THE DETERMINANTS OF VIOLENT CRIMES AND ITS IMPACTS ON HOUSEHOLD ECONOMIC WELFARE IN NORTHWEST NIGERIA

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ABSTRACT

Violent crimes and armed conflicts are among the world's most significant challenges. The ongoing activities of militant groups known as "bandits" in north-western Nigeria result in massacres, sexual assaults, property crimes, kidnappings, and armed robberies, with an increasing number of victims and displaced persons. Despite the deterrent factors, violent crime has increased over the years. This raises the question of the key factors that might play a role in violent crime. This study aims to investigate the influence of deterrence factors, corruption, the rule of law, and socio-economic factors on violent crime and its consequences on household economic welfare. This study uses deterrence, rational choice, and social disorganization theories as underpinning theories. Data from 498 regular households and 558 inmates were collected using a multistage sampling technique and analyzed using binary and multinomial logit regression. The result showed a significant negative relationship between deterrence factors, corruption, the rule of law, and violent crime. The result also showed a significant negative relationship between socio-economic factors and violent crime. However, it showed a significant positive influence of drug consumption and unofficial severity of punishment on violent crimes. Similarly, the results showed a positive relationship between violent crimes and household economic welfare (declining household food consumption and loss of income). Overall, the study confirmed that corruption and the rule of law are the instrumental factors that compromise strategies to combat crime. Socio-economic factors such as family disruption, family background, unemployment, and drug consumption play an enormous role in determining violent crime in Nigeria, and violent crimes significantly affect Household's economic welfare. This research has significantly contributed to the literature as it explored the influence of both formal and informal sanctions on violent crimes and successfully developed and validated a second-order model for the economic welfare scale. The findings will also help regulatory agencies and stakeholders to formulate policies that deter people from committing crimes and improve household economic welfare. Finally, directions for future research were discussed. Enforcing the criminalization of banditry and parental neglect, fighting corruption, institutionalizing family affairs, and publicizing the enforcement campaign are recommended to the policymakers to reduce violent crimes and improve household economic welfare.

Keywords: deterrence, corruption, violence, massacres, welfare.

ABSTRAK

Antara cabaran paling berat di dunia ialah jenayah kekerasan dan konflik bersenjata Dengan aktiviti berterusan kumpulan militan yang dikenali sebagai "penyamun" di Barat Laut Nigeria, jenayah yang berlaku adalah pembunuhan beramai-ramai; serangan seksual; jenayah harta benda; penculikan dan rompakan bersenjata; dengan kematian dan orang yang kehilangan tempat tinggal meningkat. Walaupun terdapat tindakan pencegahan diambil, kejadian jenayah kekerasan masih lagi meningkat sejak kebelakangan ini. Ini menimbulkan persoalan tentang faktor lain yang memainkan peranan dalam aktiviti jenayah kekerasan. kajian ini menjelaskan mengenai pengaruh faktor rasuah, kedaulatan undang-undang, dan faktor sosio-ekonomi terhadap jenayah kekerasan serta akibatnya terhadap kebajikan ekonomi isi rumah. Kajian ini menggunakan teori pengegahan, teori pilihan rasional dan teori ketidakorganisasian sosial sebagai teori asas. Data daripada 498 isi rumah dan 558 banduan dikumpul menggunakan teknik persampelan berbilang peringkat dan dianalisis menggunakan regresi binari dan multinominal logit. Hasil kajian menunjukkan hubungan negatif yang signifikan antara faktor pencegahan rasuah, kedaulatan undang-undang, dan jenayah kekerasan. Hasil kajian juga menunjukkan hubungan negatif yang signifikan antara faktor sosio-ekonomi dan jenayah kekerasan. Walau bagaimanapun, ia juga menunjukkan hubungan positif yang signifikan antara penggunaan dadah dan tahap hukuman tidak rasmi ke atas jenayah kekerasan. Begitu juga, ini menunjukkan hubungan positif antara jenayah kekerasan dan kebajikan ekonomi isi rumah (penurunan penggunaan makanan isi rumah dan kehilangan pendapatan). Secara keseluruhannya kajian ini mengesahkan bahawa faktor korupsi dan kedaulatan undang-undang adalah faktor instrumental yang menjejaskan strategi untuk memerangi jenayah. Faktor sosio-ekonomi seperti gangguan keluarga, latar belakang keluarga, pengangguran, pengambilan dadah memainkan peranan yang besar dalam menentukan jenayah kekerasan di Nigeria, dan jenayah kekerasan memberi kesan ketara kepada kebajikan ekonomi isi rumah. Penyelidikan ini telah menyumbang secara signifikan kepada kajian lepas kerana ia berjaya terokai kedua-dua pengaruh formal dan tidak formal terhadap jenayah kekerasan, dan berjaya membangunkan dan mengesahkan model peringkat kedua untuk skala kebajikan ekonomi.Dapatan kajian ini juga akan membantu agensi kawal selia dan pemegang kepentingan dalam penggubalan dasar untuk menghalang orang ramai daripada melakukan jenayah dan meningkatkan kesejahteraan ekonomi isi rumah. Akhirnya, hala tuju penyelidikan masa depan telah dibincangkan. Penguatkuasaan jenayah penyamun dan pengabaian ibu bapa, memerangi rasuah, menginstitusikan hal ehwal keluarga, dan menghebahkan kempen penguatkuasaan disyorkan kepada penggubal dasar untuk mengurangkan jenayah kekerasan dan meningkatkan kesejahteraan ekonomi isi rumah.

Kata kunci: faktor pencegahan, rasuah, keganasan, pembunuhan beramai-ramai, kebajikan.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Among the world's major problems are violent crimes and armed conflict. It takes on distinct dimensions in Nigeria from Boko Haram (BH) Insurgency and bandits in Northern Nigeria, Niger Delta militancy, agitation for secession, kidnapping/ banditry, ethnoreligious crises, and farmer’s herders’ clashes (Institute for Economics and Peace, 2016).

According to the Global Terrorism Index 2020, the most extensive terrorism deaths were recorded in Afghanistan and Nigeria. The two countries accounted for 50% of global terrorism deaths in 2019 (Institute for Economics & Peace, 2020,13), as shown in Figure 1.1. With the continuing activities of militant groups locally known as “bandits” in Northwest Nigeria, namely Zamfara, Katsina, Sokoto, Kaduna, and Kebbi. The crimes are massacring, cattle theft, abduction, sexual assault, ransacking entire villages, and thefts of valuables, with casualties and displaced persons rising. Over 1,100 lives were lost in 2018, 2,200 in 2019, and over 1,600 were slain from January to June 2020 (Assessment Capacities Project [ACAPS], 2020). At the same time, displaced people are currently over 247,000 IDPs, with more than 77,000 refugees United Nations High Commissioner for Refugees (UNHCR, 2021). In December 2020, 344 schoolboys were abducted by bandits from a Government science secondary school in Katsina (Godfrey, 2020). About 500 villages and 13,000 hectares of land were devastated, while 2,855 people were murdered (Suleiman, 2019). Also, in February 2021, armed men kidnapped 317 girls from a boarding school in Nigeria’s enormously lawless Northwest region, and this was the region's second school kidnapping in a week (Reuters, 2021).

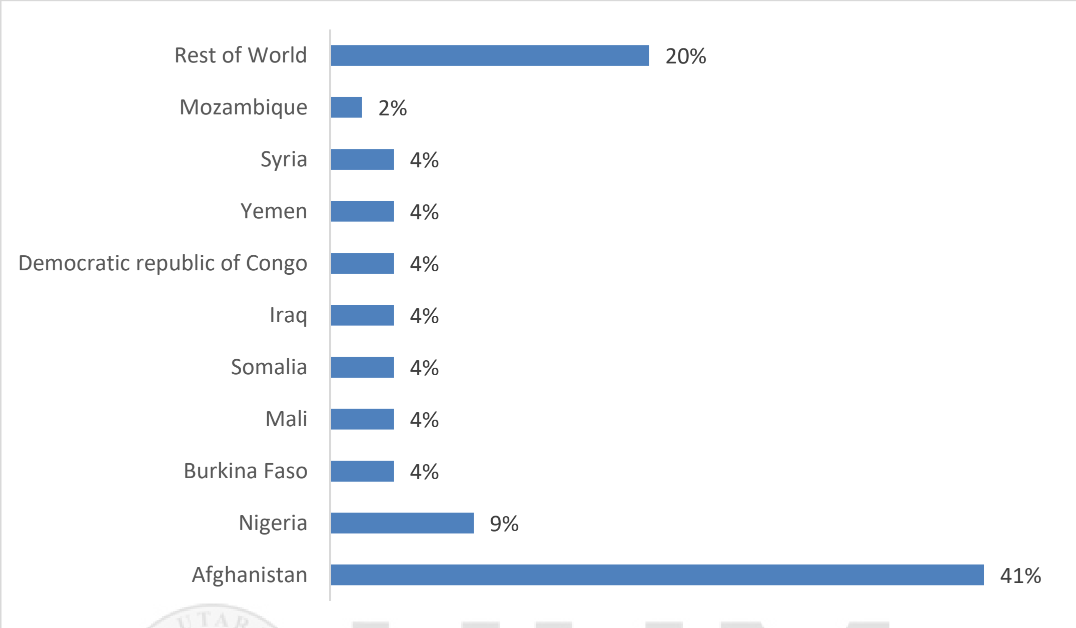

Figure 1. 1
Death from Terrorism
Source: Institute for Economics & Peace (2020)

According to Mu'azu (2019), Northwest Nigeria (NWN) is currently in the dominion of strange, violent crimes, kidnapping, banditry, rape, and terrorism, making Nigeria among the top world ranking. The zone is embroiled in deadly violence due to armed groups called bandits. Organized crime, herder-allied group violence, 2011 has murdered roughly 8,000 people and forced over 200,000 to flee their homes. While about 60,000 fled to neighboring, United Nations High Commissioner for Refugees and National Commission for Refugees, Migrants, and IDPs (UNHCR/NCFRMI, 2019). Despite numerous security operations and negotiation initiatives, long-term peace remains elusive. Bandit gangs have kidnapped 769 students from the region's boarding schools since December 2020. According to an SB Morgen report, between June 2011 and March 2020, at least $18.34 million in ransom was paid to kidnappers most often by relatives and the Government (Iyorah, 2021). In May 2020, many villages in Katsina state were attacked by over 500 “bandits.” They took thousands of animals, mostly cattle, and murdered eighteen locals and a local chief. The bandits (as Nigerian police refer to them) rode motorcycles and were well-armed with modern weapons (Campbell & McCaslin, 2020). The zone has seen a spike in criminal activity since 2011, owing to the proliferation of guns and armed bandits who engage in cattle theft, kidnappings, pillage, and armed robbery. In Hayin Kaura, Dandume district of Katsina state, 80 Islamic school kids were abducted in December 2020.

Zamfara state is one of the worst-affected states in the region. In 2021, about 10,300 children were treated for acute malnutrition and respiratory diseases in the first four months (Akwagyiram, 2021). According to the International Organization for Migration (IOM), more than 124,000 displaced individuals in Zamfara state also received nearly 100 victims of sexual abuse between January to April 2021 (Saafan, 2021).

The primary economic activities in the Northwest are large-scale farming and animal husbandry. Agriculture provides a living for 80 percent of the Northwest’s population (Crisis Group Africa, 2020). Farmers in the affected regions have given up their farms for years for fear of being massacred or abducted. As a result of criminal gang attacks, more than 13,000 hectares of farmland in Zamfara state have been ruined or cannot be accessed. 80,000 fearful farmers in Sokoto state stayed away, leaving 21,316 hectares of uncultivated farmland. Thousands of livestock have also been stolen in Zamfara from 2011 to 2019, with an estimated 141,360 cattle and 215,241 sheep. The disruptions negatively impacted pastoralists and farmers, resulting in food shortages in affected communities and aggravating malnutrition. The costs and economic consequences of crime on citizens and the country are immeasurable, varying from resource waste; to lost income, a lower standard of living, losing people's lives and assets, declining food consumption, and negatively impacting the country's image. Other violence costs include mental distress for victims, relatives, and people in crime-prone areas.

Criminality, criminal groups, violence, and its aftermaths have been extensively researched worldwide. However, Denoeux and Carter (2009) believe that most of what we know about violent extremist groups comes from experience in the Middle East, North Africa, and South Asia. On the other hand, there is little detail about armed militancy in sub-Saharan Africa comparable to MENA and South Asia areas. Therefore, there is a dearth of sufficient literature regarding violent Nigerian extremists, bandits' activities, and their relationship with socioeconomic conditions.

Banditry means "The occurrence or prevalence of armed robbery or violent crime. It involves using force, or threat to that effect, to intimidate a person with the intent to rob, rape, or kill" (Collins, 2000). It appears that Nigeria's incidence of banditry has been rising over the years. According to Rotberg (2010), crime against humanity in Nigeria has increased in scale and viciousness since 1999, including murder, rape, and robbery. And this was proved by the relentless trend of mayhem in the country. The prolonged nature of this hubbub has worsened village raids, illegal collection of tolls, rapes, abductions, and cattle theft. Specifically, cattle rustling in West Africa has escalated and remains a cause of rural banditry (United Nations Office for West Africa and the Sahel [UNOWAS], 2018). The general features of African banditry are "killing, maiming, and wanton destruction of properties, and it has a direct relationship with cattle rustling" (Rufa'i, 2017). Therefore, using force to steal livestock is referred to as cattle rustling.

There are several philosophical assumptions in explaining why people commit a crime. The deterrence theory emphasises rational choice as a fundamental factor in persuading people to engage in criminal actions. This theoretical point of view has three key essential aspects (1) Each individual is a rational actor who willingly selects all acts, both adherent and deviant, primarily on their rational calculations; (2) Rational analysis entails cost-benefit analysis; and (3) Every person chooses an action that maximises personal satisfaction while minimising the potential for a suffering penalty as a result of an act that is regarded to be against the societal good (Beccaria, 1963; Bentham, 1948; Hobbes, 1962).

There are different views in the literature on crime, but all arrived at a collective understanding of the term crime. Nevertheless, when trying to understand crime, it is good to bring forth ideas from other academics in their respective perspectives on the topic, as many authors have described crime in different contexts. Crimes can be explained as bribery, murder, terrorist activities, abduction, trafficking in human beings, robbery, vagrancy and non-payment of public taxes, utility bills or transport, alcohol, and narcotic misuse, destruction of the environment, and illegal dumping of toxic substances (Tenibiaje, 2010; Tretter, 2013).

What is happening in NWN are crimes committed against humanity, which are detrimental to people and property destruction. According to Habibullah et al. (2014), violent crime is a criminal act of brutal force engaged in taking property or an individual's life. Similarly, Dambazau (2007) stated that it was an act of forcibly taking property from the victim and could cause injury or loss of life. According to Ajaegbu (2012), violent crime is the highest heinous crime that tends to punish society that has taken centre stage, leading to massacres and economic downturns. Soh (2012) defined violent crime as frequent and intense enough to inflict harm. Holistically, violent crimes constitute theft; sexual assault; kidnapping; assault with a deadly weapon, abuse, terrorism; serious injury and trauma, assassination, and homicide (Dambazau, 2007; Song et al., 2013; Habibullah et al., 2014). This definition is more applicable as it applies to the present situations in the study area.

Herders' operations are another significant cause of crises in Nigeria, as the crises have increased over the past century. Their actions include midnight community invasion, murdering, and the victims mostly protracted with a perpetual disability, dislodgment from livelihood sources, farmland devastation, and setting houses ablaze (Ibrahim et al., 2016). Violent crime generates panic and anxiety among those impacted and disrupts farming operations. Approximately 630 individuals were murdered in 2015 by the herders' militia (Institute for Economics and Peace, 2016). Thieves use locally made weapons such as knives, spears, and local missiles to attack herders. But the mode of operations has transformed into more organised crime with the most sophisticated arms, and thieves have managed to build enormous networks across distinct nationalities (Ibrahim et al., 2016).

Northwest Nigeria is suited for this study due to its intensity of poverty, tragically characterised by high levels of violence. According to the United Nations Global Multidimensional Poverty Index, the poverty rate in NWN is 80.9%. At the same time, other stressors like climatic factors are present, which also vary over time and space and may affect both conflict and food insecurity outcomes. Northwest Nigeria is Nigeria’s largest geopolitical zone. It covered 192 689 km, equal to 83 415 sq: with a population of over 40 M, with an average household of 11 members (World Bank, 2018).

To better understand violence at the micro-level, we must first comprehend the economic components that influence it and the economic consequences and costs on individuals, households, and communities. The economic consequences are perhaps the most critical area in which the ever-escalating violence has impacted and continues to harm the region's and country's citizens. Due to the threat of instability across the country, practically commercial and economic activity is halted in the affected area. According to Dami (2021), the extent of the violence has caused the closure of the main economic activities in the region, as some significant local markets, including IIella in Sokoto, Dandume, Maidabino, Kankara in Katsina state, and Bardoki, Shinkafiin Zamfara state were closed. Farmers in the affected regions have given up their farms for years for fear of being massacred or abducted (Crisis Group Africa, 2020). In addition, violence has negatively affected the exploration of natural resources (such as gold mining) in the NWN, directly impacting the affected states’ livelihoods and market prospects (Nagarajan, 2020). The availability of valuable gold reserves in Zamfara State drew local mining activity since families relied on it for survival. As a result, Individuals and households faced higher social and economic hazards, which is quite devastating as they seriously affected their income and food supply and hampered their welfare.

