	583	906	151
6	Bosso Estate	Medium	6,494	10,093	1,682
7	F-Layout	Low	6,604	10,264	1,711
8	GRA	Low	2576	4003	667
	Total		**88,686**	**137,789**	**22,964**

Source: Author, 2020

3.4   Sample Size and Techniques

3.4.1   Sample size

A total number of household in all the eight (8) selected neighbourhoods in the study area is 22,964, however this form the population of the study. Dillman (2007) formula for estimating desired sample sizes were used:

$$n = (-1)()^2 + (1 - \tfrac{()}{)} \qquad)(1-$$

Where:

n = Sample size needed

N = Population size (Sample population) **22964**

p = proportion expected to answer a certain way (50% or 0.5 is most conservative)

e = Acceptable error = 5% **(0.05)**

z = 1.96 (Standard normal deviation) at 95% confidence level

Substituting the variables into Dillman (2007) formula:

$$n = \frac{(22964)\, 0.5)(1 - 0.5}{(22964 - 1)(0_1.05_{96})^2 + 0.5\,(1 - 0.5)}$$

$$n = \frac{5741}{15.1759}$$

$$n = 378$$

Sample size ≈ **378**

However, errors due to non-response occur when some respondents do not provide the necessary information or the provided information proves to be unusable. The response rate of 80% to 90% can be considered adequate for a questionnaire survey (Fincham, 2008). Hence, a response rate of 90% is chosen as the benchmark to adjust for the survey sample size. Therefore, the new sample size for the study will be:

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Final sample size = calculated sample size/(1-Non-response rate anticipated)

Calculated sample size = 378

Non-response rate anticipated = 1%

Final sample size = 378/(1-0.1)

Final sample size = 378/(0.9)

Final sample size ≈ **420**

3.4.2   Sampling technique

A random sampling technique was adopted for questionnaire administration. A random sampling method is the simplest form of data collation from the total population, under random sampling each member of the subset carries has an equal probability to be chosen. However, for this study, the sampled neighbourhoods were divided based on density, into high density, medium density and low-density neighbourhoods for survey administration.

Table 3.3: Questionnaire Administeration

S/N	Neighbourhoods		Estimated Household Size	Sample size (n)	%
	Name	**Density**			
1	Bosso Town	High	11,360	208	49.4
2	SaukaKahuta	High	1,107	20	4.8
3	Maitumbi	High	4,604	84	20
4	Tunga	Medium	1,682	31	7.4
5	Jikpan	Medium	151	3	0.7
6	Bosso Estate	Medium	1,682	31	7.4
7	F-Layout	Low	1,711	31	7.4
8	GRA	Low	667	12	2.9
	Total		**22,964**	**420**	**100**

Source: Author, 2020

3.5   Method of Data Collection

3.5.1   Primary and secondary data

Primary and secondary data were employed to achieve the objectives of this study. The primary data which refers to field data was collected using a well-structured questionnaire and the secondary data which refers to data that is already been collected and made available for research. Therefore, recorded crime type and rate in the study between 2015 to 2020 was collected from the Niger State police command.

3.6   Instrument of Data Collection

3.6.1   Structured questionnaire

For this study, a set of structured questionnaire covering socio-economic characteristic of residents, types and rates provided building security components, and residents fear of crime in the study area was developed and administered to the members of the eight (8) selected neighbourhoods in the study area. The questionnaire was a careful constructed closed-ended type of questions and was administered with the help of using Open Data Kit (ODK). Table 3.4 shows a summary description of the research approach (data types, sampling method, method of data collection and methods of data analysis against the objectives of the study).

3.7   Measures

A total of sixteen (16) measurable items identified from literature were considered for the study to examine factors influencing neighbourhood crime shows in table 3.4. These includes economic factor and was measured using four (4) items, demographic factor and was measured using four (4), social factor and was measured using eight (8) items. Categorical response for each item ranged from 1 (strongly disagree) to 7 (Strongly agree).

Table 3.4: Factors and Variables of Crime Used in this Study

Factors	Variables
Economic	Poverty
	Unemployment
	Income inequality
	Deprivation of services
Demographic	Age
	Education level
	Gender
	Population growth
Social	Social coherence
	Family disruption
	Access to alcohol and drugs
	Cultural and family background
	Race
	Peer groups
	Lifestyle and behaviour
	Religion

Source: Author, 2020

The building security components used in this study were derived from different literature. Eleven (11) components were identified and were used in examining the provision of building security components in Minna neighbourhood using Categorical response for each components ranged from 1 (Not available) to 5 (Very highly available).

Table 3.5: Building Security Components Used in this Study

S/No	Types of Components
1	Security fence
2	Security/entrance gate
3	Gate/security house
4	Security guard
5	Barbed wire
6	Security lights
7	Surveillance camera (CCTV)
8	Security alarm system
9	Door/window burglar proof
10	Security signage
11	Security dog

Source: Author, 2020

3.8   Method of Data Analysis

Quantitative data obtained for this study were analysed using statistical methods including descriptive and inferential statistical method. The descriptive statistics (frequency, percentage and mean score) were used in analysing the socio-economic characteristic of residents, provision of building security components, types and rates of crime. The inferential statistics adopted are factor analysis and correlation analysis.

3.8.1   Factor analysis

Factor analysis (Exploratory Factor Analysis) is a method of building a factor structure by bringing together interrelated underlying variables using an inductive approach. EFA is used to reduce data by extracting a small number of uncorrelated variables from a large number of correlated variables and identifying those that converge or measure the same factor. Because EFA is frequently used to explain a large number of variables

(items) with a small number of underlying factors, it was chosen (Maskey and Nguyen, 2018). In Minna, EFA was used to determine the factors that influence neighbourhood crimes.

First, the Kaiser-Meyer Olkin (KMO) and Bartlett's Test of Sphericity were carried out to measure sample adequacy for each item, the strength of the relationships among the items and the significant level required in performing further analysis with the factors (the appropriateness of data for EFA). The KMO returns values between 0 to 1 (Hair *et al.,* 2010). The KMO was assessed using the recommended acceptable value by Tabachnick and Fidell (2014), that it must have a minimum value of 0.5 to indicate the sample is adequate and bartlett's test of sphericity is significant at ($p < 0.005$).

After the data has been determined to be suitable for factor analysis, the next stage, according to Pallant (2010), is factor extraction, which is the process of discovering potential factors within the data and determining how many to keep (Field, 2013). This entails identifying the variables that have a significant impact on the factors (indicating that such variables measure the factors).

Therefore, EFA was conducted using likelihood extraction method and promax rotation method. The likelihood extraction method was used because it is the most popular estimation method in EFA that allows computation of a wide range of indexes of the goodness of fit and it permits statistical significance testing of factor loadings, while the promax rotation method determine the appropriate number of factors to retain, allows factors to be correlated and also calculate a large set of data quickly.

The Kaiser's Criterion approach was used to determined factors to be retained. The criteria is to retain all the factors with Eigenvalues ≥ 1 and ignore factors with eigenvalue < 1 (DeVellis, 2016). Retention of factor loading carried out was according

to the rule of thumb (Tabachnick and Fidell 2014) that factor loadings <0.3 should be suppressed and to retained factors with at least three items with loading >0.3. These items should not cross load highly on other factors. Therefore, the process should be re-run repeatedly after eliminating items that had loading <0.3.

3.8.2 Correlation analysis

Correlation analysis is a statistical technique for determining the strength of a relationship between two quantitative variables that can be positive, negative, or have no relationship (Hair *et al*., 2010). The correlation coefficient can be anything between +1 and -1. Where +1 denotes an ideal positive relationship, 0 denotes no relationship, and -1 denotes an ideal negative relationship. The relationship between provision of building security components and neighbourhood crime rate in Minna was investigated using correlation analysis.

Spearman correlation analysis was used to determine the strength or meaningfulness and direction (negative or positive) that was met. The most accepted view about Spearman coefficient is when rho = 0.10 as small, that is, it accounts for 1% of the total variance, rho = 0.30 as medium, accounts for 9% of the total variance and rho = 0.50 as large, accounts for 25% of the variance (Field, 2006). Table 3.6 shows the Correlation Coefficients (rho) interpretation used in this study.

Table 3.6: Spearman Correlation Coefficients Interpretation

Spearman rho	Correlation strength
0.50- above	Large
0.30-0.49	Moderate
0.10-0.29	Small
0.00-0.09	No or Negligible

Note: This description applied to both positive and negative association.
Source: Author, 2020

3.8   Method of Data Presentation

The statistical method, which involves the use of tables and charts, was used in data presentation. This is because data evaluated in tabular and chart formats presents precise information and ensures easy and faster comprehension, as well as directly explaining the facts.

3.9   Summary of Data Requirements, Sources and Analysis

Different types of data were employed to accomplish the objectives of this study. These data, which are both primary and secondary, were collected from different sources. A summary clarification of the data types, sampling method, method of data collection and methods of data analysis against each of the study objectives is presented in table 3.7.

Table 3.7: Summary of Data Requirements, Sources and Analysis

Objectives	Data Type	Sampling Method	Method Of Data Collection	Method Of Data Analysis
1 To examine the types and provision of building security components in Minna.	Quantitative (Primary data)	Random sampling	Close-ended questionnaires administered to the selected neighbourhoods	Descriptive statistic (Ranking)
2 To examine factor influencing neighbourhood crime in Minna.	Quantitative (primary)	Random sampling	Close-ended questionnaires administered to the selected neighbourhoods.	Factor analysis (Exploratory Factor Analysis)
3 To examine the type and rate of neighbourhood crime in Minna between 2015 to 2020.	Quantitative (secondary data)		Crime case reported to police between 2015 to 2020	Descriptive statistic (percentage/frequency distribution)
4 To examine the relationship between the provision of building security components and neighbourhood crime rate in Minna.	Quantitative (Primary data)	Random sampling	Close-ended questionnaires administered to the selected neighbourhoods	Correlation analysis (spearman's correlation)