1.2 Origins of the Violent Crimes in Northwest Nigeria

The origins of the violent crimes were a symbiotic relationship between farmers and herders over land between the 12th and 13th centuries (Adebayo, 1991). The social structure was developed to acclimate with "Ruga" to manage grazing activities and resolve disputes between herdsmen and farmers (Goyal, 2005). Herders are primarily nomads looking for greener grasslands for their animals, usually through the dry season. So, herders have a history of moving toward the West, from which they have built ties with farmers and can find common ground and collaborate with shared resources (Cabot, 2017).

Other factors pushed the herders to flee the north. For instance, the government of the Northern region's grazing reserves was lost due to growing populations, resulting in more demand for farmland and space for urban development and infrastructural provision (Chiluwa & Chiluwa, 2022). The availability of designated grazing areas is hampered due to these and other cumulative consequences. According to Udemezue and Kanu (2019), the rate of deforestation and drought are the main drivers of these migrations. As a result of the movements, the animals trespassed on farmers' land and occasionally inflicted considerable damage, leading to fierce clashes between herders and farmers (Solomon & Chinwe, 2015). In the quest for grazing land, the herders destroyed farmers' crops, such as guinea corn, cassava, corn, sorghum, and peanuts, causing trouble. The native inhabitants of the area relied on these crops for survival; of this development, the farmers retaliated by murdering the herders and their cattle (Alhassan et al., 2021). That is the genesis of farmers-herders disputes in Northern Nigeria (Hassan et al., 2018).

From 1999 to date, Nigeria has been over 20 years into democracy. Insecurity has become such a whopping issue. Farmer/herders' conflict and what is happening today qualified Northwest as the country's epicentre of violence. This conflict has been going on for decades. It morphed from disagreements between farmers and herders into horrific crimes, armed robberies, kidnapping, banditry, and cattle rustling (Agande, 2019). Most affected rural areas, according to Agande, had many anarchical areas: no power, communications, and local governments that exist in name. When you go there, you cannot see anyone. Traditional authorities and Islamic scholars have dealt with the situation for a long time. The Government was not present, roads were terrible, and the residents were left to their fate. As armed robberies continued, locals created vigilante organisations to bring law and order to the area.

One of the reasons for the region's increased insecurity is the creation of vigilante groups (Alhassan et al., 2021). Vigilante teams were often untrained, as a result, they exceeded their boundaries whenever they went on operations; they were viciously attacked and killed. They acted as police, the prosecutor, and the judge. They made no stopovers in towns or semi-urban areas. They chased the Fulani far into the bush, killing countless innocent people in the process, which is one of the direct causes of the violence (Agande, 2019). Then, the Fulani pastoralists reassembled and returned to the areas where they had been attacked and seek for vengeance. They are pastoral nomads who saw public grazing lands shrink and rustlers steal their cattle and sheep (Malumfashi & Maina, 2021). According to Oli et al. (2018), Farmer–herder confrontations are primarily retaliation. Both farmers and herders engage in reprisal attacks as a form of revenge and a means of defending their farms and animals, respectively.

There were no banks in most of the afflicted areas, so people hid their money at home; robbers broke into the victim's homes and stole all the money. In certain circumstances, they may rape their wives and daughters in front of the victims, or they would kidnap the children, primarily females, which is a terrible predicament (Agande, 2019). The states' governments were initially unconcerned about the threat posed by vigilantes battling rural banditry and Fulani vengeance, and the threat developed into widespread violent crime.

Before now, NWN was the most peaceable zone in Nigeria. The major crime witnessed was farmers'/herders' clashes. The zone comprises Zamfara, Katsina, Kano, Sokoto, Kebbi, Jigawa, and Kaduna, as shown in the Nigerian map in Figure 1.2. The zone has witnessed increased general insecurity, like kidnapping, cattle rustling, and banditry rife in some states (Liman & Anka, 2019). The region is jolting towards chaos and anarchy. The outbreak of insecurity across the region seriously threatens the authorities and all. Bandits and kidnappers were hovering on motorcycles on the major streets without restraint (Farouq & Chukwu, 2020) and have turned a large part of Zamfara, Kaduna, Katsina, and Sokoto states into bandits' constituencies.

Figure 1. 2
Map of Northwest Nigeria

As explained before, the conflict began as a mere local disagreement between Fulani herders and peasants, the approach and conduct in which the security apparatus handled the situation intensified the conflict, particularly with the latest abduction and banditry. Following the general 2015 elections, the conflict took another dimension as most communities became targets of attack by these suspected bandits; from April to October 2015, an estimated 68 different attacks were launched, with casualty Figures reading almost 1,200 people (Liman & Anka, 2019).

Beginning in 2016, it becomes apparent that the conflict is no longer a farmers-herders clash but an act of banditry. The bandits become more organised and form a strong network that gives them the confidence to face conventional security personnel without fear (Liman & Anka, 2019). They aim to attack communities, kill people inhumanly, and launch murderous attacks, killing anybody on sight during the attack. However, in the middle of 2017, the conflict escalated to a more advanced level of human kidnapping and abduction. It escalated to neighbouring Katsina, Sokoto, and

Kebbi, where hundreds of people across the zone have been kidnapped and abducted for ransom.

1.2.1 Kidnapping

Kidnapping looks to be one of Nigeria's highly complex and lucrative criminal cases, given the number of persons participating in the unannounced operation. It started in the Niger Delta region. Initially, it was used by the Niger Delta militants to agitate for resource control and development of their region (Hazen & Horner, 2007). Today it is spreading like wildfire in Nigeria. The nation was seized by a frustrated mind as scores of populations feared being abducted (Campbell, 2018).

Table 1. 1
The record of current kidnaps in Nigeria from 2017 to 2019

Date	Value	Change, %
2019 Q3	25.00	78.57 %
2019 Q2	14.00	75.00 %
2019 Q1	8.00	-80.00 %
2018 Q4	40.00	37.93 %
2018 Q3	29.00	70.59 %
2018 Q2	17.00	183.33 %
2018 Q1	6.00	-90.77 %
2017 Q4	65.00	66.67 %
2017 Q3	39.00	25.81 %
2017 Q2	31.00	82.35 %
2017 Q1	17.00	-41.38 %
2016 Q4	29.00	

Source: Knoema (2019).

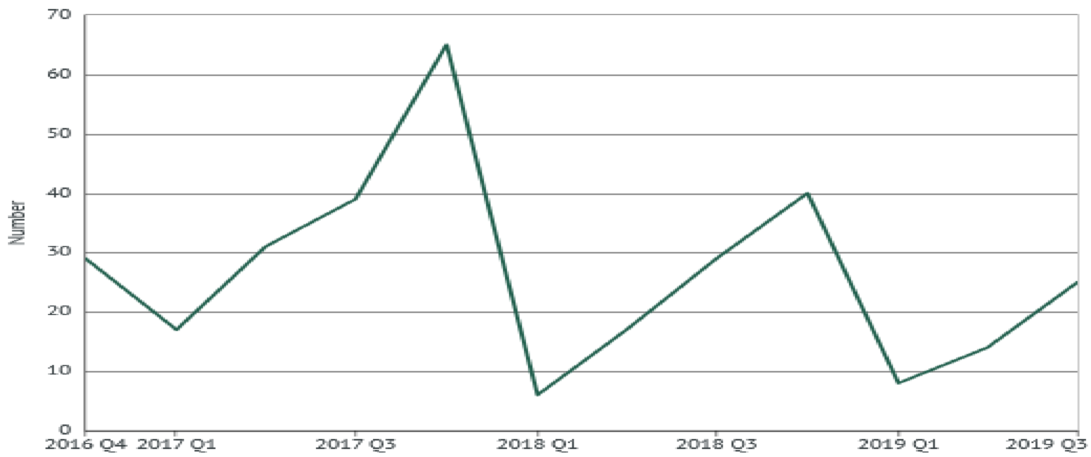

Figure 1. 3
The Record of Current Kidnaps in Nigeria from 2017 to 2019
Source: Knoema (2019).

Based on the record, the kidnapping trend has reached new heights of absurdity and horror. The national rate of kidnapping worsened from 0.001 per 100,000 population in 2016 to 65 in 2018, progressing at annual average rate of 42.84 per cent, as shown in Figure 1.3. However, Table 1.1 shows that the incidents fluctuated significantly from the third quarter of 2017 to the third quarter of 2019, which declined from 25.81 per cent and changed to 78.57 per cent (Knoema, 2019b). According to the 2019 mid-year crime index survey, Nigeria ranked third in Africa and fourteenth worldwide.

Due to Boko Haram insurgency in the former and militancy in the latter, the Northeast and South-South had the largest number of victims in 2015. Due to the growth of terrorism and banditry, the Northwest has become the hardest-hit region in recent years, particularly in 2020 and 2021 (Adebajo, 2021). Table 1.2 shows that the Northwest had 1405 abduction victims in 2021, the North-central region 942, the North-eastern region 211, the Southwestern region 169, the South-south region 140, and the South-eastern region 77. Based on a report published by research firm SB

Morgan Intelligence 2020, the problem is the "democratisation of the kidnapping industry," with at least $18.34 million paid in ransom to kidnappers nationwide between 2011 and 2020 (Adebajo, 2021).

Table 1. 2
Report Cases of Kidnapping in Nigeria

	2015	2016	2017	2018	2019	2020	2021
Northcentral	25	42	46	51	228	613	942
Northeast	515	38	172	313	180	392	211
Northwest	6	68	40	383	597	1449	1405
Southeast	16	8	9	17	25	86	77
South-south	68	134	149	161	271	201	140
Southwest	27	57	68	61	85	119	169
Total	657	347	484	986	1386	2860	2944

Sources: HumAngle (2021).

The situation of NWN's crime rate has reached its highest level, which has left many feeling terrorised. In February 2021, 279 girls aged 10 to 17 were kidnapped from Government Girls Science Secondary School in Jangebe, Zamfara State (Ibekwe et al., 2021). In another case of mass abduction at a school in December 2020, 344 schoolboys were abducted by bandits from Government Science Secondary School, Kankara, Katsina state (Godfrey, 2020). The governor of Katsina state (Quoted in BBC) "feared that there would be a serious food crisis later because the fear of kidnapping was keeping so many farmers from their fields" (Yahaya, 2019).

1.2.2 Armed Robbery

Armed robbery involves firearms, violence, or threat of attack; it has ravaged Nigeria for decades and was responsible for approximately 50% of the 8,516 deaths between 2006 and 2015 (Nwankwo & James, 2016). Despite capital punishment legislation, armed robbery has been a scourge in Nigeria for years, and it is getting worse and worse; in 2019, 13,278 incidences were reported, with 15,719 people arrested (Akem-Vingir, 2020).

Robbery is a vital facet of Northwest's rural mob violence problem. It manifests in waylaying travellers on the region's major expressways. The Abuja-Kaduna-Zaria route has a long history of highway robbery. The incidence has also sparked concerns on the Kaduna-Birnin-Gwari-Zamfara-Funtua and Zaria-Funtua-Katsina routes (Okoli & Ugwu, 2019). The highway robbers use assault rifles and cruelty akin to that of commandos.

The bandits also set up a roadblock along Runka to Marina route in Safana, Katsina state, for three days consecutively in February 2020, robbing passengers of their monies and valuables. On the 20th of October 2020, bandits reportedly barricaded the Danmusa-Runka route, robbing merchants of the weekly market in Runka, Safana LGA (Ladan & Matawalli, 2021). They murder and maim people on most occasions.

1.2.3 Massacre

The facts are frightening, whereas "about1,100 persons had been massacred in 2018, 2,200 in 2019, and 1,600 between January and June 2020" in the six states of Northwestern Nigeria (Assessment Capacities Project [ACAPS], 2020). In the third quarter of 2021, the humanitarian situation of millions of people affected by the ongoing violence in the Northwest worsened even more. For instance, the severity and frequency of violent crimes have escalated, with over 400 persons allegedly massacred and hundreds kidnapped in Zamfara state alone between August and September 2021 (UNICEF, 2021).

The report by Washington Council on Foreign Relations (CFR) examines the levels of violence by gathering pieces from local Media that 262 civilian deaths were recorded in the first quarter of 2019, while only 288 were recorded in the whole of 2018, and for 2017, as shown in Figure 1.3. CFR data (Reality check team, 2019).

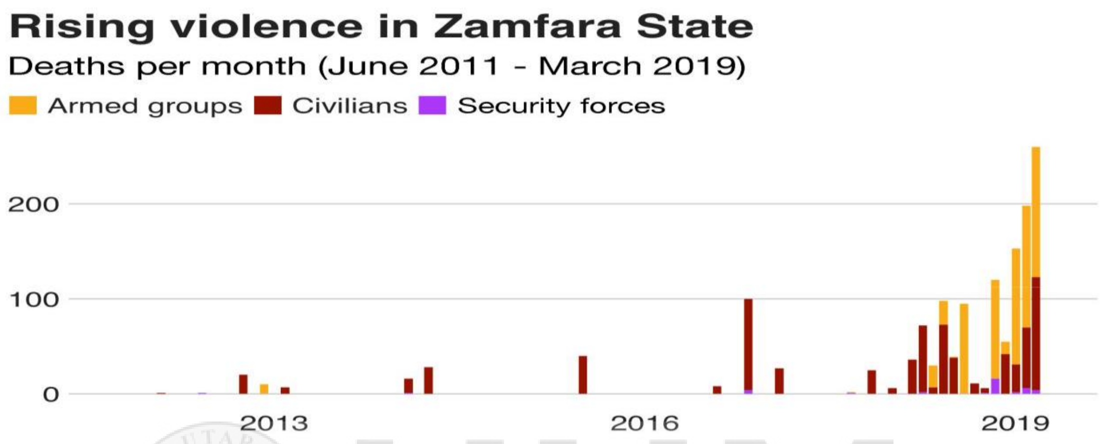

Figure 1. 4
Rising violence in Zamfara state
Source: Council on Foreign Relations

Virtually, there are two to three deaths recorded every day. However, the CFR data point out that this number is rising, resulting in total civilian casualties in Zamfara from early March 2019 to 6 April 169 deaths, as against 28 in Borno State and 14 in Adamawa, while zero incidences were recorded from Yobe. The bandits had rendered over 8,000 women widows in Zamfara state, while 16,000 children became orphans. At least 5,000 people have been murdered, with over 9,000 others injured. The criminals also wrecked nearly 10,000 dwellings and grain stores (Reality check team, 2019).

Similarly, 17 people were massacred when bandits invaded the Sherere hamlet in Katsina State. They also burned down many houses in the community (Rapheal, 2019).

While in three local government areas of Zamfara State, no less than 113 people were murdered by bandits within a week, also destroyed properties worth millions of naira (Maradun, 2019).

1.2.4 Rape (Sexual Violence)

Unfortunately, Nigeria's sexual violence culture has existed and been tolerated for years. With the advent of the Bandits, the terrorist group has escalated in sexual assault, abduction, and kidnapping. In 2020, the National Human Rights Commission (NHRC) received 11,200 reports of rape (Amnesty International [AI], 2021). In 2020, the Government's special investigative panel on sexual and gender-based violence, which includes rape, recorded 210 occurrences of sexual violence. It resulted in the forced marriage of 94 girls, 86 women, and 30 boys, acknowledging such crimes are grossly underreported due to stigma and harmful social norms (United Nation [UN], 2021). Annually, two million girls and women in the country are sexually abused (Jimoh & John-Mensah, 2019). Unfortunately, just a few cases of sexual abuse have been reported.

Sexual and gender-based violence still exists in varying forms, as several incidences of bandit rape have been reported in Katsina and Niger state (Ahmadu, 2019). Similarly, due to the prevalent incidents of rape by bandits in the state, there are highly rising cases of sexually transmitted diseases in most villages and local communities (Mohammed & Abdullahi, 2021). As a result, many have become beggars in their own country, and women have become sexually exploited in the refugee camps.

1.2.5 Destruction/Looting of Properties and Cattle Rustling

What is happening in NWN can link crimes committed against humanity and the brutality in which they usually cause harm to people and property destruction. According to Habibullah et al. (2014), violent crime is a criminal act of brutal force engaged in taking property or an individual's life. As a result of criminal gang attacks, more than 13,000 hectares of farmland in Zamfara state have been ruined or cannot be accessed. Eighty thousand fearful farmers in Sokoto state stayed away, leaving 21,316 hectares of uncultivated farmland. Cattle theft and banditry have seriously threatened the region's security and lives. Many lives have been lost, and properties have been destroyed due to these events. Cattle rustling is defined as cattle theft principally for financial gain (Abdullahi & Madappalli, 2017).

According to Tauna (2016), the Katsina state Governor declared that thirty thousand cattle had been recovered from rustlers in just a few months after establishing a joint military operation to combat nuisance in 2015. Approximately 11,989 animals were retrieved from July to December 2015, with 9,221 being restored to their respective owners (Abdullahi, Victor & Binta, 2017). 1,220 cows, 295 sheep, and 14 donkeys were recovered after raiding the forest in August 2015 (Vanguard, 2018). During a series of raids in the village of Kunkunna in June and July 2020, the bandits stole 110 cows, 350 goats, and 350 sheep (Ladan & Matawalli, 2021). Thousands of livestock have also been stolen in Zamfara from 2011 to 2019, with estimated 141,360 cattle and 215,241 sheep stolen (Crisis Group Africa, 2020). And most of the time, the rustlers murder, rape women and mutilate their herders before their cows are dispossessed (Akowe & Kayode, 2014). Sometimes in the process, girls and women are kidnapped. (Adeniyi, 2015; Yusuf, 2015). And they arrive in large groups, collect the cows, possibly 200, 300, or more, and massacre the herders in charge of them before moving them to different locations (Abubakar, 2021). The intensity of cattle rustling has an adverse impact on agricultural productivity, dwindling pastoralists, and farmers' incomes (Ibrahim et al., 2016). These acts of banditry have created untold hardships, in addition to the loss of life and property, leading to severe psychological shock inflicted on individuals and households. The following subsection discusses the economic factors that may deter violent crime and the economic consequences.