Source: Author, 2020

CHAPTER FOUR

4.0   DATA ANALYSIS AND DISCUSSION

4.1   Socio-Economic Characteristics of Residents in Minna

Table 4.1 present the socio-economic characteristic of residents in Minna. The majority 72.1% of the respondents are male while 27.9% are female. About half 48.1% of the respondents were between the age of 26-35, 20.2% between the age 36-45, 15.2% between the age 46-55, 13.1% between the age 18-25 years and 3.3% within the age range of 55 and above. This indicated that most of the respondents are of active age and therefore, be fully aware of the happenings within the neighbourhoods of Minna. 38.6% had HND/B.Sc/B.Tech, 36.4% OND/NCE and 18.6% had secondary, while 3.6% had PGD/Master/PhD and 2.9% had primary education. This indicated that most of the respondents are highly educated and capable to give a significant response to the research questions. Above half 58.8% of the residents are married, 35.9% are single, while 1.7% are separated, divorced or widowed.

The table also presents that 41.2% of the residents are self-employed, 27.6% are civil servants, 13.3% are artisans, 8.8% are traders and 7.1% are unemployed, while 1.9% are farmers. This unveiled that most of the residents in the Minna had a source of income. However, 37.4% earned between ₦30,000 - ₦60,000 monthly followed by 32.6% earned less than ₦30,000 monthly, 14.8% earned between ₦61,000 - ₦90,000 monthly, while 8.6% and 6.7 % earned between ₦91,000 - ₦120,000 and above ₦120,000 respectively. 34% had a household size between 5-6 and above, 21% had between 3-4 and while 18.1% had between 1-2. 26.9% of residents had stayed in the area above 18 years, 22.1% for 4-8 years, 21% for 9- 13 years, 18.1% for less than 3 years and 11.9% had stayed for 14-18 years.

Table 4.1: Socio-Economic Characteristics of Residents in Minna

	F (N=420)	(%)		F (N=420)	(%)
Gender			**Occupation**		
Male	303	72.1%	Self employed	173	41.2%
Female	117	27.9%	Trader	37	8.8%
Age			Artisan	56	13.3%
18-25	55	13.1%	Civil servant	116	27.6%
26-35	202	48.1%	Farmer	8	1.9%
36-45	85	20.2%	Unemployed	30	7.1%
46-55	64	15.2%	**Monthly Income**		
Above 55	14	3.3%	Less than ₦30,000	137	32.6%
Education			₦30,000-₦60,000	157	37.4%
Primary	12	2.9%	₦61,000-₦90,000	62	14.8%
Secondary	78	18.6%	₦91,000-₦120,000	36	8.6%
OND/NCE	153	36.4%	Above ₦120,000	28	6.7%
HND/B.SC/B.Tech	163	38.6%	**Household size**		
PGD/Master/PhD	15	3.6%	1-2	76	18.1%
Marital Status			3-4	93	22.1%
Single	166	39.5%	5-6	88	21%
Married	247	58.8%	Above 6	50	11.9%
Divorce	1	0.2%	**Length of Stay**		
Widow	2	0.5%	Less than 3 years	76	18.1%
Separated	4	1%	4-8 years	93	22.1%
			9-13 years	88	21%
			14-18 years	50	11.9%
			Above 18 years	113	26.9%

Note: F= Frequency
Source: Author, 2020

4.2   Types and Provision of Building Security Components in Minna

In assessing the provision of building security components in Minna, a list of security components identified from literatures was provided which the respondents were to rate based on their availability using 5 point scale ranging from 1 (not available) to 5 (very highly available). Table 4.2 shows the mean score and ranking of eleven (11) security components in Minna. From the table it can be seen that the eleven (11) components had mean score from 2.91 to 1.06 with an average mean score of 1.82. Four (4) security components were identified as the core, indicating that they are adequately provided and are ranked according to their order of availability by the mean score value. These components are door/window burglar proof ($M = 2.91$) rank 1st, security lights ($M = 2.85$) rank 2nd, security fence ($M = 2.58$) rank 3rd and security/entrance gate ($M = 2.30$) rank 4th. While seven (7) components were identified as auxiliary, in this case indicating that they are not adequately provided and these components are barbed wire ($M = 1.65$) rank 5th, gate/security house ($M = 1.61$) rank 6th, Security dog ($M = 1.45$) rank 7th, Security guard ($M = 1.34$) rank 8th, security signage ($M = 1.14$) rank 9th, surveillance camera CCTV ($M = 1.09$) rank 10th and security alarm system ($M = 1.06$) rank 11th.

Table 4.2: Provision of Building Security Components in Minna

S/N	Building Security Components	Very Highly Available	Highly Available	Available	Somewhat Available	NOT Available	Mean Score	Ranking	Remark
				Scales					
1	Security fence	33	23	185	92	87	2.58	3rd	C
2	Security/entrance gate	23	16	161	82	138	2.30	4th	C
3	Gate/security house	13	18	62	28	299	1.61	6th	A
4	Security guard	8	4	37	23	348	1.34	8th	A
5	Barbed wire	5	13	84	44	274	1.65	5th	A
6	Security lights	21	26	254	109	10	2.85	2nd	C
7	Surveillance camera (CCTV)	0	4	9	7	400	1.09	10th	A
8	Security alarm system	0	0	9	8	403	1.06	11th	A
9	Door/window burglar proof	43	26	241	71	39	2.91	1st	C
10	Security signage	2	8	11	4	395	1.14	9th	A
11	Security dog	4	10	58	26	322	1.45	7th	A
	N= 420					**Average Mean Score = 1.82**			

Note: C = Core, while A = Auxiliary
Source: Author, 2020

4.3   Factors Influencing Neighbourhood Crime in Minna

Table 4.3 presents the KMO value of 0.717 and significant value 0.000 for Bartlett's Test of Sphericity. The KMO was assessed using the recommended acceptable value by Tabachnick and Fidell (2014), that it must have a minimum value of 0.5 to indicate the sample is adequate and bartlett's test of sphericity is significant at ($p<0.005$). Thus, the two tests for the study indicate that the sample was adequate and could be consider for factor analysis.

Table 4.3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.717
Bartlett's Test of	Approx. Chi-Square	497.957
Sphericity	Df	39
	Sig.	0.000

Source: Author, 2020.

Three (3) factors had Eigenvalue >1 was extracted from the 16 items, after eliminating eight (8) items for having loadings < 0.3 and for double cross loading highly on other factors. The process was re-run repeatedly after eliminating each item, the three factors after rotation became factor 1, 2 and 3.

Table 4.4 presents the EFA, it shows factor loading of the items together with their percentage of variance explained by each of the factors and cumulative variance. From the table, factor 1 comprising of 3 items and explained 37.67% of the variance with factor loadings from 0.875 to 0.840, factor 2 comprising of 3 items and explained 18.67% of the variance with factor loadings range from 0.899 to 0.677 and factor 3 comprising of 3 items explained 14.96% of the variance with factor loadings from 0.875 to 0.659. All together it gives a total cumulative variance of 70.88% which fall with the acceptable criteria (50%-80%) of the total variance explained (Hair *et al*, 2012). This

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indicates that the 3 factors appeared sufficient to explain the factors that influence

neighbourhood crime in Minna.

Table 4.4: Value Loading on Factors

	Factors		
Items	**1**	**2**	**3**
Unemployment	0.875		
Poverty	0.846		
Income inequality	0.840		
Population density		0.899	
Education level		0.876	
Age		0.677	
Access to alcohol and drugs			0.875
Lifestyle and behaviour			0.689
Social coherence			0.659
Eigenvalue	**3.39**	**1.64**	**1.35**
% of variance	**37.67%**	**18.25%**	**14.96%**
Commulative variance	**37.67%**	**55.92%**	**70.88%**

Source: Author, 2020

In overall, the items loaded strongly on three factors and were named economic, demographic and social. Reliability test (Cronbach's alpha) was carried out on these factors in order to examine at the internal consistency and degree of co-variation among the items that measure each factor (Chew *et al*., 2008). Although a minimum acceptable Cronbach's alpha value of 0.7 has been advocated by various authors.These factors were considered acceptable to measure neighbourhood crime in Minna as they achieved level of reliability determined by the Cronbach's Alpha value of >0.70 as presented in table 4.5.

Table 4.5: Reliability Test (Cronbach's Alpha) for Factors Influencing Neighbourhood crime in Minna

Factors	Cronbach's Alpha	Remarks
Factor 1: Economic	0.83	Acceptable
Factor 2: Demographic	0.79	Acceptable
Factor 3: Social	0.75	Acceptable

Source: Author, 2020.

4.4   Types and Rates of Neighbourhood Crime in Minna between 2015 to 2020

Table 4.6 presents the types and rates of crime in Minna between 2015 to 2020. The table revealed different types of crime that were identified as the crime cases recorded in Minna neighbourhoods according to Niger State police command and was classified into two main categories (property crime and crime against person). Theft (44.7%), housebreaking (13.7%) and burglary (7.9%) were found to be the frequent cases in Minna. While other crimes such as assault (5.3%), breach of trust (4.9%), cheating (3.9%), rape (2.8%), manslaughter (2.8%), trespassing (2.5%), adultery (2.3), abduction (2.1%), murder (1.9%), suicide (1.6%), defamation of character (1.2%), impregnating underage girl (1.2%), armed robbery (0.9%) and kidnapping (0.5%) were found to be

low crime cases in Minna. It was also observed that the cases of serious crimes (Abduction, murder, armed robbery, rape and kidnapping) were relatively low, indicating a low level of urban insecurity in Minna.