1.3 The Economics of Crimes

Economic crime does not have a commonly established definition. However, the economics of crime examines the impact of incentives on criminal behaviour and potential crime-prevention strategies. An economic crime is a criminal conduct in which the primary objective of the perpetrators purports to be an economic benefit (Ghani, 2017). The economic activities in the affected states have been completely halted since the advent of the violence. The major economic activities in the region are large-scale farming and animal husbandry. Farmers in the affected areas have given up their farms for years for fear of being massacred or abducted (Crisis Group Africa, 2020). Also, the major local markets were closed, including IIella in Sokoto, Dandume, Maidabino, Kankara in Katsina state, and Bardoki, Shinkafi in Zamfara state (Dami, 2021). From 2011 to 2019, the administration of Zamfara state claimed to have spent eight billion naira per year on security (Mohammed & Abdullahi, 2021). The substantial amounts could have been allocated toward other development programs instead.

One of the despicable acts perpetrated by the bandits is the issue of imposing taxes and monetary fines before a farmer can go to the farm or develop his farm (Mohammed & Abdullahi, 2021). Many farmers couldn't manage to pay the high sum imposed on them. They abandoned their farms; this wrecked their economy and endured a dramatic setback to their well-being, which is devastating and may seriously affect local and foreign investment. Many local and foreign investors have avoided the region for the sanctity of their lives and investments.

For instance, based on the record from Trading Economics and the Central Bank of Nigeria, 2020, foreign direct investment was 1269.22 in 2017, 959.52 in 2018, and 909.54 in 2019 due to worsening insecurity incidents such as kidnapping, banditry, and Boko Haram. According to the IMF's World Economic Outlook (WEO), Nigeria's GDP was 414.10 billion dollars in 2011 and $568.50 in 2014. Still, the escalating kidnapping incidents fell to $376.36 billion in 2017 and $398.19 billion in 2018 (Knoema, 2019a). The following subsection discusses the economic factors that may deter violent crime, the influence of corruption, the rule of law, and the economic consequences of violent crimes.

1.3.1 Deterrence Factors

Several researchers have referred to the deterrence theory to explain the prevalence of violent crimes. Scholars claim that people assess the rewards and repercussions of their activities before deciding whether to follow or break the law. Deterrent theory can be traced back to the mid works of classical philosophers like Thomas Hobbes, Beccaria, Jeremy Bentham and Becker (Johnson, 2019).

Individuals make decisions depending on what will please them and prevent grief, and unless they are deterred, they will chase their desires, whether it means committing crimes (Beccaria, 1963). However, Becker (1968) highlights two major deterrence variables probability of detection and severity of punishment. Under this theory, a rise in the cost of crime should discourage people from committing a crime because there is evidence that people who believe they are likely to be arrested and punished are less likely to commit a crime than those who are not anticipating arresting or punishing (Paternoster et al.,1983). Therefore, the function of deterrence demonstrating the behaviour of crime in aspects of drifts and forms has shown that deterrence measures have been used to reduce crime (Detotto & Pulina, 2013). Bodman and Maultby (1997) demonstrated that the likelihood and probability of punishment significantly reduced crime.

The prevalence of crime in Nigeria and efforts to tackle crime is the main concern here, as how such efforts to curb crime have improved the security situation in NWN. Given Nigeria's high crime level, Badiora et al. (2016) and Ojedokun (2014) have acknowledged in their various studies that crime needs profound control within and across the nation. Nigeria's banditry, kidnapping, rape, and cattle theft epidemic, particularly NWN, has become relentless. The problem has gone completely out of hand.

It should be noted that under the laws of the Federation of Nigeria 1990, many offences in Nigeria are punishable by death. Murder, treason, and armed robbery are examples of culpable homicide, rape, sodomy (homosexuality), and adultery under Shari'a laws, which apply only to northern Nigerian states (Olutola, 2020). It is presumed that individuals would be prevented from perpetrating the offence; for instance, two North-western states, Kebbi and Jigawa, have passed legislation mandating the death penalty for convicted kidnappers (Birnin Kebbi, 2021; Muhammad, 2021).

Despite the deterrence factors mentioned above (probability of detection and severity of punishment) to halt violent crime activities, the incidence has intensified over the years. This raises the question of other factors that could be instrumental and contain violent crime activities when tackled effectively. The study tries to shed more light on the issue by examining the impact of the rule of law and corruption on violent crime in Northwest Nigeria.

1.3.2 Corruption

The possibility of corruption in law enforcement is a major problem. Therefore, endemic corruption in many developing or transition countries, including Nigeria, promotes organised crime and facilitates its operation and illicit activities. Many international criminal organisations are based in developing countries with weak governance and state institutions, so corruption allows criminal organisations to function in relatively safe circumstances (Chêne & Hodess, 2008). That is typical of Nigeria.

Corruption in Nigeria is prevalent and pervasive, white-collar corruption, stealing of government resources, ghost employees or payroll theft, illicit oil block shearing and selling, ongoing oil contract scams, and endemic bribery in tertiary institutions (Aluko, 2020). The list is endless, and extremely difficult to enlist all of them because no sort of crime and perversion has ever existed on this planet that is not in existence in

Nigeria. As confirmed by Abu, Karim, and Aziz (2015), corruption pervades practically every component of the Nigerian economy, encompassing the three arms of Government: the executive, legislature, and judiciary, representing the general apathy towards corruption in the country, even when tremendous looting of government treasury occurs, which is expected to cause a revolt. However, there is a pervasive sense of marginalisation within ethnic groups, which is the prime reason for impunity; thus, public indifference to financial crimes and corruption (Igiebor, 2019). At the same time, every ethnic group is willing to protect its indigenous people in a position of power, no matter what they do (Arowolo, 2020). Therefore, ending the mayhem of this trend of the divide and rule of the people in power is impossible.

The corruption in the Nigerian military ultimately caused serious under-equipped with advanced, sophisticated weaponry. Cultivated the purchase of substandard military equipment, induced non-payment of soldiers, and impeded food delivery, medical services, and battleground vehicles. At the same time encourages officers on the frontlines to the desert, causing them to stay longer than their scheduled time. The plutocratic takeover of Nigeria's defence sector has resulted in almost $15 billion in theft, leaving the military without essential equipment and under-trained (Transparency International, [TI], 2017). Hence, Government must encompass anti-corruption measures in all armed deals to diligently tackle the Insurgency.

The $2.1 billion arms deal scandal was alarming and disdainful (Hakeem, 2016; Nwankwo, 2016). The Economic and Financial Crimes Commission (EFCC) report of April 27, 2016, reveals that another $12.9 billion in arms deal scam was discovered in the administration of Goodluck Jonathan. The development has diverted the arms money to $15 billion (Alli, 2016). It is horrifying to see funds for purchasing weapons and equipment for Nigerian soldiers fighting the Insurgency were allegedly shared by some politicians. In the meantime, the insecurity flourished in bounds and leaps.

1.3.3 The Rule of Law

In Africa, especially Nigeria, the rule of law is more pompous than realism (Haruna & Yusuf, 2017). A formal legal structure does not achieve the desired results in the administration of justice and lacks the capacity and logistics to perform its duties. Electoral laws and processes in most African countries, including Nigeria, haven't established a decent basis for democratic accountability and the rule of law (Afolabi et al., 2018). In Nigeria, there is a prevalence of pervasive impunity for government actors and elites, rising violent crime, political instability, widespread corruption, disease, and poverty, all of which present immense challenges to the rule of law in the country (Chukwuma & Ebai, 2012). In societies with little confidence in the legal system and few proponents of the legal system, like Nigeria, all sorts of illegal and criminal activities are taking place, as nobody sees it in their interest to abide by the law.

Presently in Nigeria, the rule of law is a mirage–law enforcement officers violate land law with impunity, and state and federal governments defy court orders and judgments. Some people show hostile actions to land law and scout free, and some regional groups seem to be above the law (Ozoigbo, 2019). At the same time, the police and judicial systems are underfunded (Adekoya & Abdul Razak, 2017). These actions create chaos and lawlessness that breeds all such criminalities and violent crimes in the country, particularly NWN. Hence, escalating violent attacks reflect weak and exclusionary governance systems (Ojewale, 2021).

Economic deterrence indicates that rational individuals who commit most crimes weigh whether the possibility of potential punishment is worth committing a crime. According to the theory, if there were no possibility of penalty, more individuals would commit crimes, whereas raising the risk would reduce crime. Increasing the penalty that a person could face or increasing the possibility of being penalised are two ways to enhance risk. Although all the components may manifest, advocates of the theory opine that heightening the possibility of penalty is more effectual than adding the punishment for violation (Johnson, 2019).

Corruption and the rule of law have been determinants of the impunity of criminals in Nigeria. There are confirmed reports of security agents engaging in the same kidnapping crime they were hired to combat. And there is clear evidence that Nigerian police officers will only respond to distress calls if they receive remuneration from the plaintiff. Otherwise, such a complainant will be informed that there are not enough police officers on duty (Nwaechefu & Kalama, 2020). Studies confirm that law enforcement agencies disclose intelligence info to bandits/criminals who work in gangs to earn their 'commission' for helping the bandits run their operations successfully (Ojewale, 2021). Consequently, the corruption mentioned above and infringement of the rule of law provide incentives and the temptation for criminal activity. Criminal deterrence is thwarted in this situation, and all predatory crimes thrive, which may directly or indirectly impact the household's economic welfare.

1.4 Economic Welfare

Violence has several direct and indirect costs that significantly impact household economic conditions during the carnage and for years. Millions of people are killed or injured yearly due to civil strife and violent uprisings. They devastate infrastructure, services, assets, and livelihoods, displacing people and shattering societal cohesion, institutions, and norms while instilling fear and distrust (Justino, 2009). Therefore, violence is a major factor that causes asset loss to the affected populace. Asset and income losses can also threaten households' future welfare (Ibáñez & Moya, 2010a). Therefore, crime worsens living standards and derails funding away from developmental projects. As billions of Naira are looted or squandered due to crime, more funds are required to combat crime and address the consequences (Adekoya & Abdul Razak, 2017).

Economic activities in the affected states have entirely halted since the advent of the violence, and the major economic activities in the region are large-scale farming and animal husbandry. Farmers in the affected areas have given up their farms for years for fear of being massacred or abducted. The closure of the local markets is another significant economic activity in the region, including IIella in Sokoto, Dandume, Maidabino, Kankara in Katsina state, and Bardoki, Shinkafiin in Zamfara state (Dami, 2021). The devastating effect seriously affects their income and food supply, shackling their economic welfare.

1.4.1 Loss of Income

Violence can affect households' ability to create intrinsic income (Ibáez & Moya, 2010b; Justino, 2009). Conflict can prevent individuals from working for many purposes; for example, the chaos created by violence might force businesses to close and job opportunities to decline (Brück, Naudé & Verwimp, 2011). In the same way, market disruptions can create an artificial paucity of essential items and alter prices. High inflation or pricing volatility can cause business disruption and income loss (Singh et al., 1986). The closure of the major local markets in the Northwest region could result in artificial scarcity of essential goods, affecting prices, disrupting business, and leading to loss of income.

As violence continues at a high rate in NWN, attacks by bandits, kidnapping of farmers, and cattle theft have exacerbated fear and population displacement. The affected households could not engage in normal livelihood activities, disrupted markets, and constrained dry season activities and income-earning opportunities, can be linked to a significant drop in investment capital and business possibilities because of savings, accessibility to credit markets, and cooperative risk-sharing networks (Justino, 2008; 2011). Injuries and psychological discomfort can have an immediate and short negative impact on health, lowering productivity (UNICEF, 2006).

1.4.2 Declining Food Consumption

The tremendous impact of violence/crime on welfare can be seen in declining food consumption. Food crises worldwide are often caused by violence, perhaps an overall dearth of productivity (Messer et al., 1998). Famine was declared in South Sudan in early 2017 Integrated Food Security Phase Classification (IPC, 2018), warning that Northern Nigeria, Somalia, and Yemen are at high risk of famine (Brück & d'Errico, 2019). As a result of criminal/bandit activities, more than 13,000 hectares of farmland in Zamfara state have been destroyed. Eighty thousand fearful farmers in Sokoto state stayed away, leaving 21,316 hectares of uncultivated farmland. Thousands of livestock have also been stolen in Zamfara from 2011 to 2019, with estimated 141,360 cattle and 215,241 sheep stolen (Crisis Group Africa Report, 2020).

The security situation in Nigeria's Northwest, notably in Zamfara, Sokoto, Kaduna and Katsina, has deteriorated, with an upsurge in banditry and bloodshed. The situation has worsened as attacks have become more frequent, resulting in massive regional relocation. According to the International Federation of Red Cross and Red Crescent societies (IFRC, 2021) report, as of January 2021, about 280,000 people are reportedly displaced in the three states. Households' ability to meet their basic needs has been harmed due to disrupted livelihoods and limited market access. Between June and August 2021, 2.5 million people in Northwest Nigeria are expected to confront acute food insecurity. According to a report, between June and August 2021, Zamfara North, Katsina Central, and Katsina South are expected to be under a serious food crisis problem.

The Government's fundamental duty is always to protect and ensure the safety of its people. The Nigerian military troops continue to be recognised as the strongest and most outstanding in Africa; there should be no internal or external invasion they cannot overcome within a short time (Abiodun, Asaolu & Ndubuisi, 2020). In addition, the country maintained the fourth position in Africa regarding military strength. (Kareem, 2022). Nigeria has substantial crime control measures to curtail crimes from law enforcement to the court to the supposed correction institution. With a more significant chunk of the budget, up to (15%) going to defence and security (Abiodun, Asaolu & Ndubuisi, 2020).

The Government launched the National Security Strategy in 2019. The goal of the strategy was to guarantee, defend, safeguard, and advance Nigeria's national interest and territorial sovereignty, as well as to improve the general welfare of the populace (Asaju & Yohanna, 2022). The Government also began hiring and training security personnel, purchasing high-tech weapons, armaments, and surveillance equipment, and offering amnesty to terrorists who had changed their ways.

1.5 Problem Statement

Nigeria has substantial crime control measures to curb crimes, from law enforcement to the court and the correction institution. In addition, the Nigerian navy acquired four hundred new platforms that comprise fourteen houseboats, four helicopters, four capital ships, twelve manta class/inshore patrol craft, and twenty-two fast attack boats (Kareem, 2022) with twelve super Tucano fighter jets (Premium Times, 2021) to curtail violent crime activities. Despite all the deterrence factors to prevent violent crime activities, the incidence of violent crime in NWN has intensified over the years. This raises the question of other factors that could be instrumental and contain violent crime activities when tackled effectively. Hence, the study attempts to shed light on the issue by examining the influence of corruption, the rule of law, and socioeconomic factors on violent crime.

Several studies on deterrence factors have been undertaken in Nigeria (Adekoya & Razak, 2016a; 2016b; Aladetoyinbo, 2020; Safiyanu, 2020). These studies have typically emphasised formal crime control, the police, courts, and corrections. At the same time, neglecting the Informal sanctions, which is the cost of social stigmatisation. Hence, the research explored formal and informal sanctions' impact on violent crimes.

Some studies investigate the socioeconomic determinants of crime in Nigeria (Adekoya & Abdul Razak, 2018; Arisukwu et al., 2020; Awofeso & Irabor, 2022; Edomwonyı-Otu & Edomwonyı-Otu, 2020). However, the above studies are deficient due to excluding other socioeconomic factors, such as family background and family disruption, as determinants of crime in Nigeria. Considering the polygamous structures and the extended family system practised in NWN, high divorce rates and remarriage led to broken homes (Alabi et al., 2020). According to Adow (2012) divorce rates in Northern Nigeria are among the highest in West Africa. Thus, the study extends the preceding work by examining the influence of family background, family disruption, and family size relating to violent crime in NWN.

Though several studies on violent crimes have been conducted in Nigeria, such as (Abubakar, 2021; Balarabe et al., 2021; Bello & Abdullahi, 2021; Liman & Anka, 2019; Mohammed & Abdullahi, 2021), others are (Ahmadu, 2019; Madu & Nwankwo, 2021; Lenshie et al., 2021; Alhassan et al., 2021). The above socioeconomic and political factors explained the phenomenon, but the statistical significance was not tested. In general, the streams of past studies in this field of violent crime in the study area are primarily conceptual, content analysis, and qualitative research through focus group discussion and descriptive analysis. These studies ignore the influence of corruption and the rule of law on violent crimes and their implications on household economic welfare.

Though there are studies that scrutinised the consequences of violence in the Nigerian context and the channels by which economic welfare is affected by violence, such as (Odozi & Oyelere, 2019; 2021; Agwu, 2020: Ekhator & Asfaw, 2019; Adekoya & Razak, 2016a: 2017; Adekoya, 2019: Nwokolo, 2015). These studies rely heavily on macro-level data. While Nigeria's crime records are deficient due to a lack of crime reporting, and there is a low rate of accessibility to crime statistics where crime is reported and documented, many such studies on crime in Nigeria have been hampered (Adekoya, 2017). This practice makes it impossible to gain a complete and accurate picture of how violence has impacted individuals, households, and communities. The macro-level approach has been heavily criticised for deliberately overlooking the fundamental endogenous complexities of violence (Justino et al., 2013). Hence, the present micro-level research focuses on dynamic causal mechanisms of crime and related economic welfare effects.

Becker (1968) also provides theoretical thoughts on the link between violence and economic welfare grief. The argument emphasises that transgressions result in societal damages and losses. Remarkably, the literature stresses that violence can affect households' ability to create income and cause food crises. However, empirical evidence on the connection between violent crime and welfare shocks at the micro level is lacking in the extant literature, more especially in the context of Nigeria, in which rising crimes have been witnessed in the NWN region.

Therefore, the study will comprehensively bridge these identified gaps by focusing on the impact of deterrence factors, corruption, the rule of law, and the influence of socioeconomic factors on violent crime in one model and its consequences on household economic welfare in another research model.

1.6 Research Questions

This thesis aims to answer the following research questions based on the problem statement above:

1. Is there an impact of deterrence factors on violent crime in Northwest Nigeria?
2. Is there an impact of corruption and the rule of law on violent crime in Northwest Nigeria?
3. Is there an influence of socioeconomic variables on violent crime in Northwest Nigeria?
4. Is there an impact of violent crime on Household economic welfare in Northwest Nigeria?

1.7 The Objectives of the Study

The study's main aim is to investigate the factors that influence violent crimes and its consequences on economic welfare in Northwest Nigeria. Other specific objectives are:

1. To investigate the impact of deterrence factors on violent crime in Northwest Nigeria.

2. To examine the impact of corruption and the rule of law on violent crime in Northwest Nigeria.

3. To determine the influence of socioeconomic factors on violent crime in Northwest Nigeria.

4. To examine the effect of violent crime on Household economic welfare in Northwest Nigeria.

1.8 Significance of the Study

Following the research questions, this section will discuss the research's significance. The study, amongst other reasons, would provide the extent of violent crime destruction in the region and design effective policies and strategies to combat the violence. With the study's findings, the Government at the state and federal levels would effectively overcome the problem by exploring new programs/policies and expanding the reach and impact of existing ones, such as emergency food distribution programs, poverty eradication programs, school feeding programs, N-Power, the job program for unemployed graduates, government enterprise empowerment program (GEEP), and Youth empowerment program (YEP).

The study will expand the knowledge of development economics by contributing to the literature on the economics determinant of violent crime. The findings will also help regulatory agencies and stakeholders in policy formulation. In addition, policymakers, economic planners, international organisations, governments, NGOs (especially those dealing with violent crimes), community-based organisations (CBOs), and researchers are the targeted beneficiaries of the research findings.

Academics and students in development and agricultural economics are the core beneficiaries of this work. Due to the multifaceted nature of crimes that call for interdisciplinary studies, historians, environmentalists, and others interested in development economics are expected to see the content of this work as contemporary knowledge in the literature. Literature in this aspect of development economics is imperative to Nigeria, the sub-region of West Africa, and the developing world. It will contribute to knowledge, stimulate similar research, and serve as a reference for future researchers.

The study will examine the adverse impacts of violent crime on households from an economic perspective and the theoretical mechanisms that postulate linkages between economic welfare and violent crime from classical dynamic theories. The theories typically used to explain the links include the deterrence theory of punishment and the rational choice theory. These theories' key elements have economic antecedents and consequences, the rule of law, corruption, social-economic factors, and expected effects of violent crime. Researchers and academics can apply the validated second-order model for the economic welfare scale to appraise the welfare effect of violence across regions. Policymakers can also assess the welfare's real impact in areas prone to violence across time.

1.9 Scope of the Study

The thesis concerns momentous violent crimes, which are highly dense in the NWN. The research framework identified the relationship between deterrence factors, corruption, the rule of law, socioeconomic factors, and violent crimes (massacre, property destruction/looting/ cattle theft, armed robbery, rape, and kidnapping)—

similarly, the relationship between violent crimes and household economic welfare. The scope of the study is to explore the influence of deterrence factors, corruption, the rule of law, and socioeconomic factors on violent crime and the impact of violent crime on household economic welfare. Using four theoretical perspectives to explain the relationship, the deterrence theory and to be supported by failed state theory, social disorganization theory, and the rational choice theory. The study covers Northwest Nigeria.

1.9.1 Research Area

The Northwest of Nigeria, one of the six geo-political zones, consists of seven of Nigeria's 36 states; Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zamfara are the states in question. It occupies 216,065 square kilometres or 25.75 % of the country's total land area - roughly the same size as the United Kingdom. The Hausas and Fulanis are the two largest ethnic groups, with a few smaller localities, particularly in Kaduna state, sharing solid cultural links and living in proximity (Crisis Group Africa Report, 2020). The region's population of 33 million (2006, census) is overwhelmingly Muslim (Sunni). Farmers, pastoralists, agropastoral, and small-scale businesses comprise most of the population (about 80%). There are significant solid mineral reserves in the region, including gold mined.

1.9.2 Justification for Choosing Study Area.

Nigeria's Northwest, despite its economic prospects, still has a high poverty rate. In 2019, the poverty rate in all seven states in the region exceeded the national average of 40.1 per cent, with Sokoto (87.7%), Jigawa (87%), Katsina (56.4%), Zamfara

(74%) leading the way National Bureau of Statistics (NBS, 2019). Despite the NWN's highest poverty rate, the area has witnessed different crimes since the return of democracy in 1999, claiming thousands of lives and property. It started as a clash between herders and farmers. Poor handling of the situation has led considerably to it becoming violent crimes that pose a significant threat to domestic and regional safety and integration. The study chooses Katsina and Zamfara states being the most stressed states, as shown in Fig 1.5, and recorded as a central flashpoint area for banditry, with higher causalities.

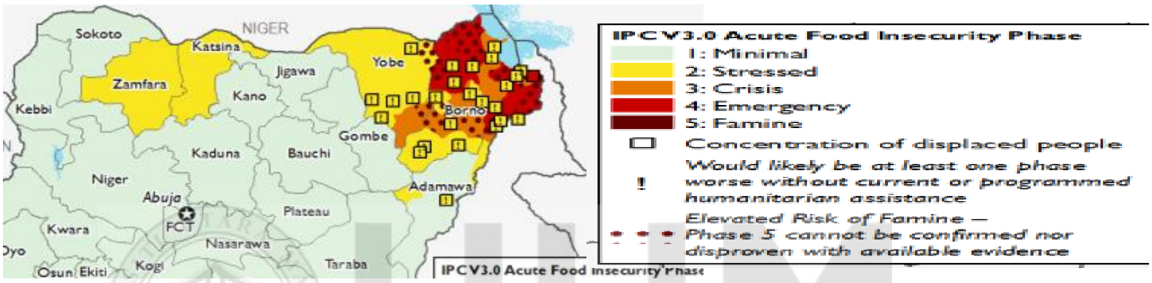

Figure 1. 5
Acute Food Insecurity Phases
Source: FEWS NET (2016)

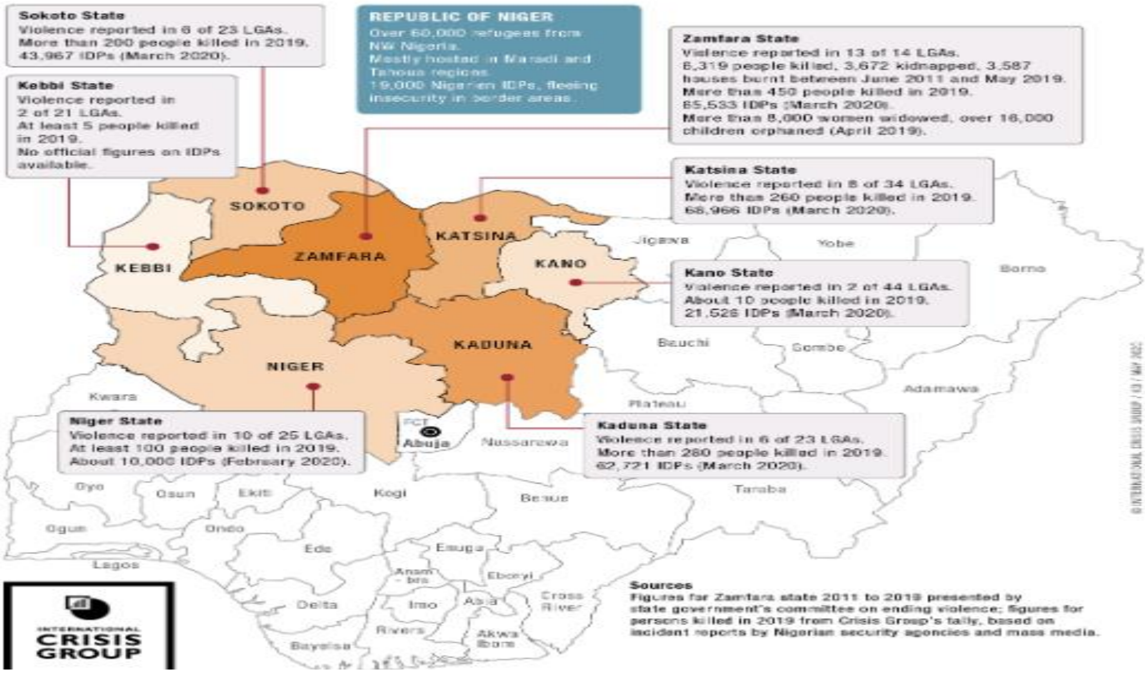

Figure 1. 6
Insecurity Phases
Sources: Crisis Group (2020).

According to UNHCR/NCFRMI (2019), Zamfara state is the worst affected by violent crimes. The seriously affected local government areas are Anka, Shinkafi, Maradun, Zurmi, and Gusau LGAs. Over 30,000 Internally Displaced Persons (IDPs) registered across 6 LGAs, as reported by the Zamfara state emergency agency (ZEMA); while many live with relatives, others have relocated to bordering states.

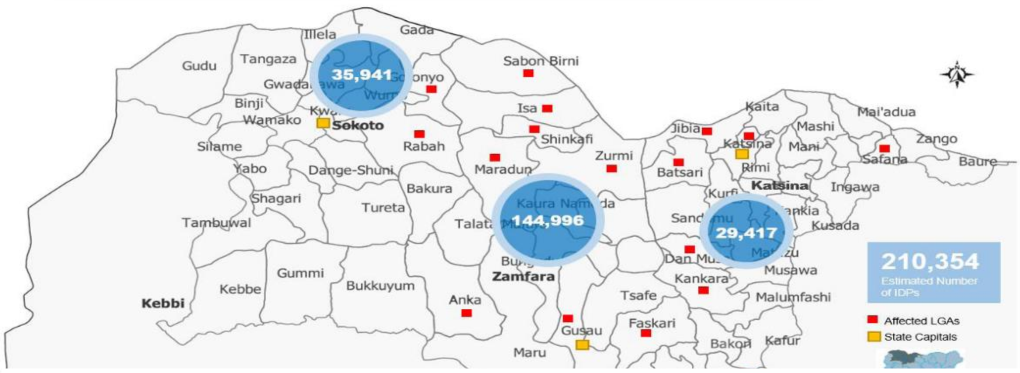

Figure 1. 7
Northwest, Nigeria (Katsina and Zamfara) Map

Similarly, in Katsina state, 8 LGAs were seriously affected by violent crime; Batsari, Danmusa, Danja, and Faskari Kankara. Others are Jibia, Safana, and Katsina LGAs. IDPs are gathered in LGA headquarters, while others are begging in the streets of the state capital. Throughout the state, more than 150,000 people have been displaced (UNHCR/NCFRMI, 2019). The terrible trend continues in rice-producing areas in Katsina state, and the rate of agricultural production has continued to drop. In Sabuwa local government, over 28 farmers have lost their lives to banditry (Odebode et al., 2019).

Katsina state was curb from Kaduna state on September 23, 1987. located between the latitudes of 110 07' 49" and 130 22' 57" N and the longitudes of 060 52' 03" and 090 02' 40" E. It has a total area of 23,983 square kilometres and a population of 5, 801,581. According to the 2006 census, Katsina's population is predominantly agrarian, with more than 1.5 million hectares of farmland and ranking among the country's top cotton and maize producers (Mashi, 2017). Zamfara was formed from the old Sokoto state on October 1, 1996, with a population of 3,278,873, according to the 2006 census. The major occupation in the area is agriculture. The major crops grown in the area are peas (Bean), Sorghum, Groundnut, Sugarcane, and vegetables (Anka, 2017b).

For this study, we do not involve other victims of terrorist groups, such as Boko Haram in the Northeast, Militant groups in the South-south, and Indigenous People of Biafra (IPOB) in the Southeast, as the scope of the survey was limited to Northwest, Nigeria. Future Research should explore and integrate broader samples. The current study is cross-sectional; future studies should focus on longitudinal data or time series analysis covering several years and in-depth discussion. This will make it possible to obtain more comprehensive data and implications. Future researchers can sufficiently compare the results in a different context.

1.10 Organization of the Study

The research consists of six chapters. Chapter one is the general introduction, study's background, geneses of violent crime, Insecurity in the Northwest of Nigeria, the economics of violent crime, statement of the problem, research questions and objectives, scope & research area, and significance of the research. The second chapter is the literature review, including the Introduction, theoretical literature, empirical literature, theoretical underpinning, socioeconomic causes of violent crime, the economics of crime, and research framework. Chapter three deals solely with research methodology, which contains the study's design, study area, and sampling procedure. Population and sample size, data type, data source, questionnaire design, hypotheses development, empirical model selection, measurements of the variable, pilot study, and construct reliability.

Chapters four and five explain the study outcomes, data issues, procedure for data collection and response rate, aspects of non-response bias, data cleaning essentially related to missing values and outliers, and the profile of the respondents. The chapters also explain the merits of the measurements, consisting of the measurements model. Issues relating to the validation of the measures, discriminant & convergent validity, the reliability test, and descriptive statistics have been discussed. In addition, it provides a structured model for hypotheses testing and discusses the estimated results using the MNLM and logit regression. Chapter six discussed findings from the study objectives, hypothesis testing, and theoretical and practical implications. The chapter also covered the research's shortcomings and recommendations for future studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature review is into three sections; the first section discusses the definition of the concept and conceptual literature. The second part presents the theoretical literature and depicts the framework of the study. The last part review is the empirical research in connection with criminal activities is carried out in such a way as to discuss the various issues relating to existing knowledge, relevant approaches, and commonly used methods, along with the limitations of those studies. This would help carry out the current research in the context of Northwest Nigeria.

2.2 Crime

Crime refers to "certain harmful acts that violate individuals and property and lack respect for people and institutions" (Morrison, 2006). There are broad variations between social scientists, including the nineteenth-century French thinker Durkheim, for whom "criminal behaviour was a form of the social disorder with the underlying notion of anomie that refers to feelings of discontent and rootlessness among individuals" (Denny et al., 2004). Crimes include bribery, murder, terrorist activities, abduction, trafficking in human beings, robbery, vagrancy and non-payment of public taxes, utility bills or transport, alcohol, narcotic misuse, destruction of the environment, and dumping of illegal toxic stuff (Tenibiaje, 2010). Defined as "an act or omission described by the validly passed laws of the nation-state in which it occurred so that punishment should follow from the behaviour." (Tretter, 2013). There is no crime without a criminal justice system enforced by statute, and there will be no criminals.

2.3 Violent Crime

It's usually a violent crime that happens often and is severe enough to inflict harm. Overall, the forms of violent crimes constitute theft; sexual assault; kidnapping; assault with a deadly weapon, abuse, terrorism, severe injury and trauma, assassination, and homicide (manslaughter) (Dambazau, 2007; Habibullah et al., 2014). According to American Security Project (2021) armed banditry has grown into a serious security issue, a sort of organized crime that encompasses kidnapping, armed robbery, murder, rape, and cattle theft in Nigeria's northwest.

2.3.1 Destruction/Looting of Properties and Cattle Rustling

According to EASO (2021) more than 10,000 residences, shops, and silos were purportedly destroyed in Zamfara state as of April 2019 due to violent attacks. 'Bandits' raided Unguwar Sarki, Shema Village (Faskari LGA) on January 27, 2021, murdering at least nine civilians, wounding many more, and looting food and money. Armed 'bandits' invaded and looted Sabuwar Tunga hamlet in Dankurmi (Maru LGA, Zamfara) on February 25, 2021, killing at least 35 people and carting away animals.

Cattle thefts are an enduring issue presently affecting Nigeria's economy. The situation is more pathetic in the northern region of the country, where cattle rearing is the major occupation; due to the reoccurrences of herders and farmers clashes, the situation becomes more complex and delicate (Okoli & Okpaleke, 2014). Recently, it has been stealing cows and morphed into killing and raiding locals in communities, stealing their belonging, and abducting and raping women. People are stealing cattle hundreds, moving them around for some days, and not being apprehended, which signifies our security system is having a serious problem. Secondly, suppose they can sell off the stolen cows in our Nigerian markets. In that case, this signifies that the problem is not only with the intelligence-gathering scheme but a kind of alliance with the dealers because the dealers on the markets can identify the stolen cows, demonstrating a wave of collaborations at distinct levels of stealing cattle. Police and other safety outfits cannot deal with the problem because they are ill-equipped to manage the menace (National Express, 2016).

2.3.2 Kidnaping

Kidnapping is a security threat that escalates like wildfire across Nigeria. Nobody expected it to become a nightmare when it started in the Niger Delta's creeks a few years ago (Ekhoimu, cited in Abiodun et al., 2019)—becoming a lucrative industry in the twenty-first century. In Nigeria, no day goes by without a kidnapping case. It is a horrific but lucrative industry for criminals in different parts of the nation, which is no longer news (Dami, 2021).

Presently, abduction for ransom in the region has attained its highest level, with some communities forsaken for fear of attacks and kidnapping by scandalous crooks. They released the kidnapped ones upon the payment of ransom and failure to settle the amount they could be murdered and dumped the bodies in the bush (Yahaya, 2019). Despite the coronavirus pandemic, bandits/criminals continue to wreak havoc on their victims, particularly women, who are highly susceptible in times of distress. Women and girls confront a double threat from bandits who inflict gender-based abuse (Ajodo-Adebanjoko, 2020).