Table 4.6: Type and Rate of Neighbourhood Crime in Minna between 2015 to 2020

Crime Types	Crime Rate							
	2015	2016	2017	2018	2019	2020	**Total**	**%**
Property crime								
Theft	19	26	32	39	30	47	193	44.7%
Burglary	3	5	4	6	7	9	34	7.9%
Housebreaking	5	8	7	11	9	19	59	13.7%
Trespassing	0	1	2	3	2	3	11	2.5%
Crime against person								
Assault	2	3	3	5	4	6	23	5.3%
Rape	2	1	2	1	3	3	12	2.8%
Kidnapping	0	0	0	0	0	2	2	0.5%
Murder	1	1	1	1	2	2	8	1.9%
Breach of Trust	2	3	4	3	4	5	21	4.9%
Adultery	2	1	1	3	2	1	10	2.3%
Abduction	2	2	1	1	2	1	9	2.1%
Suicide	2	2	1	0	1	1	7	1.6%
Defamation of character	0	1	1	1	2	0	5	1.2%
Cheating	3	2	3	2	4	3	17	3.9%
Armed robbery	2	0	1	1	0	0	4	0.9%
Manslaughter	3	1	3	2	1	2	12	2.8%
Impregnating underage girl	1	0	2	0	2	0	5	1.2%
Total	49	57	68	79	75	104	**432**	**100%**

Source: Author, 2020

4.4.1 Trends of neighbourhood crime in Minna (2015-2020)

Figure 4.1 presents the crime trend in Minna from 2015 to 2020. The figure revealed that there were 49 cases in the year 2015 and then there was a slight increase in the year 2016 to 57 cases, it also further had an increase in the year 2017 to 68 cases and 2018 to 79 cases respectively, however, had a slight decrease in the year 2019 to 75 cases and in the year 2020, there was a major increase to 104 cases. The two noticeable peaks (2018 and 2020) in the figure could be as a result of the pre-election period in 2018 and the economic recession in 2020. This provided evidence that pre-election periods and economic recession periods could be considered as the crime peak period in Minna between 2015 to 2020.
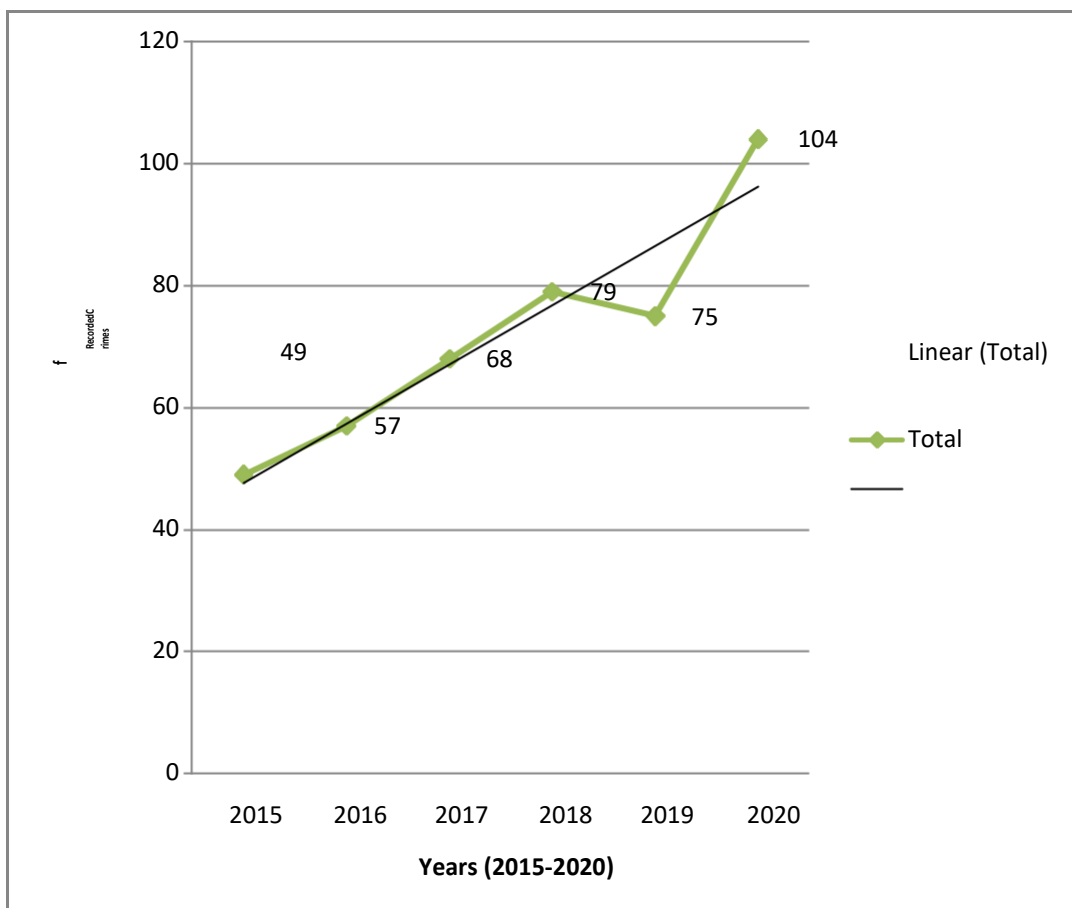

Figure 4.1: Trend Analysis of Neighbourhood Crime between 2015 to 2020 in Minna
Source: Authors, 2020