Also, in April 2019, the Senates asserted that kidnappers held more than four thousand Nigerians and foreigners. However, some legislators conceded that the figure was an estimate and the real was possibly higher. According to Police chief (Quoted in the BBC), between January and April 2019, 685 people were kidnapped across the country, 665 of them in the NWN (Yahaya, 2019). According to Anka (2017a), the killings of innocent people and property destruction can be prevented if the government and the bandits fulfil both sides of their agreement, which reveals the government's inability to enact strong policies to aid in the resolution of problems.

2.3.3 Rape (Sexual Violence)

Various forms of sexual and gender-based violence continue to exist, as several incidences of bandit rape have been reported in Katsina and Niger state (Ahmadu, 2019). Similarly, due to the prevalent incidents of rape by bandits in the state, there are highly rising cases of sexually transmitted diseases in most villages and local communities (Mohammed & Abdullahi, 2021). As a result, many have become beggars in their own country, and women have become sexually exploited in the refugee camps.

Nigerian police reported 717 rape cases between January and May 2020 (Amnesty International [AI], 2021). For instance, on November 14, 2021, the Kwarin Mai Saje village in Tsafe, Zamfara state, was severely attacked for failing to pay an N3 million fee levied on the community by robbers. Many women were raped and kidnapped;

goods were seized during the attack (Dunamis, 2021). As a result, scores of disgruntled women in the area blocked the Zaria-Sokoto route in protesting the hilarious attacks and sexual assaults on women in the area (Mohammed, 2021).

2.3.4 Armed Robbery

Robbery is a critical facet of Northwest's rural mob violence problem through the practice of waylaying travellers on the region's major expressways. The Abuja-Kaduna-Zaria route has a long history of highway robbery. The highway robbers use assault rifles and cruelty akin to that of commandos. Bello and Abdullahi (2021) confirmed in recent years that bands of high gunmen had killed dozens of individuals and robbed many others of their valuables.

2.3.5 Massacre

Village raids are typical rural banditry activity in Northwestern Nigeria (Okoli & Ugwu, 2019). The terrorists were known to attack villages with deadly weaponry like AK47 handguns, machetes, swords, and machine guns (Ojo, 2020). Due to the ferocity of such attacks, each incidence resulted in the loss of several lives and property (Bagu & Smith, 2017). For example, on December 23, 2018, bandits on motorcycles raided Magami village in Zamfara state, massacring scores of people (Okoli & Ugwu, 2019).

The deadliest attack by Fulani insurgents was in April 2014, when they haphazardly fired shots at residents during a meeting in Galadima village in Zamfara, murdering more than 200 persons (Ojo, 2020). Herders are accused of using such moments to rape women, loot goods, and set villages on fire on several occasions (Amnesty International, 2018). Clashes between farmers and herders have killed 10,000 people over the last decades (Humanitarian Aid Relief Trust, 2020). The following subsection discusses the theoretical review.

2.4 Theoretical Reviews

The theories used to describe the root causes of violent extremism/crime comprise Failed state theory (Rotberg, 2003; Zartman, 1995), Rational choice theory (Cornish & Clarke, 2002), Newman root cause theory (2006), Gurr relative deprivation theory (1970), Identity theory (Tajfel, 1971). Nasser-Eddine et al. (2011) pointed out that the abovementioned theories have contradictions and limits like other social science theories.

Sandole (2010) postulated that there is a link between the weakness of the state and violent crime. He believes that failed state theory is a functional catalogue of different variables, including corruption, unemployment, and poverty, creating a favourable environment for criminals. The theory describes violent extremism, terrorism, and crime, in some nations classified as failed states like Somalia (David, 2013). Nonetheless, the theory is insufficient to describe the momentum of violent extremism, insurgency, and terrorism in a nation that did not fall within the category of a failed state. According to Onapajo and Uzodike (2012), the Nigerian situation is unique, exhibiting some "failed state" characteristics. However, the classification of Nigeria as a failed state is debatable (David, 2013). While Ajodo-Adebanjoko and Okorie's (2014) views are contrary to the above notion, the Nigerian state has not fallen but is fragile. Yet, Nigeria does have the strongest economy in Africa (The Economist, 2014).

Many researchers have cited relative deprivation theory and root cause theory as more appropriate in understanding the socio-economic factors that cause violent crimes/ terrorism. Newman (2006) affirms a causative link between the dominant socio-political-economic factors and terrorism. Other independent variables that influence the creation of terrorist organizations, according to him, include poverty, social injustice, bigotry, and political grievances. While Sandole (2010) notes that violence can be a symptom or effect of a long history of political oppression.

It is referred to as relative deprivation when a person or a group of people are denied socioeconomic possibilities compared to others (Gurr, 1970). People are disappointed if they believe they have less than they could have over time; this dissatisfaction leads to rage, resentment, and insurrection. He claims that economic poverty and injustice are the starting point for violent political movements in some countries and criminal activity. Several researchers have cited relative poverty theory to explain the rise of an insurgency. Agbiboa (2013) maintains that addressing poverty and economic inequality can prevent insurgency in the northern part of the Nation. The rational choice theory is one of the classical dynamic theories that postulate links between economic welfare and crime (Becker, 1968). From the abovementioned theories, no single theory has the total explanatory capacity to explain Nigeria's crime dynamics.

More succeeding literature has stressed the importance of identifying and addressing the underlying drivers of violent extremism as an efficient precautionary measure (Denoeux & Carter, 2009). As a result, this research will focus on the deterrence theory, backed by the economic rational choice theory, failed state theory, and social disorganization theory.

Many researchers have cited the deterrent theory of punishment to explain the advent of violent crimes. Advocates of deterrence believe that people choose to follow or break the law after weighing the benefits and risks of their acts. Generally, it is difficult to prove the efficacy of deterrence, as law enforcement officials inform only non-deterrence criminals. So, we might not know why others are not offended. The philosophy of deterrent can be attributed to classical philosophers such as Cesare Beccaria, Thomas Hobbes, and Jeremy Bentham (Johnson, 2019).

2.4.1 Theory of Deterrence

The incapacitation theory implies that keeping such people in detention or prison would deter them from committing a new crime. Rehabilitation scientists believe that sending the offender to such rehabilitation or skills training would alter the victim and prevent them from perpetrating new crimes. The Retributive theories assume that a person who deliberately chooses to break the law must be prosecuted for that decision. The individual could repay society and start over with a clean slate. The Denunciation Theory contends that the public execution of someone would deter others from committing crimes because of the shame associated with the crime and serve as a kind of retribution. These ideas will help to promote criminal justice policy and act as a lens through which to interpret them. Nonetheless, lawmakers also find another justification to explain changes to criminal law (Johnson, 2019).

In general, economic deterrence theories have emphasized certainty and severity more. On the other hand, notable writing has progressively characterized deterrence as part of an integrated framework in which perpetrator behaviour is responsive to risk tolerance (Polinsky & Shavell, 1999). However, "Crime and Punishment: An

Economic Approach," a seminal paper by Becker 1968, includes the first formal model of criminal offending in economics. The central tenet of Becker's model is that a rational offender is confronted with a gamble. He can commit a crime and receive a criminal benefit (albeit with the risk of arrest and subsequent punishment) or not commit a crime that yields no criminal benefit but is risk-free (Johnson, 2019). The offender's likelihood of apprehension and the sanction he will face if apprehended determines the expected cost of committing a crime.

According to Becker (1968) understanding criminal behaviour did not depend on how well people had established social standards, psychological inadequacies, or distinctive genetic features. Instead, he concluded that criminal conduct is founded on an economic theory of preference: certain people become criminals since their rewards and costs differ from those of non-criminals rather than because they have specific underlying motives. He emphasized that increasing the possibility of arrest would have a higher impact on the incidence of offences than raising the severity of punishment. Hence, the study believes that making legal activities more desirable, such as raising legal revenue, would tip the scales and enhance the likelihood of someone not committing a crime.

Beccaria, Bentham, and Becker (1964) developed a three-pronged approach to the theory of criminal deterrence, in which certainty, celerity, and severity of punishment work closely to raise the cost of crime to the point where a reasonable individual can conclude that the danger outweighs the gain (Johnson, 2019). The certainty refers to the possibility of being caught; if there is no chance of getting caught, the deterrent of a severe penalty will never be effective. Celerity refers to the speed with which a result occurs. The penalty meted out promptly after the offence is more effective than the punishment meted out years afterward. The study looked closely at the certainty and severity of the penalty to confirm whether they raise the cost of crime to the point where a rational individual can presume that the risk prevails over the gain.

2.4.2 The Rational Choice Theory

The rational choice theory explains the economic rationale for terrorist activities and criminal acts. According to Piquero & Tibbetts (1996), the theory observed how individual judgments of the relative costs and gains of partaking in any specific criminal activity vary on personal levels of impulsive behaviour and restraint. Paternoster & Piquero's (1995) understandings (intimate and associative) of criminality and penalties. At the same time, Paternoster (1987) emphasises connections to pro-social behaviour entities. At the same time, Braithwaite (1989) and Pratt (2008) perceived the "non-formal" costs of punishment, e.g., stigma or loss of regard.

As Eager (2016) has demonstrated, involvement in terrorism is based on evaluating costs and benefits; where benefits are high, people partake. However, Nasser-Eddine et al. (2011) ascertained that the flaw in this theory is that collective action is opposed to individual choices. As Eager (2016) argued, whether a person took part in collective action, thus could still profit and become a 'freeloader.' In Nigeria, Bandits / Criminals are linked to robbery, stealing, rape, and kidnapping. However, these unlawful activities are incompatible with the group's overall objectives. According to Okoli and Okpaleke (2014) Banditry, cattle rustling was driven by a quest for capital acquisition.

However, it is impossible to harmonize the group's goal with the goals of personal members as the criminals were linked to rape and assault.

Rational choice theory can provide valid explanations from a criminal's economic perspective. The rational choice theory views individuals participating in crimes as rational beings, and violent crime's risks, incentives, and opportunity costs guide their behaviour. This means that offenders are homo economicus who measure the costs and rewards before participating in terrorist acts. Nevertheless, we do not live in a vacuum when the cost of crime is high. If nonviolent means can be as effective as terrorist activity, they do not opt to have violence as rational actors (Muller & Weede, 1990).

'Rationale' means "the level of strategic thought in which information is evaluated and the interpretation of the situation has come from a particular point of view when considering the possible opportunities and alternatives in the process of achieving the full expected benefits." Concept of 'choice' means "that criminals weigh up their decisions to commit crimes that they believe the benefits far exceed what is to be achieved if their actions are to be directed towards other alternatives" (Perry & Hassisi, 2015).

Given the response to incentives is expected that a criminal engaged in illegal activity will decide whether the benefits from engaging in illegal activity are more than the gains in legal activity and vice versa (Becker, 1968). Therefore, as a practitioner who pursues profit under his choice of illegal occupation, he assumes that such criminality is not distinct from legal work, which is referred to as a criminal act (Becker & Stigler, 1974). Therefore, both illegal and legal actions require the ability to take risks (Ehrlich, 1973). In addition to the threat, a criminal would want to weigh the time and resources he would use to carry out an illegal act to ensure that the benefit of participating in a crime is greater than the cost of committing a crime, the consequence that he would incur if caught. That is why Sjoquist (1973) stressed that, the perpetrator should devote time to legal and illegal acts, which depends on the costs and benefits of both activities. Participating in either of the two activities can result in financial and psychological benefits and costs. In other words, the criminal assumes that the benefit from illegal means is proportional to the time, financial (tools, expenses), and mental costs (arrest, prosecution, and penalty) of unlawful activity.

Ehrlich (1973) believed that, a suspect would break the law if he knew that his income or talent would increase and surpass the fines levied on the perpetrator by society. The theory further stressed that crime is minimized in a culture where criminal arrest and prosecution intensify at the expense of crime (punishment) (Becker, 1968; Ehrlich, 1973; Sjoquist, 1973). In other words, prevention and enforcement would encourage crime reductions, and the reduction would serve as proceeds from expenditure (Becker & Stigler, 1974).

The study will look at the role of social institutions in preventing crime which can be achieved through the police, the law courts, and prison services. The detention of criminals by the police, the sentencing of the law courts, and the imprisonment of inmates guarantee that a criminal completes his punishment as ordered by the law court.

2.4.3 The Failed State Theory

Sandole (2010) describes the failed state theory as a theoretical collection of variables such as deprivation, corruption, and unemployment, providing a conducive atmosphere for crime and violence. Greer and McLaughlin (2017) argued that fragile states are "incapable of ensuring basic security, maintaining the rule of law and justice, or providing basic services and economic opportunities to their citizens." It depicts a circumstance in which state institutions lack the political will and capacity to provide the necessary functions to reduce deprivation and establish and preserve their citizens' safety and rights.

When the state fails to meet its core mandates to the bulk of the population, especially the vulnerable, there is a propensity for rising criminal activity, further undermining the government's authority. Fragile states are thus associated with volatile, profoundly divided, and dangerous warring groups, most of which led to a breakdown of law and order and heightened humanitarian crises (Department for International Development [DFID], 2005).

Based on the report of the Fund for Peace's Fragile states Index 2015, which covered and collected data from 177 nations in 2014, rated Nigeria was among the most vulnerable, with 102.4 "worsening" in marginal improvement (Messner et al., 2015). Nigeria was a weak state based on the previous reports. According to Osaghae (2007) the benchmark for the measurement of a fragile state includes delicate, inefficient, and dysfunctional political institutions, poor leadership/governance, incapability to exercise effective control over its sovereign land, the crisis of legitimacy, precarious and fragmented population, poorly developed conflict management and resolution institutions, massive corruption, deprivation, and poverty. When applying these measurements to Nigeria, one cannot conclude that the country is a fragile state that further connects state weaknesses with the growth of terror groups (Nkwede, Moliki & Dauda, 2017).

In the earlier understandings, applying the theory of state fragility to the phenomenon under review explains the Nigerian government's shortcomings and vulnerabilities in curbing the undue misuse of offices and public funds. The government failed to offer basic human facilities for the vulnerable and the disadvantaged, promote good governance to benefit from the dividends of democracy, and, to a large degree, protect the lives and properties of the people of the northern region. Thus, it may be responsible for the persistent rise in violence/insurgency in northern Nigeria.

2.4.4 Social Disorganization Theory

According to the theory, the socioeconomic aspects are relevant for explaining crime, which is induced mainly by the influence of demographic deterioration (Shaw & Mckay, 1942). As a result of the hostile socio-economic environment for the populace, among other poor housing conditions, residential stability, a broken family (domestic violence, absence of a household figure, etc.), and unemployment. According to Peres and Nivette (2017), the community's ability to retain standard views and exercise social control and weakened by certain structural socioeconomic factors, such as poverty, ethnic heterogeneity, and family disturbance. Undermining society's ability to survive social relationships and norms raises the possibility of criminal activity.

Divorce, broken homes, poor schools, poor housing quality, racial and ethnic mix, residential mobility, single-family homes, lack of discipline, or the absence of other social and community controls, and population turnover are common research problems in this area. Separating the variables and assessing each one's sole impact on crime would be difficult, if not impossible (Hall. 2007). Divorce, broken homes, poor schools, poor housing quality, single-family homes, lack of discipline, or the absence of other social and community controls are common features in the study area. In addition, two additional predictor variables, single-parent households and household population density, were also identified as relevant to the model (Petee & Kowalski, 1993).

When applied to the intent of this study, it is worth noting that banditry in rural areas is a crime that has been prompted and prolonged by the rural sector's predominant socio-economic atmosphere, which is associated with a high propensity to criminal decadence. The presence and preponderance of police inadequacy and uncontrolled heartland, forest areas, and borders in the central point, North-western Nigeria, have offered a tremendous chance for rural crime and violence. Furthermore, the existence of a feasible but susceptible rural livelihood based primarily on livestock farming and agricultural production provides a deluge of convenient crime entities: cows, money, property, and so on. In this regard, the absence of government security in remote communities encourages criminological opportunity and license (Ojo, 2020).

Overall, the abovementioned crime creates motivation and a craving for criminal indulgence. Under these conditions, criminal deterrence flies away, and all types of rapacious crime gain traction. Typical in Northwestern Nigeria, rural barbarians and miscreants are having a good time on a criminal outing that threatens to overtake the whole region. The relationship between deterrence factors, corruption, the rule of law, and violent crime and its effect on economic welfare can be explained from four theoretical perspectives; the deterrence theory and to be supported by failed state theory, social disorganization theory, and the rational choice theory. Let us now turn to the competing narratives on the causes of violent crime in NWN.

2.5 Competing Narratives on the Root Causes of Violent Crime in NWN

The dramatic increase in violent crime in NWN has contributed to considerable debate on its causes, bringing many conflicting narratives about the causes and existence of armed banditry and other criminal activities in NWN. Some view the dispute between herders and farmers as the genesis of the violence due to consequences of climate change, especially the declining rainfall, on the "scarcity" of arable land and pasture. The decline in rainfall over the years causes water shortage. The context of population growth puts pressure on land and fuels intense conflict between pastoralists and farmers whose livelihoods and survival depend on access to land (Suleiman, 2019).

The destruction of farms by cattle mainly belonging to the herders, water contamination, excessive grazing by cattle, defiance of the native authority of the host community, and wanton faeces by cattle were part of the genesis of prevalent conflicts between herders and farmers. Also, farmers discovered assaulting herders and their women (sexual assault), burning bush, and blocking cow pathways and water spots (Bello & Abdullahi, 2021). The abundance of enormous swaths of reserve forest generally out of reach of Nigerian security officers is another incentive for the rustling activity (Olaniyan & Yahaya, 2016).

The struggle for accessible resources, particularly grazing areas, is the leading cause of the violence. The grazing reserves plan established by the Northern region government in 1965 appears to have been abandoned by the authorities. The government then established about 417 grazing areas in the northern part of the country (Muhammed, 2015). The government supplied land, water, and animal vaccines under the grazing reserves regime in exchange for the ranchers' paying taxes to the government. Nigeria became an oil economy in the 1970s and 1980s after discovering oil and neglecting the grazing reserves program (Egbuta, 2018). Herders return to their usual and seasonal grazing patterns, disrupted or tampered with by industrialization, urban development, demography, and other natural forces. As a result, tensions and conflict arose between farmers and the local community. At the same time, Madu and Nwankwo (2021) ascertained that regions more vulnerable to climate change have fewer farmer-herder disputes. Lenshie et al. (2021) contended that an issue of weak security administration in Nigeria exacerbates herder migration southward and contributes to the escalation of herder-farmer clashes.

Also, there is evidence of complex networks across international borders. These networks also allow territorial places for herders from other countries to live in border villages within Nigeria's territory areas, wherein they organize and carry out attacks on pre-determined or haphazard. Another line of thought blends increasing instability with state failure due to corruption, the breakdown of government institutions, de-industrialization, rising deprivation, and a culture of impunity that pervades state and local governance in the zone. Still, some analysts describe the insecurity in the Northwest of Nigeria regarding porous borders and the proliferation of small and light weapons. They argue that arms have found their way into the Maghreb region after the uprisings in North Africa and the Sahel countries, including post-Ghaddafi Libya (Mohammed & Ibrahim, 2015).

Also, the failure of Nigerian leaders to deliver democratic governance was the genesis of the country's insecurity, which resulted in armed robbery, abductions, bunkering, and the advent of insurgency in the country (Abdulrasheed, 2021). Another narrative was leading roles of the curse of natural resources trace the dispute to rivalry over "gold deposits," pitting those engaged in the illegal mining of gold against local communities and sure large-scale mine owners alleged to have strong ties with the government. And some claim that the dispute is metaphysical and that the problem facing the area is the product of a "God check" (Suleiman, 2019).

The high level of poverty is responsible for the insecurity situation in the area (Kabiru & Arshad, 2018; Abdulrashid et al., 2018). Another reason was the inadequacy of the security personnel in the area to combat the criminal activities of the criminals and other miscreants (Umar & Shittu, 2017; Ladan, 2019). While Okoli and Ochim (2016) argued that Nigeria's forests were poorly managed and secured, making them vulnerable to criminal dwellings and activities. In another view, social and economic factors, including poverty, lack of employment, and lack of governance due to deficits in leadership, corruption, dishonesty, and inequality, were the key factors responsible for the criminality in the Northern part of Nigeria (Bintube, 2015). Crime committed in Nigeria can result from a violation of the rules.

Other underlying causes of violence in Nigeria have explored many determinants, such as injustice, poverty, deprivation, and destitution amid a multitude of cornered and oppressed leaders who use mechanisms of repression to suppress the masses in their agitation (Oladipo, 2013; Hendrix, 2016; Okoli & Nachanaa, 2016; Olu-Adeyemi, 2017). Several scholars reported that violent extremism in Nigeria resulted from decades of systemic corruption and poor governance; for instance, Osagie, Fred, and Samuel (2010) have shown that depriving indigenous peoples of oil dividends is a primary cause of conflict Niger Delta region. Nigeria is Africa's most prosperous country regarding its gross domestic product (GDP). Moreover, income distribution is highly skewed, which means that the majority are in poverty, and Nigeria is poorly governed (Hendrix, 2016).

It is noteworthy that existing studies have shown that violence in Nigeria can result from economic and political causes such as deprivation, unemployment, injustice, bribery, and bad governance (Olawale, 2003; Ikelegbe, 2006; Evans & Kelikume, 2019). Moreover, research on the causes of violence in Nigeria was largely conceptual, whereas Niger Delta rebellion, bandit insurgency, and herders' attacks have appeared under-researched (Hendrix, 2016; Olu-Adeyemi, 2017; Okoli & Nachanaa, 2016; Evans & Kelikume, 2018). Most scholars have described one or a combination of some of the above factors as the origin of violent crime in Northwest Nigeria. However, more empirical evidence is still required to correctly identify the economic antecedents and the concrete mechanisms under which violent crime can affect economic welfare.

2.6 Empirical Review

The incidence of uncontainable or very high crime rates will impede the influx of foreign investment funds, and the higher prevalence of crime will jeopardize the short-term and long-term economic conditions. The direct costs of crime fall dramatically on business enterprises and other creditors, eventually leading to uncertainty and apprehension, thereby restricting the cash flow for investment and commercial purposes (Saikia, 2016). At the same time, Prasad (2012) indicated that crime could affect sectors of the economy in 2 ways: by disrupting production levels and affecting production growth rates. Another approach influences the per capita income growth rate due to foregone expenditure and structural changes that impact productivity growth. Both influence the growth potential of the economy in the initial period. The negative impact of crime on the production level could be transitional and can reverse its previous condition.

Anderson (1999) points out that if there is no crime, the resources used to deliver such goods and services may be better used to generate public infrastructure than to combat criminal circumstances. The cost of opportunity is attributed to the criminal's time spent in illicit activity, arrest, and incarceration, as well as the loss of working days and time expended in maintaining the safety of life and properties. Among implied crime costs entails the stigma of being a victim and the potential loss of the case. Yes, some offences have contributed to transferring assets from victim to perpetrator. According to Habibullah et al. (2008), the effect of crime on the economy is widely seen in terms of policing expenses, prison costs, and employment losses in prison. That is why the issue of the economic effects of crime on societies is now the topic of academic studies. Different approaches examined the deterrence factors and their impact on economic welfare.

2.6.1 Probability of Detection

According to the economic theory of deterrence, increasing the cost of crime will discourage people from doing it. People who believe they will be captured and prosecuted are more unlikely to commit a crime than others who think they will not be charged or penalized (Paternoster et al., 1982). Marselli and Vannini (1997) affirmed that the likelihood of punishment is significantly more effective than both the severity of the punishment and the effectiveness of the police in deterring crime. In addition, the severity of punishment is sufficient to prevent crime if the likelihood of being caught and punished is strong enough. The chance of extreme punishment is not efficient if there is no likelihood of it being detected. Those who believe they will be apprehended are less inclined to commit crimes. (Antunes & Hunt, 1973). Thus, once an individual weighs the benefits of breaking the law against possible consequences, the individual's confidence in those implications is what matters.

Earlier perceptual deterrent studies concluded that the probability of detecting is inversely related to involvement in illegal behaviour; therefore, perceived certainty has a significant deterrent effect (Grasmick & Bryjak, 1980). The findings of Costantini et al. (2018) confirmed that police enforcement activities have a divergent impact on crimes. Studies show that more offences will be committed by people punished more severely (Kennedy, 2016). A study has also shown that inmates serving shorter terms are less likely to re-offend, whereas those completing longer prison sentences are not (Austin et al., 2016).

Deterrence measures are linked to a statistically significant reduction in crime (Braga, 2018). According to empirical research by Byeon et al. (2018) allocating police to political protests deters crimes. In the initial deterrence studies, Waldo and Chiricos (1972) interviewed 321 south college students. They discovered a weak link between perceived severity and reported petty theft (Y=-.02) and a moderate negative relationship between expectations of the severity of the punishment and admitted marijuana use ('Y=-.41, p<.001). Using marijuana and petty criminality were linked to the risk of being arrested by the police, and the results were in harmony with the theory of deterrence: 'Y=-.84 (p<.001) and' Y=-.31 (p<.01), respectively. Paternoster et al. (1983) discovered a substantial negative link between perceived certainty of arrest and eventual criminal activity (r = -. 18, p < .00 1).

2.6.2 Severity of Punishment

Empirically there is evidence that increasing the severity of punishment, either in the form of increased policing or prolonged prison sentences, deters crime (Levitt & Miles, 2007). Also, Barati (2019) findings confirm that the magnitude of punishment plays a major role in preventing crime. The use of government organizations to respond to crime is referred to as formal crime control (Jiang et al., 2010). Official (social) crime control pertains to government-run crime-combatting agencies. The police, courts, and corrections are the most popular methods of formal crime control. Formal crime control stems from laws enacted by a society's government and enforced on citizens through official government agencies. At the same time, Informal sanctions are generally unofficial consequences for flouting a group norm implemented by members of the social group (Jiang et al., 2010).

Concurrently, cross-country analyses of crime and punishment showed that "less crime can be possible without more punishment" (Smith, 1999). The incarceration rate in the United States is much higher than in other developed countries, but this has not resulted in a proportionately reduced crime rate due to the low effectiveness of incarceration rates Spamann (2016). At the same time, Friehe and Miceli (2017) found a positive correlation between the crime rate and the severity of punishment in the United States. Paternoster et al. (1983) findings show a significant negative relationship between the perceived intensity of penalty threat and subsequent criminal activity. $r = -. 40$, $p < .00 1$. Similarly, Perceived severity of punishment ($\beta = 0.149$, $p = 0.012$) and perceived certainty of punishment ($\beta = 0.383$, $p = 0.000$) were found to contribute significantly to compliance behaviour (Ogiri et al., 2019).

According to the study of Bell et al. (2014) the massive protests in London in 2011 resulted in property damage and arson in the aftermath of a police shooting. Approximately 3,000 people were detained, with punishments that were heavier than typical. One man was sentenced to six months for stealing a water bottle, while another was sentenced to ten months for stealing two pairs of abandoned tennis shoes and discarding them outside the store. Before the riots, crime rates in the regions where the riots occurred were significantly higher than in other parts of London. In the six months following the riots, the overall crime rate throughout London declined by 3% relative to the pre-riot average. The above statistics support the theory that harsher sentences have a deterrent effect.

In the Nigerian context, the punishment for the offence (Kidnapping) is negligible and does not adequately deter the crime. (Ofo, 2010). Section 364 of the Criminal Code read, "Any person who unlawfully detains any person and ends up taking him out of Nigeria without his consent, or unlawfully detains any person within Nigeria in such a way as to restrict him from applying to a court for his release or from discovering to any other person the place where he is detained. In such a way as to prevent any person legally obligated to have access to him from uncovering the place where he is imprisoned is guilty of a felony and faces a ten-year jail sentence." In the same vein, section 365 states, "Any person who unlawfully confines or detains another in any place against his will, or otherwise unlawfully deprives another of his liberty, is guilty of a misdemeanour and is liable to imprisonment for two years."

The one strategy that gained popularity to reduce crime occurrences in the country is the amendment of the law and the upgrading of the above crimes to capital offences by the legislature. It is presumed that by enacting capital punishment for the crime, individuals would be prevented from perpetrating the offence; for instance, at least two North-western states, Kebbi and Jigawa, have passed legislation mandating the death penalty for convicted kidnappers (Birnin Kebbi, 2021; Muhammad, 2021).

Summing up, the economic deterrence model indicates that rational individuals who commit most crimes weigh whether the possibility of potential punishment is worth committing a crime. According to the theory, if there were no chance of penalty, more individuals would commit crimes, whereas raising the risk would reduce crime. Increasing the punishment, a person could face or increasing the possibility of punishment are two ways to enhance the risk. Also, the real impact emerges in criminal circumstances where the penalty can trigger substantial stigmatization. The likelihood of punishment intensifies, and anticipated stigmatization costs increase, while the increments in the formal sanction have no such effect. Although all the components may be present, proponents of According to the theory, raising the possibility of a penalty is more efficient than deepening the punishment for a criminal act (Johnson, 2019).

2.6.3 Corruption

Beccaria (1963) said that the government is accountable for maintaining order and protecting the public good through certainty, severity, and swift punishment, all of which are important factors in understanding the law's power to regulate the conduct of people. In this context, governance is a primary concern. Hence, the need to look at other factors that could be instrumental and, when tackled effectively, could contain violent crime activities. Thus, the study looks at the influence of corruption and the rule of law on violent crime. Blackburn et al. (2017) highlight that corruption significantly influences and compromises crime-preventive efforts theoretically.

Corruption is a very passionate subject. Global views often revolve around such points of view as' corruption becoming the blight of Africa' or perhaps' that the only way to have anything in Africa, particularly in Nigeria, is to bribe an official. Be that as it may, corruption can be likened to cancer because it is an enemy from within.' I want to start with a generic definition of corruption: misconduct that typically involves unethical conduct and illegality, and benefits usually reaped by either person (Louw & Shaw, 1997). Such a definition will make it very easy to describe such corrupt practices as bribery, fraud, misappropriation, wrongfully manipulating decisions for one's gain or profit, nepotism, and other similar acts of corruption, dishonesty, or violation of the law. These acts include a deterioration in ethical behaviour and moral values where the rule of law is disregarded and not valued.

The possibility of corruption in law enforcement is a central problem; concerning this study, corruption is measured by control of corruption, a sub-dimension of the World Bank's corruption indicator. It measures the perception of how much public power is exerted for personal gain, including both small and large forms of corruption, and how much politicians and private interests dominate the state (Kaufmann et al., 2005).

Inducements or kickbacks to authorities are examples of efforts to trap innocent people to extort money (extortion) and actual framing (entrapment). In all these ways, corruption decreases deterrence and must be avoided. One idea is to put up bribery as a crime, producing a conventional case of a trivial deterrent. The second option is compensating the enforcement authorities for reporting violations; nevertheless, this alternative could give significant opportunities for trapping and extorting. As a result, the benefits of minimizing bribery should be weighed against the costs of increased coercion and entrapment (Bowles & Garoupa, 1997; Echazu & Garoupa, 2010; Polinsky & Shavell, 2007).

Corruption has become a problem that plagues society's political, social, and economic activities (Morales & Finke, 2015). This phenomenon prevents economic growth and development, weakens democratic institutions, and generates policy confusion and chaos that can lead to crime and violence (Cotte & Martinez, 2019). Neapolitan (1999) analyzed nations with lower and higher crime rates using a cross-national crime variance model. High levels of corruption indicate countries with high crime levels and ineffectiveness within the criminal justice system. Jiang (2017) has described corruption as an uncertain phenomenon that affects both private and public realms at the same time. Corporate corruption's erosion of social rules carries high social costs, leading to social, political, and institutional instability.

Corruption of government officers, particularly security personnel and judicial officers, is a prevalent aspect of organized crime in most countries, allowing criminal organizations to thrive while reducing the chance of being arrested and prosecuted. Corrupt police officials may turn a blind eye to criminal operations, disclose information about police investigations and raids, or bring false charges against innocent people. In Bosnia-Herzegovina, a notorious entrepreneur coordinating the unloading of 164 kilograms of pure cocaine from Panama fled a police raid after receiving strictly confidential details about the operation in 2000 (Chêne & Hodess, 2008).

Usually, organized crime encourages corruption at all levels of government by focusing on domains such as the police, the courts, and the political establishment. Bowles and Garoupa (1997) found that enacting a maximum sentence on offenders using a trend prescription may not be the best option if the criminal and the enforcement officer are complicit. For example, many high-ranking government figures in West Africa have been personally involved in illicit activities, demonstrating close linkages with organized crime. In New York City in 2005, for example, a member of the Ghanaian legislature was apprehended attempting to transport 67 kg of heroin. In 2007, the son of former President Ould Haidally was apprehended in Mauritania on charges of cocaine trafficking. There have also been other drug-related incidents involving high-ranking personnel in Ghana, Nigeria, and Guinea-Bissau, according to the US State Department's 2006 report on International Narcotics Control (Chêne & Hodess, 2008).

In the case of Nigeria, public figures themselves are directly connected to criminal activity. As revealed by the Nigerian government in the $2.1 billion arms deal scandal, the higher level of corruption was alarming and disdainful (Hakeem, 2016; Nwankwo, 2016). Also, the EFCC report of April 27, 2016, reveals that another $12.9 billion in arms deal scam was discovered in the administration of Goodluck Jonathan. The development has brought the arms money diverted to $15 billion. (Alli, 2016). It is horrifying to see funds for purchasing weapons and equipment for Nigerian soldiers fighting the insurgency were allegedly shared by some politicians. In the meantime, the insurgency flourished in bounds and leaps.

The former Chief Justice of Nigeria (CJN) was suspended and charged with failure to declare his assets, totalling millions of dollars (Nurudeen et al., 2019). Criminals frequently target police officers with the prime motive of using corruption to extract information on operations and investigations (Gamba, Immordino & Piccolo, 2018). Disrupt police work and reduce the likelihood of detection. Criminal groups also bribed the judiciary by gaining access to the officials through socio-political and family connections. And criminals can directly contact judiciary officials through elite social networks to sway court decisions by bribing police officers and prosecutors (Alesina, Piccolo & Pinotti, 2019). And this is termed the ruination of deterrence.

The ineffectiveness of governmental and civil society control mechanisms promotes organized crime and corruption. By studying a sizable sample of nations to establish the drivers and linkages between organized crime and corruption, Buscaglia and Dijk (2003) confirmed the link between organized crime and corruption:

- Organized crime has a negative correlation with the effectiveness of criminal justice systems. Organized crime is less prevalent in countries with a more functional justice system. It appears to show the deterrent influence of a functioning judicial system on organized crime. The degree of economic freedom is negatively correlated with organized crime.

- The lack of governance in the private sector is positively correlated with the growth of organized crime. The organized crime index is twice as high in nations with weak regulatory standards "on the drafting and implementation of anti-money laundering laws, regulatory processes, and financial supervision," according to the result. The utmost political interference in the hiring, dismissing, and promotion of civil servants positively correlates to higher levels of organized criminal activity.

- Perhaps the most critical determinants of the extent of organized crime are the judiciary's independence and honesty. Even when the political system has absorbed organized crime, independent judges are significantly less prone to corruption and more capable of taking severe measures against it. The study showed that organized crime is more pervasive in countries with weak rules of law.