4.4.2 Correction between the types of neighbourhood crime in Minna

Pearson's product moment correlation analysis was carried out to assess the relationship between the crime types in the study area, presented in table 4.7. The results of the correlation between the crime types was found that there is significant relationship between theft and burglary r= 0.832, p< 0.05, theft and housebreaking r= 0.916, p< 0.05, burglary and housebreaking r= 0.917, p< 0.05, theft and trespassing r= 0.943, p< 0.01, theft and trespassing r= 0.943, p< 0.01, theft and assault r= 0.943, p< 0.01, burglary and assault r= 0.722, p< 0.01, housebreaking and assault r= 0.935, p< 0.01, trespassing and assault r= 0.910, p< 0.05, housebreaking and kidnapping r= 0.914, p< 0.05, burglary and murder r= 0.837, p< 0.05, burglary and murder r= 0.866, p< 0.05, trespassing and suicide r= -0.871, p< 0.05, rape and cheating r= 0.891, p< 0.05 and armed robbery and manslaughter r= 0.822, p< 0.05.

Table 4.7: Correction between Neighbourhood Crimes in Minna

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Theft	1																
Burglary	.832*	1															
Housebreaking	.916*	.917*	1														
Trespassing	.943**	.766	.760	1													
Assault	.956**	.922**	.935**	.910*	1												
Rape	.273	.518	.409	.191	.304	1											
Kidnapping	.739	.756	.914*	.489	.721	.548	1										
Murder	.499	.837*	.657	.442	.614	.866*	.632	1									
Breach of Trust	.786	.794	.756	.734	.713	.640	.701	.739	1								
Adultery	-.042	-.076	-.166	.140	.111	-.274	-.400	-.158	-.467	1							
Abduction	-.799	-.338	-.557	-.781	-.620	.000	-.447	.000	-.522	.000	1						
Suicide	-.707	-.451	-.423	-.871*	-.692	.000	-.108	-.171	-.380	-.542	.728	1					
Defamation of character	-.104	.082	-.279	.189	-.030	.000	-.542	.171	.127	.217	.243	-.294	1				
Cheating	-.077	.205	-.009	-.038	-.030	.891*	.108	.686	.380	-.108	.243	.059	.294	1			
Armed robbery	-.490	-.756	-.565	-.489	-.555	-.274	-.400	-.632	-.701	.400	.000	.108	-.434	-.108	1		
Manslaughter	-.114	-.518	-.227	-.191	-.304	.000	.000	-.433	-.213	.000	-.408	.000	-.594	.000	.822*	1	
Impregnating underage girl	-.369	-.314	-.503	-.203	-.438	.455	-.415	.131	.097	-.083	.186	.045	.495	.766	.166	.227	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Source: Author, 2020

4.4.3 Classification of neighbourhood crime rate in Minna

Table 4.8 presents crime classification in neighbourhoods of Minna. The table revealed that crimes are high, moderate and low in some neighbourhoods than in other neighbourhood. The neighbourhoods are classified into three (3) classes using ranges of 50 and above as high crime neighbourhood, 30 to 49 as moderate crime neighbourhood and 1 to 29 as low crime neighbourhood which was based on the total rates of crimes recorded in the neighbourhoods. Therefore, Bosso Town, Sauka Kahuta, Maitumbi and Jikpan are found as high crime neighbourhoods, as they recorded total crime rates of 111 (25.7%), 72 (16.7%), 73 (16.9%) and 55 (12.7%) respectively. Tunga and Bosso Estate are found as moderate crime neighbourhoods, as they recorded total crime rates of 48 (11.1%) and 30 (6.9%) respectively. While as, F-layout and GRA are found as low crime neighbourhoods, as they recorded total crime rates of 24 (5.6%) and 19 (4.4%) respectively.

However, it is also noticeable from the table that five (5) crime types (theft, burglary, housebreaking, assault and breach of trust) are the common crimes identified among the neighbourhoods. The four (4) classified high crime neighbourhoods (Bosso Town, SaukaKahuta, Maitumbi and Jikpan) was mostly as a result of the high rates of these five common crime types identified that accounted for their classification.

Table 4.8: Classification of Neighbourhood Crime Rate in Minna

Neighbourhoods	Density								Crime Types and Rates										Total	%	Crime Classification
		TF	BG	HB	TP	AS	RP	KP	MD	BT	AT	AC	SC	DC	CT	AR	MS	IG			
Bosso Town		51	10	18	1	6	4	0	2	2	3	3	1	0	5	2	2	1	111	25.7	High
SaukaKahuta	High	32	6	10	0	3	2	0	4	3	2	1	1	0	3	0	3	2	72	16.7	High
Maitumbi		27	5	8	1	2	2	2	2	4	3	4	2	0	5	1	4	1	73	16.9	High
Tunga		20	4	7	2	3	1	0	0	3	1	1	1	2	1	1	1	0	48	11.1	Moderate
Jikpan	Medium	26	5	9	0	4	2	0	0	2	1	0	1	0	2	0	2	1	55	12.7	High
Bosso Estate		17	1	3	2	2	1	0	0	3	0	0	1	0	0	0	0	0	30	6.9	Moderate
F-Layout		11	2	2	3	2	0	0	0	2	0	0	0	1	1	0	0	0	24	5.6	Low
GRA	Low	9	1	2	2	1	0	0	0	2	0	0	0	2	0	0	0	0	19	4.4	Low
Total		193	34	59	11	23	12	2	8	21	10	9	7	5	17	4	12	5	**432**	**100**	

Note: TF=Theft, BG=Burglary, HB=Housebreaking, TP=Trespassing, AS=Assault, RP=Rape, KP=Kidnapping, MD=Murder, BT=Breach of Trust, AT=Adultery, AC=Abduction, SC=Suicide, DC=Defamation of character, CT=Cheating, AR=Armed robbery, MS=Manslaughter, IG=Impregnating underage girl.