Another study by Van Dijk (2007) supports the correlation between organized crime and corruption. The Organized Crime Perception Index is significantly linked to excessive corruption, money laundering, and the scale of the black-market economy. The study found a link between the rule of law and the prevalence of organized crime, especially the judiciary's autonomy, as measured by the governance indicators of the World Bank. Organized crime is more common in countries where the rule of law is less established and vice versa.

2.6.4 The Rule of Law

The rule of law refers to a “principle of governance in which all persons, institutions, and entities, public and private, including the state itself, are accountable to laws that are publicly promulgated, equally enforced, and independently adjudicated, and which are consistent with international human rights norms and standards. It requires, as well, measures to ensure adherence to the principles of supremacy of law, equality before the law, accountability to the law, fairness in the application of the law, separation of powers, participation in decision-making, legal certainty, avoidance of arbitrariness, and procedural and legal transparency” (United Nation, 2021).

The rule of law is fundamental in every society. The rule of law implies that some parts of the administration and community life be governed in a way that separates it from its two opposites, anarchy and tyranny (Sempill, 2020). Onwanibe (1989) defines the rule of law as "that aspect of the law that envisions a political system in which life is established according to laws that guarantee a high degree of objectivity in administering justice, defending freedom, peacebuilding, and prosperity because the law is a practical expression of integrity." Consider the law is a binding norm of conduct created by a state's supreme power. In that instance, the rule of law indicates that no one is subject to the ruler's arbitrary will and that the law governs the exercise of government powers.

According to Neapolitan (1999), countries with high crime rates have high degrees of corruption and ineffectiveness in the administration of justice. In the case of Nigeria, Chukwuma and Ebai (2012) posited that there is a prevalence of pervasive impunity for government actors and elites, rising violent crime, political instability, widespread corruption, disease, and poverty, all of which present immense challenges to the rule of law in Nigeria. A weak and corrupt judicial system undermines the state's ability to efficiently investigate, prosecute, and punish corruption cases, which allows criminal gangs to operate with impunity. Organized crime might exploit the system's flaws to perform unlawful activities. Criminal organizations may, for example, employ corrupt networks to disrupt and neutralize government institutions, obtain forged papers, influence policymaking, or hinder law enforcement. Poor or corrupt financial systems simplify money laundering and financial movements (Chêne & Hodess, 2008).

In studies of cross-national homicide, among the respective indicators of ‘poor governance,' the indicator rule of law appeared as a significant independent determinant of rates of homicide (Huebert & Brown, 2019; Karstedt, 2015; Stamatel, 2016). According to institutionalists, increases in organized crime in various parts of the world appeared to have been associated with a deterioration in the functioning of governmental institutions (Van Dijk et al., 2021).

Nigeria's government proclaims to be a democratic and rule-of-law state. Nigeria recognizes the application of established laws without interference in their execution. Regarding the rule of law doctrine, courts must play a critical role in enforcing the law without succumbing to any individual. Regardless of how highly regarded their positions are in society, judges are expected to be fearless, neutral, autonomous, and obey no one (Omoregbe, 2007). The subject here is that the rule of law cannot be upheld without an independent judiciary of incorruptible judges. By virtue of the rule of law provisions, the government and its officials are obliged to uphold and abide by the law in all its acts. In this situation, adherence to court orders is vital to compliance with the rule of law. Hence, escalating violent attacks reflect weak and exclusionary governance systems (Ojewale, 2021). In societies with little confidence in the legal system and few proponents of the legal system, like Nigeria, all sorts of illegal and criminal activities are taking place, as nobody sees it in their interest to abide by the law.

The prevailing conditions brought forward by Osaghae (2007) as criteria for evaluating the fragile/weak state are dysfunctional and insecure political institutions, lack of governance, failure to exercise effective control over its territory, a crisis of legitimacy, unstable and fragmented population, underdeveloped crisis management and resolution institutions, widespread corruption, deprivation, and low levels of poverty. Applying these to Nigeria, one cannot but conclude that the rise of criminal groups and criminality in the country, especially in northern Nigeria, is a weakness of the state.

2.7 Socio-Economic Causes of Violent Crime

Let us look at some empirical studies to put these theories to the test. When discussing the causes of crime, terrorism, and violence, there is a wide range of approaches: socio-economic, political, cultural, and psychosocial (Crenshaw, 2010). Nevertheless, socio-economic factors have contributed significantly to exciting debates on the connection between education, deprivation, and violence. According to Mesoy (2013), there are three types of discourse on the relationship between poverty and terrorism: "no link" (Krueger, 2007; Piazza, 2006), "weak link" (Hegghamer, 2010), and "link" (Seddon & Hussein, 2002; von Hippel, 2009). These variances reflect a range of viewpoints on the subject.

Past studies have investigated the connection between crime and unemployment; Rising youth unemployment has hampered Nigeria's security level (Ajide, 2019). Many groups and individuals have been involved in robberies and kidnappings, resulting in ransom payments, which serve s as motivation to commit crimes (Munir et al., 2017). Some established a negative association between crime and employment (Apel & Horney, 2017; Bennett & Ouazad, 2016; Dell et al., 2019). Some affirmed a positive association between crime and unemployment (Speziale, 2014), others affirmed negative results (Wu & Wu, 2012), while Pyle and Deadman (1994) confirmed there is no evidence to support the notion that unemployment has a significant effect on crime.

According to the findings of Edomwonyı-Otu and Edomwonyı-Otu (2020); Aminu et al. (2013), unemployment, poverty, and corruption all have a negative impact on crime levels. Unemployment and poverty positively affected crime levels (Kuhe, 2016). Adekoya and Abdul Razak (2018) findings revealed that unemployment leads to violence. Awofeso and Irabor (2022) confirmed the connection between youth unemployment and violent behaviour. According to Oyelade (2019), the female unemployment rate was shown to have a significant adverse effect on the crime rate. Still, the male unemployment rates and the urban and rural populations were found to have a significant impact on Nigeria's crime rate.

Researchers have also explored the connection between unemployment and crime in some countries. Edmark (2005) employed panel data from 1988 to 1999 to investigate unemployment and crime in Sweden. The findings showed a positive and significant association between unemployment and property crime. Halicioglu et al. (2012)

analyze crime in Japan with time-series data from 1964 to 2009. Their results discovered a positive and statistically significant link between unemployment and overall crime, robbery, violent crime, and fraud. But the findings of these studies showed mixed results.

Piazza (2006) used ten countries to test the theory that inequality and bad economic conditions are the leading causes of insurgency. He found no link between economic progress and terrorism; however, drivers such as ethnoreligious diversity and political persecution have been vital contributors to terrorism. The study supports the National Commission on Terrorist Attacks on the United States report, "Poverty isn't the cause of terrorism," released in 2004 (Krueger, 2007).

Gümüs (2004) demonstrates that the unemployment rate, police spending, income level, and population, particularly black communities are major determinants of crime in urban areas. Many studies have confirmed that unemployment increases crime (Edmark, 2005; Buonanno, 2008; Lin, 2008). In comparison, Fougère et al. (2003) found that crime and unemployment are positively correlated. Nevertheless, the observations of Lobont et al. (2017) show that crimes are closely linked to social exclusion, the level of education, the cultural dimension, and family background.

Krueger (2007) analyzed data from national surveys and US counter-insurgency activities in Iraq and Afghanistan to debunk the claim that terrorist attacks are not driven by poverty or a lack of education. He argues that "civil liberties are an important determinant of terrorism." in line with Piazza (2006), poor education and poverty do not associate with terrorism.

Seddon and Hussein (2002) discovered that the national government's weaknesses created pre-conditions – economic hardship, injustice, and social exclusion – that led to major agitation and, eventually, Maoist insurgency in the context of the Maoist uprising in Nepal. Furthermore, von Hippel (2004) describes incidents in Somalia and Pakistan, where teenagers were recruited to join militant groups in impoverished communities, as evidence that the poor may be drawn to terrorist ideologies. According to him, terrorist organizations may provide welfare services that government could not offer, thereby attracting support from poor and displaced communities. Seddon and Hussein (2002); von Hippel (2004) make the case that poverty is linked to crime, notably in impoverished neighbourhoods. Hegghammer (2010), on the other hand, disagrees with Krueger (2007) and von Hippel (2004), as shown above. According to his research, most al-Qaeda members in Saudi Arabia are from the middle class, not low-income families.

The challenges arise because crime is a social phenomenon. The underlying causes are complex, dynamic, and constantly advancing. Hence, it cannot consider all the factors that may constitute a crime similarly in all countries. Terrorist recruitment is centred on terrorist capacity; according to De Mesquita (2005), “Highly trained people make smarter terrorists," he claims that there is a positive relationship between socioeconomic level and terrorism involvement. Because of these divergent viewpoints, the debate over the relationship between criminal conduct and socioeconomic determinants is both fascinating and circumstantial.

To understand these divergent views, Parker (2016) points out that violence and terrorism come in various forms and have many conflicting causes and thus pose enormous difficulties for an explanation; he also maintains that the underlying causes are complex, dynamic, and constantly evolving. As a result, these characteristics make it difficult to understand the underlying causes. Von Hippel (2009) has suggested clarifying the connection between criminal activities and socio-economic factors. However, von Hippel (2004) expounds that geographical contexts and groups must be explored separately to prevent ambiguity. Based on these premises, it can be argued that explaining the underlying causes of crime is complex. Let us now turn to violent crime exposure.

2.8 Violent Crime Exposure

In their study, Mazurana et al. (2014) on the impact of major crimes on people's livelihoods and access to services in Uganda:

i. They discovered that having at least one household member report a serious crime was significantly correlated with lower food security.

ii. Household experience of serious crime was significantly correlated with worse food access.

iii. Household experience of serious crimes has negative impacts on household wealth.

iv. The experience of serious crime was significantly correlated with household well-being and positively correlated with travel time to access water.

2.9 Effect of Violence on Economic Welfare

Violence/arm conflict can seriously affect household welfare; adverse effects on affected populations are incontestable (Verwimp et al., 2019). Violence carries several direct and indirect costs which significantly impact the living conditions of households at the time of the violence and for many years afterward. Civil wars and violent uprisings kill and harm millions of people every year. They destroy infrastructure, services, assets, and livelihoods, displace people, break social cohesion, institutions, and norms, and create fear and distrust (Justino, 2009). During the violence, wealth is lost or destroyed due to the heavy fighting, buildings, land, farm tools, cattle, livestock, and other productive assets. The poorest households are more likely to suffer the most. For example, during the Rwandan genocide in 1994, Serneels and Verpoorten (2015) estimated that 12% of all households lost their homes, while cattle stocks plummeted by 50% on average. Minoiu and Shemyakina (2014) estimate that around 7% of households ' homes and livelihoods were destroyed.

The most obvious direct impact of violence on family health is the loss of human lives. When violence strikes, it often leaves behind a slew of vices and perilous events, such as the killing of productive people, the damage to infrastructural projects and individual possessions, a decline in foreign investment, obstruction of corporate operations, and forced population displacement (Adekoya, 2019). The demise of working-age household members implies that the household will be left with a severely reduced earning capacity. Often enough to drive vulnerable households into extreme forms of poverty (especially among families with widows, orphans, and people with disabilities), which may continue if the household cannot substitute labour (Justino & Verwimp, 2013; Sudan, 2019).

Violence is a primary factor that causes asset loss in the affected populace. Asset loss income losses can also threaten future welfare (Sudan, 2019). Coupland (2007) observed that insecurity has a far-reaching impact on individuals' lives and well-being. At the same time, Evans and Kelikume (2018) have shown that violence and militancy significantly negatively impact welfare in the short and long run. While the shocks effectually erode household food security (Agwu, 2020).

2.9.1 Loss of Income

Violence can affect households' ability to create intrinsic and extrinsically income (Ibáez & Moya, 2010b; Justino, 2009). Conflict can prevent individuals from working for many purposes; for example, the chaos created by violence might force businesses to close and job opportunities to decline. (Brück, Naudé & Verwimp, 2011). In the same way, market disruptions can create an artificial paucity of essential items and alter prices. High inflation or pricing volatility can cause business disruption and income loss (Singh et al., 1986).

Violent conflict seriously affects savings, and access to credit markets is also linked to a considerable decline in investment capital and business possibilities (Justino, 2008; 2009). Conflict can create new societal barriers that prevent people from working or obtaining credit because of their ethnicity or gender (Brück & Vothknecht, 2011; World Bank, 2006). Injury and psychological strain can have a short- and long-term negative influence on health, lowering productivity (UNICEF, 2006).

The findings of Loya (2015) suggest that, in addition to the tragedy of sexual abuse and rape, many victims face a significant financial penalty in the face of declining earnings and barriers to employment. Sexual assault can have a combined effect on victims' economic well-being and permanently alter the victim's life or cause spillover effects that last for decades, such as long-term changes in income, occupation, or financial stability.

2.9.2 Declining Food Consumption

The tremendous impact of violence/crime on welfare can be seen in declining food consumption. Food crises worldwide are often caused by violence rather than a general lack of productivity (Messer et al., 1998). Furthermore, several violently connected variables might deteriorate food consumption, including difficulties accessing markets and intentional damage or stealing (Justino, 2008). Households that rely on markets for their sustenance may be particularly susceptible if their access to marketplaces is cut off due to degraded infrastructure or insecurity. Crops and cattle may also be destroyed or stolen, putting households at risk of food decline (Justino, 2008; 2009). Violence may limit household food supply and consumption; for example, the advent of war will significantly reduce food imports, make food production, and purchases riskier, increase food prices and decrease food supplies and disposable incomes (Martin-Shields & Stojetz, 2019).

The conflict has impacted food security due to its destructive and disrupting effects on food production, distribution, and marketing in Colombia and El Salvador (Segovia, 2017a; 2017b). Households that lived through the Rwandan genocide in 1994 and suffered significant violence in their communities have seriously experienced a severe decline in food consumption levels (Agho et al., 2019; Devereux, 2019; Serneels & Verpoorten, 2015). Also, Mercier, Ngenzebuke, and Verwimp (2020) discovered that a locality's exposure to violence during the Burundi Civil War (1998–2007) is linked to a 9% reduction in household consumption. Evidence shows that food production has declined in areas with active insurgency (Adelaja & George, 2019). Markets may function less efficiently in these areas, disrupting the food supply. Ultimately, households that rely on markets for their primary food source may be less inclined to do so due to comparatively low purchasing power due to lower earnings or higher food inflation (Kaila & Azad, 2018).

Reducing the amount and quality of food consumed or using food storage is a typical method individual and households use to cope with economic crises. Increases in local food prices during and after significant violence can contribute to this strategy, negatively affecting household members' nutrition, particularly the children (Bundervoet, Verwimp & Akresh, 2009; Mercier et al., 2020).

2.10 Research Gap

Several scholars still believe that the literature has not adequately investigated the causes and consequences of crime. − Notwithstanding long years of study and analysis and the publication of lots of literature in some western countries, attempts to classify the causes of crime have not been very successful. However, some valuable insights have been gained (Nagpal, 2002). It is also argued that developments influence these methods for studying criminal activity in western societies. We believe all these theories originated from the social history of the industrialized western nations, which have seen rapid urban growth and social disorganization (Saikia, 2016). Because countries like Nigeria have distinctly different social systems, cultures, and lifestyles that evolved modernity with traditional components coexisting, there is a need for a different approach to the reasons for criminal activity.

To recapitulate, it appears exceedingly unlikely that a jurisdiction's actual punishment policies will reflect people's conceptions of the severity and certainty of punishment. As deterrence theory argues that one's subjective views of penalty are more vital than the objective likelihood of arrest and the natural consequences, most deterrence studies are limited. As a result, it is vital to investigate the link between people's views of punishment and actual criminal activity. A few studies have been conducted to date to address this situation. Deterrence (legal and non-legal) is a constantly changing dynamic process based on individual experiences (Truelove et al., 2020). Thus, highlighting the need to conduct research in the area.

Literature highlights that crime flourishes in a context with little deterrence, eventually incentivizing criminal activities (Osaghae, 2007). However, a theoretical gap exists in the literature on a comprehensive model to explain violent crime in the NWN. Though there are numerous theories used to describe the causes of violent crime, which comprise rational choice theory (Eager, 2008), failed state theory (Rotberg, 2003; Zartman, 1995), and relative deprivation theory (Gurr, 2011). However, these theories are not free of contradictions and limitations. The major theory highlighting key deterrence variables is Deterrence Theory. Becker (1968) highlights two major deterrence variables: the probability of detection and the severity of punishment.

However, the theory would not be sufficient to explain the phenomenon in a developing country where governance is a primary concern. Blackburn et al. (2017)

highlight that, theoretically, corruption plays a significant role in influencing and compromising strategies to combat crime. Bowles and Garoupa (1997) extended Becker's model of crime with corruption. Chukwuma and Ebai (2012) posited pervasive impunity for government actors and elites in Nigeria, rising violent crime, and political instability, which present immense challenges to Nigeria's rule of law. Thus, stressing the need to investigate whether the existing practice of law in the country is sufficient to deter violent crime. However, the Deterrence Theory of Crime did not integrate adherence to the rule of law as a deterrent measure to combat crime, thus, highlighting a theoretical gap.

Many studies have been conducted in the research area, like the study of Mohammed and Abdullahi (2021) on armed banditry. Suleiman (2019) emphasized rivalry over "gold deposits" and illegal mining of gold against local communities. Mohammed and Ibrahim (2015) focussed on porous borders. Kabiru and Arshad (2018); Abdulrashid et al. (2018) on poverty. Ladan (2019) on the inadequacy of the security personnel, while Okoli and Ochim (2016) on poor forest management. The above socioeconomic and political factors explained the phenomenon, but the statistical significance was not tested. Consequently, the study will systematically bridge these identified gaps by concentrating on the impact of deterrence factors, corruption, the rule of law, and the influence of socio-economic variables on violent crime and its consequences on economic welfare.