Source: Author, 2020

4.5   Relationship between Provision of Building Security Components and

Neighbourhood Crime Rate in Minna

Table 4.9 presents result of the spearman correlation analysis. It reveals that there is a negative and significant relationship between provision of building security components and neighbourhood crime rate in Minna (rho= -.399, p= .000) indicating a moderate relationship. Also correlation on neighbourhood density (high, medium and low) was calculated separately. The table show there is significant relationship between housing security conponents and crime rate in all the three neighbourhood density in Minna, high density (rho= -.452, p= .000), medium density (rho= -.251, p= .001) and low density (rho= -.161, p= .013). The implication of this relationship is that the higher the provision building security components, the lesser the neighbourhood crime rate in Minna.

Therefore the H_0: There is no statistically significant relationship between provision building security components and crime rate in Minna is rejected and H_1 is accepted.

Table 4.9: Correlation between Provision of Building Security Components and Neighbourhood Crime Rate in Minna

	Minna	**Neighbourhood Crime Rate**		
		High	Medium	Low
Correlation Coefficient	-.396**	-.452**	-.251**	-.161*
Sig. (2-tailed)	.000	.000	.001	.013
N	420	312	65	43

**Correlation is significant at the < 0.01 level (2-tailed)., *Correlation is significant at the < 0.05 level (2-tailed).
Source: Author, 2020

However, a series of spearman correlation analysis with two tailed test of significance was conducted between each housing security component and heighbourhood crime

rate. the result of the spearman correlation analysis, as presented in table 4.10 revealed that ten (10) out of eleven (11) security components had positive significance relationship with neighbourhood crime rate in Minna.

Table 4.10: Spearman Correlation between Each Housing Security Component and Neighbourhood Crime Rate in Minna

Housing Security Components	Neighbourhood Crime Rate			
	Coefficient (rho)	P value	Sig.	Strength
Security fence	-.339	.000**	Significant	Medium
Security/entrance gate	-.376	.001**	Significant	Medium
Gate/security house	-.211	.002*	Significant	Small
Security guard	-.224	.013*	Significant	Small
Barbed wire	-.091	.032*	Significant	Negligible
Security lights	-.430	.000**	Significant	Medium
Surveillance camera (CCTV)	-.278	.000**	Significant	Small
Security alarm system	.032	.256	Not significant	-
Door/window burglar proof	-.511	.000**	Significant	Large
Security signage	-.088	.034*	Significant	Negligible
Security dog	-.111	.012*	Significant	Small

**Correlation is significant at the < 0.01 level (2-tailed)., *Correlation is significant at the < 0.05 level (2-tailed).
Source: Author, 2020

4.6 Summary of findings

1. The study identified four (4) building security components as the major provided security components in Minna, according to their order of availability by the mean score value. These components are door/window burglar proof ($M = 2.91$)

rank 1st, security lights (M = 2.85) rank 2nd, security fence (M = 2.58) rank 3rd and security/entrance gate (M = 2.30) rank 4th.

2. The study found that the three (3) factors examined influence neighbourhood crime in Minna. These factors were economic, demographic and social,. The three factors have Eigenvalue >1 and contributed a total of 70.88% cumulative variance, each factor achieved level of reliability determined by the Cronbach's Alpha value >0.70. economic (0.83), demographic (0.79) and social (0.75) suggesting that these factors determined by EFA have demonstrated a good reliability to assess neighbourhood crime in Minna.

3. The study identified 18 types of crime across the eight (8) sample neighbourhoods with total of 432 cases between 2015 to 2020 and classified into two categories (property crime and crime against person). Theft (44.7%), housebreaking (13.7%) and burglary (7.9%) were found to be the most frequent crimes in Minna. While others are assault (5.3%), breach of trust (4.9%), cheating (3.9%), rape (2.8%), manslaughter (2.8%), trespassing (2.5%), adultery (2.3), abduction (2.1%), murder (1.9%), suicide (1.6%), defamation of character (1.2%), impregnating underage girl (1.2%), armed robbery (0.9%) and kidnapping (0.5%).

4. The study however revealed that serious crimes (Abduction, murder, armed robbery, rape and kidnapping) were relatively low, indicating low level of urban insecurity in Minna. Also, the study revealed that 2018 and 2020 were found to be the most commonly experienced crime period between 2015 to 2020.

5. The study revealed that crimes are high, moderate and low in some neighbourhoods then in other neighbourhoods. Using ranges of 50 above as high crime neighbourhood, 30 to 49 as moderate crime neighbourhood and 1 to 29 as

low crime neighbourhood which are based on the total rates of crimes recorded in the neighbourhoods. Bosso Town, Sauka Kahuta, Maitumbi and Jikpan are found as high crime neighbourhoods. Tunga and Bosso Estate are found as moderate crime neighbourhoods. While, F-layout and GRA are found as low crime neighbourhoods.

6. The study revealed that there is a negative and significant relationship between provision of building security components and neighbourhood crime rate in Minna with correlation value rho= -.396, p= .000 indicating a moderate relationship. However, it also revealed that there is significant relationship between provision of building security components and heighbourhood crime rate in all the three neighbourhood density in Minna. High density rho= -.452, p= .000, medium density rho= -.251, p= .001 and low density rho= -.161, p= .013. The implication of this relationship is that the higher the provision of security components in houses, the lesser the neighbourhood crime rate in Minna.

7. The study also found that ten (10) out of eleven (11) building security components used in this study had significance relationship with neighbourhood crime rate in Minna.

CHAPTER FIVE

5.0   **CONCLUSION AND RECOMMENDATIONS**

5.1   **Conclusion**

Regardless of how one views urban crime, neighbourhood crime, or crime in general, it remains a social threat that requires a concerted and immediate response. There is no doubt that there are other options for reducing neighbourhood crime. Building security components are one basic measure that has been described as a preventive approach to crime reduction with a very long lasting effect. Governments in various sectors of the economy, particularly in developing countries, are encouraged to create crime prevention programs. However, there have been few research on the impact of house security components on crime prevention.

The study focuses on the different types of building security components and their availability in impacting the rate of neighbourhood crime in Minna. The study indicates, however, that urban residential neighbourhoods with suitable security components in place will prevent intrusions or damage to life and property, as well as lower the overall crime rate.

5.2   **Recommendations**

From findings the study recommended that:

1.   Building security components should be included as a matter of law in the national building code.

2.   Building plan approval should incorporate building security components.

3.   The most modern building security components such as computer base system (CCTV and alarm system) should be encourage.

4. Urban planners and architects should strive to manipulate the built environment (housing) in a way that criminal activity will be reduced or even eliminated.

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FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGER STATE

SCHOOL OF POSTGRADUATE STUDIES,

DEPARTMENT OF URBAN AND REGIONAL PLANNING

Dear respondent,

I am currently undertaking M.TECH research thesis and this questionnaire is designed to obtain information on **Building Security Components and Neighbourhood Crime in Minna, Niger State**. All information given in this questionnaire shall be strictly for academic purpose and will be treated privately. Please Tick (√) where appropriate.

Thank you.

SECTION A: SOCIO ECONOMIC CHARACTERISTIC OF THE INHABITANTS

1. Name of Neighbourhood: ---

2. Sex of Respondent (a) Male (b) Female

3. Age of Respondent: (a) 18 - 25   (b) 26 - 35   (c) 36 - 45   (d) 46 -55   (e) Above 55

4. Marital Status: (a) Married (b) Single (c) Divorce (d) Widow (e) Separated

5. Educational Level: (a) Primary (b) Secondary (c) OND/NCE (d) HND/B.Sc/B.Tech (e) PGD/Master/P.hD

6. Occupation: (a) Self employed (b) Trader (c) Artisan (d) Civil servant (e) Farmer (f) Unemployed

7. Monthly Income level: (a) Less than ₦30,000 (b) ₦30,000-₦60,000 (c) ₦61,000-₦90,000 (d) ₦91,000-₦120,000 (e) Above ₦120,000

8. Household size: (a) 1-2 (b) 3-4 (c) 5-6 (d) Above 6

9. Length of stay in the area: (a) Less than 3 years (b) 4-8 years (c) 9-13 years (d) 14-18 years (e) Above 18 years

SECTION B: TYPES AND PROVISION OF HOUSING

10. Rate the following types of security components in your house in terms of provision/availability.Please tick (✓) as appropriate

Types of components	Not avalable	Somewhat available	Available	Highly available	Very highly available
Security fence					
Security/entrance gate					
Gate/security house					
Security guard					
Barbed wire					
Security lights					
Surveillance camera (CCTV)					
Security alarm system					
Door/window burglar proof					
Security signage					
Security dog					

SECTION C: FACTORS THAT INFLUENCE NEIGHBOURHOOD CRIME

11. Rate the following category of factors that Influence neighbourhood crime in your neighbourhood. Using a likert scale of 1 to 7 (Highly disagree to Highly agree).

Influencing Variables	1	2	3	4	5	6	7
Poverty							
Unemployment							
Income inequality							
Deprivation of services							
Age							
Education level							
Gender							
Population growth							
Social coherence							
Family disruption							
Access to alcohol and drugs							
Cultural and family background							
Race							
Peer groups							
Lifestyle and behaviour							

SECTION E: CRIME RATE

12. Rate the following Neighbourhood crime in terms of their frequency. Please

tick(✓) as Applicable

	Crimes	**Frequency**			
		Always	Occasional	Sometimes	Never
1	Theft/Stealing				
2	Burglary/housebreaking				
3	Armed robbery				
4	Rape/Assault				
5	Kidnapping				