2.11 Summary

The chapter explains the conceptual literature, theoretical and empirical literature reviews, and depicts the study's framework. Also, it discussed the empirical research in connection with criminal activities, various issues relating to existing knowledge, relevant approaches, and commonly used methods, along with the limitations of those studies and the literature gap.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter explains the study's methodology, including conceptual framework and hypotheses formulation. The philosophical framework, the operationalizing variables, and the source of survey items are also discussed. Accordingly, the research design, demographic, sample, collecting data techniques, and data analysis procedures are all covered in this chapter. It also specifies the modes for analyzing the data. Practices and approaches deployed in the study include the location, unit of study, and sampling technique.

Creswell's (1994) point of view is as follows: (1) Empiric information exists independently of public perceptions, thoughts, or feelings, and empiric facts are gathered in an important, fair, and equitable way (2) Study of social fact is quantifiable (3) The law of cause and effect governs statistical information (4) the methodology used is well organized, allowing for the use of statistical information. (5) Because social reality's processes are consistent, knowledge is constructive. Therefore, the ideology that underpins this research is positivism. As a result, this research would be quantitative, referred to as a social survey that adapts statistical and empirical methods and empirical assertions (Cohen et al., 2002). The research framework is discussed in the next section.

3.2 Research Framework

Sekaran (2003) demonstrated that the theoretical framework shows the relationship between the factors a researcher will explore in a study. This study built a framework based on the existing literature and recommendations given by a handful of studies to investigate the influence of deterrence factors, the influence of corruption & the rule of law, and socio-economic factors on violent crime and its impact on economic welfare. The conceptualization (framework) is presented in Figure 3.1 below:

THE ANTECEDENTS AND CONSEQUENCES OF VIOLENT CRIME

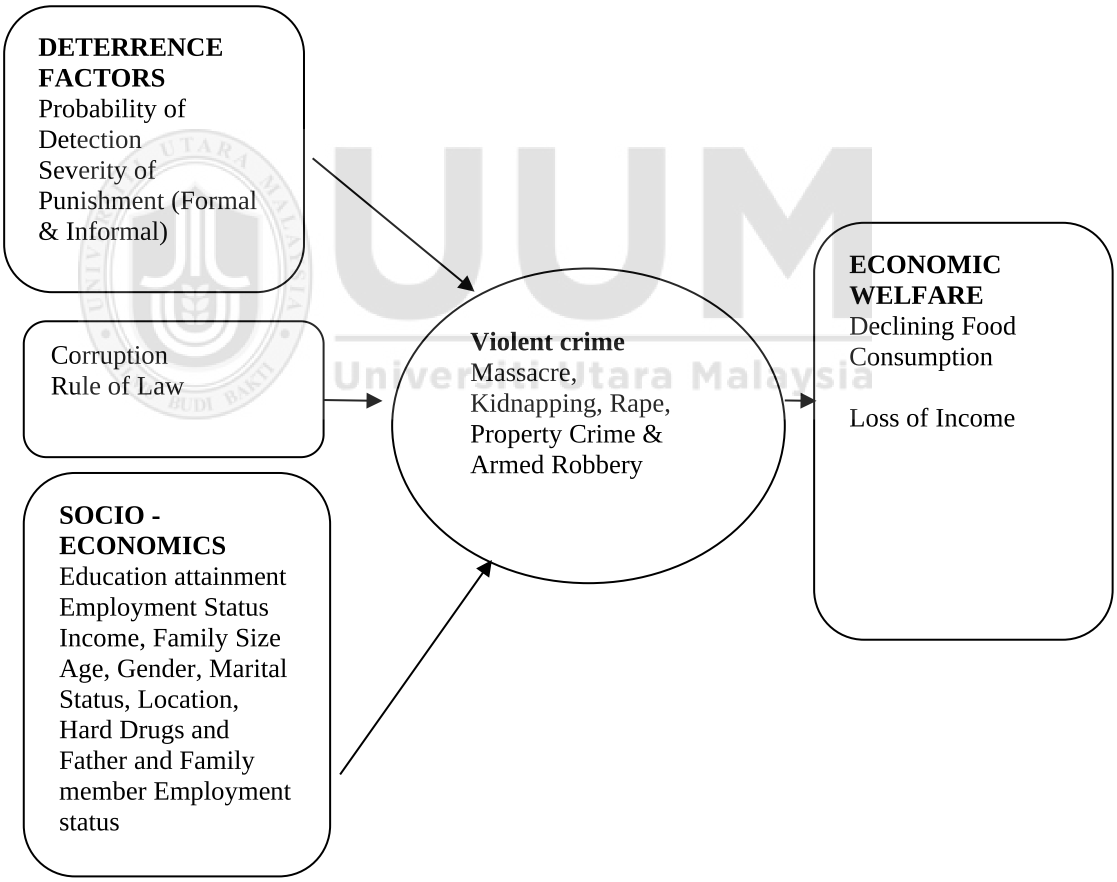

Figure 3. 1
Research Framework

3.3 Theoretical Model

This section dissects the theories and models describing motivational factors of crime and deterrence factors. These are the theories that serve as the framework of this study. The theories discussed include the economic deterrence theory of punishment, backed by the economic rational choice theory, failed state theory, and social disorganization theory. The economic deterrence theory and the model provide a basis for understanding the motivational crime and deterrence factors.

3.3.1 Economic Model of Deterrence

The economic model is built on the Becker-Ehrlich theory and its amplification by Haddad and Moghadam (2011) with certain adjustments. Becker's key paper "Crime and Punishment," published in 1968, aims to empirically test and examine the economic factors that influence criminal decisions and conduct.

Becker's model assumes that "…a person commits an offence if the expected utility to him exceeds the utility he could get by using his time and other resources at other activities" (Buonanno, 2003). Courts, as well as the severity and kind of punishment, are the rational choice variables. These are the factors that a person would have to consider before engaging in a crime. The relationship between the determinant variables and the number of crimes constitutes a "supply of offences." According to Becker (1968), the supply of offences V_j relates the number of crimes by an individual to the probability of conviction (c), the punishment if convicted (f), and a portmanteau variable (μ), such as legal and illegal income opportunities.

$$V_{j=} V_j\left(c_j, f_j, \mu_j\right) \tag{3.1}$$

Ehrlich (1973) expands on Becker's analysis by examining how income levels affect the likelihood and rate of crime. His assertions are founded on the notion that a person can engage in two kinds of market activities: i, illegitimate activity, and l, legitimate activity. The returns on both activities are increasing monotonically function of time.

The legitimate activities (l) are secure, giving certainty to the assumed net return function $Y_1(\mathrm{t}_1)$, where t is the time input. Because activity j is unsafe, its net returns are based on two states: the likelihood of being caught (certainty of punishment) (p) on the one side and the likelihood of not being caught and penalized (1 – p) on the other. If the perpetrator is not detected and punished, he gains the full value of the illicit activity $Y_1(\mathrm{t}_1)$. If apprehended and punished (severity of punishment). The return is a discounted cost of the punishment for the illegitimate action and other connected losses by an amount $A_i(1_i)$. Ehrlich also presupposes that people are rational and that illegitimate action has a behavioural function of:

$$v_{ij} = v_{ij}(p_{ij,} f_{ij,} y_{ij,} y_{1j} \mu_{1j,} r_j \tag{3.2}$$

where: v_{ij} = number of offences i committed by a person

μ_{1j} = risk of legitimate activity

r_j = other variables that may have an impact on crime supply.

If all individuals are identical, the behavioural function of Equation (2) can be accumulated in a given time:

$$V_i = V_i(Pd_{i,} Sp_{i,} Rl_{i,} Cr_{i,} Y_{i,} Y_{j,} U_{i,} R_i) \tag{3.3}$$

Where:

Pd_i	=	Probability of detection (By Police)
Sp_i	=	Severity of punishment
Rl_i	=	Rule of law
Cr_i	=	Corruption
Y_i	=	Income (inmates' income)
Y_j	=	Legal income (proxied by household employment status)
U_i	=	Economic risk of legal activities (proxied by employment status)
R_i	=	Other factors that consist of socioeconomic determinants of crimes

Consequently, the aggregate supply of crime function can be stated as follows:

$$V_{it} = Po_{it}^{\alpha 1} \, Sp_{it}^{\alpha 2} \, Rl_{it}^{\alpha 3} \, Cr_{it}^{\alpha 4} \, Yi_{it}^{\alpha 5} \, Yj_{it}^{\alpha 6} \, U_{it}^{\alpha 7} \, R_{it}^{\alpha 8} \qquad (3.4)$$

3.4 Methods of Data Analysis

This section contains the specifications for the various models used in the study, which are centred on the study's stated objectives. The study employed the Multinomial logit model to analyze the influence of deterrence factors, corruption, the rule of law, and socioeconomic factors on violent crime, i.e., objectives to three.

3.5 Model 1 (The Multinomial Logit Model)

When the dependent variable is unordered and has more than two categories, the Multinomial Logit Model (MNLM) can be utilized (Becg & Gray, 1984). A person selects one option from these groups, and the labels assigned to these groups are arbitrary. The number of predicted alternatives in MNLM equals the number of choices offered minus one comparison category. For example, if there are three possibilities, two equations must be estimated; if there are four alternatives, three equations must be calculated. Generally, T- 1 equations will be estimated if there are T viable alternate choices (Brooks, 2019). The result for which no equation is estimated becomes the reference option in line with (Wooldridge, 2002; Scott Long, 1997; Danlami, 2017).

Response probabilities are estimated in the MNLM using the following formula:

$$P(y_i = j|X_i) = \frac{\exp(X_i\beta_j)}{\sum_{j=0}^{4}\exp(X_i\beta_j)} \text{ with } j = 0,1,2,3,4 \tag{3.5}$$

where the left-hand-side (LHS) expression is "the probability of y_i equals j conditional on the value of x, and the right-hand-side (RHS) expression is a logistic function.

$P(y_i = j|X_i)$ = likelihood of committing either massacre, kidnapping, rape, destruction/looting of properties, or arm robbery.

Xi = vector of the explanatory variables.

j = 0,1,2,3,4 represented the multiple categories of violent crimes (Massacre, kidnapping, rape, destruction/looting of properties, and arm robbery)

For j = 0, represent the reference category (massacre).

βi = a vector of parameters that need to be estimated.

3.5.1 Independence of Irrelevant Alternatives

In the MNLM estimate, thus, the assumption of irrelevant alternative independence (IIA) should hold. The term IIA refers to the equality of all alternatives. Other people's tastes should have no bearing on an individual's preference for one of two options. Similarly, IIA requires that whenever a new option becomes available, the odds for previous choices must be altered to the precise amount required to maintain the original odds (Cheng & Long, 2007).

In the literature, the IIA assumptions are tested in many methods. The Hausman and McFadden (HM) test, the Small and Hsiao (SH) test, and the seemingly unrelated estimate test (SUEST). The second method was used in this study, the Small and Hsiao (SH) test, to test the IIA assumption of the research model.

3.5.2 Specification of the Empirical Multinomial Logit Model

The dependent variable is categorical, not ordered, and has five categories: Massacre, kidnapping, rape, destruction/looting of properties, and arm robbery.

3.5.3 The Deterrence, Corruption, the Rule of Law and Socioeconomic Factors

The study employed the Multinomial logit model to analyze the study's objectives. 1. To investigate the impact of deterrence factors on violent crime in Northwest Nigeria. 2. To examine the impact of corruption and the rule of law on violent crime in Northwest Nigeria. 3. To determine the influence of socio-economic factors on violent crime in Northwest Nigeria. Theoretically, a significant number of crimes are perpetrated by rational people. Who weighs whether the possibility of potential punishment is worth committing a crime, which warrants employing the MNLM, in line with (Scott Long, 1997). The dependent variable is categorical, not ordered, and has five categories: Massacre, kidnapping, rape, destruction/looting of properties, and arm robbery.

Where a person makes a choice j at a time by weighing whether the possibility of detection and potential punishment is worth committing a crime among the five categories of violent crimes. Following Scott Long (1997), the observed violent crime is the dependent variable and specified as a vector $Y,$ which is expressed as $\mathrm{P}(y_i = \mathrm{j}|\mathrm{X_i})$ of five dummy variables that take a value of 0 through 4. The likelihood of preference for violent crime is written as follows:

$$P(y_i = j|X_i) = \frac{\exp(X_i\beta_j)}{\sum_{j=0}^{4}\exp(X_i\beta_j)} \text{ with } j = 0,1,2,3,4 \tag{3.6}$$

The MNLM can also be expressed in terms of the odds in line with Scott Long (1997). The odds of outcome m versus outcome n given x, indicated by $\Omega_{j/n}(X)$, =

$$\Omega_{m/n}(X_i) = \frac{Pr(y_i = m/X_i)}{Pr(y_i = n/X_i)} = \frac{\frac{exp\ (X_i\beta_{m)}}{\sum_{j=0}^{J} exp\ (X_i\beta_j)}}{\frac{exp\ (X_i\beta_{n)}}{\sum_{j=0}^{J} exp\ (X_i\beta_j)}} = \frac{exp\ (X_i\ \beta_m)}{exp\ (X_i\ \beta_n)} \tag{3.7}$$

Combining exponents leads to the odds equation:

$$\Omega_{m/n}(X_i) = \exp\ (X_i[\beta_m - \beta_n]) \tag{3.8}$$

Taking logs shows that the MNLM is linear in the logit:

$$In\ \Omega_{m/n}(X_i) = X_i(\beta_m - \beta_n) \tag{3.9}$$

The difference $\beta_m - \beta_n$ Is the effect of *X* on the logit of outcome j versus outcome n. Since the model is linear in the logit, it is simple to compute the partial derivative:

$$\frac{\partial In\ \Omega_{m/n}\ (X)}{\partial x_k} = \frac{\partial X\ (\beta_m - \beta_n)}{\partial x_k} = \frac{\partial X\beta_m}{\partial x_k} - \frac{\partial X\beta_n}{\partial x_k} = \beta_{km} - \beta_{kn} \tag{3.10}$$

$This\ allows\ us\ to\ interpret\ \beta_{km} - \beta_{kn}\ as$:

$$For\ a\ unit\ change\ in\ x_{k,}\ the\ logit\ of\ outcome\ m\ vs\ outcome\ n\ is\ expected\ to\ change\ by\ \beta_{km}{-}\beta_{kn}\ units\ \ when\ other\ factors\ are\ held\ constant$$

Since $\beta_0 = 0$, the equation for the comparison with outcome 0 simplifies to:

$$In\ \Omega_{m/j}\ (x_i) = x_i(\beta_m - \beta_0) = x_i\beta_m \tag{3.11}$$

Therefore, given the identifying constraint that $\beta_m = 0, \beta_{km}\ is\ the\ effect\ of\ x_k$ on the logit of outcome *m* relative to outcome 0:

$$In\ \Omega_{m/n}\ (x_i) = \beta_0 + \beta_1 FAMD_i + \beta_2\ MATS_i + \beta_3 AGE_i + \beta_4 EDUC_i + \beta_5 EMPS_i + \beta_6 FAMS_i + \beta_7 FEMP_i + \beta_8 FAMW_i + \beta_9 DRUG_i + \beta_{10} LOC_i + \beta_{11} INC_i + \beta_{12} GEN_i + \beta_{13} POD_i + \beta_{14} OSOP_i + \beta_{15} USOP_i + \beta_{16} CRP_i + \beta_{17} ROL_i + \varepsilon_{1j} \tag{3.12}$$

β_0 *is the constant in the model*, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \ldots \ldots \ldots . \beta_{17}$, are the coefficients of determination for variables FAMDi, MATi, AGEi, EMPSi, EDUCi, FSIZEi, FEMPi, FAMWi, DRUGi, LOCi, INCi, GENi, PODi, OSOPi, USUPi, CRPi, and ROLi respectively while, ε_1 *is the error term* .

$FAMD_i$	=	Family disruption
MAT_i	=	Marital status
AGE_i	=	Age
$EMPS_i$	=	Employment status
$EDUC_i$	=	Education level
$FSIZE_i$	=	Family size
$FEMP_i$	=	Father employment status
$FAMW_i$	=	Family working members
$DRUG_i$	=	Hard drug consumption
LOC_i	=	Location
INC_i	=	Income
GEN_i	=	Gender
POD_i	=	Probability of detection
$OSOP_i$	=	Official severity of punishment

$USUP_i$	=	Unofficial severity of punishment
CRP_i	=	Corruption
ROL_i	=	Rule of law

3.5.4 Independence of Irrelevant Alternatives

In the MNLM estimate, thus, the assumption of irrelevant alternative independence (IIA) should hold. The term IIA refers to the equality of all alternatives. Other people's choices should have no bearing on an individual's preference for one of two options. Similarly, IIA requires that whenever a new option becomes available, the odds for previous choices must be altered to the precise amount needed to maintain the original odds (Cheng & Long, 2007). This study tests the IIA assumptions using the Hausman and McFadden (HM) and Small and Hsiao (SH) tests.

3.6 Model 2 (Logit Model)

The study's fourth objective is to examine the impact of violent crime on household economic welfare. (DFC & LI). In this case, the Logit model was employed to estimate the effect of violent crimes on household economic welfare in Northwest Nigeria.

Becker (1968) provides theoretical thoughts on the connection between violence and economic welfare shocks. His argument emphasizes that transgressions result in societal damages and losses. Interestingly, the literature highlights that violence can affect households' ability to create intrinsic and extrinsic income (Ibáez & Moya 2010b; Justino, 2009). And food crises worldwide are often caused by violence rather than a general lack of productivity (Messer et al., 1998). Evans and Kelikume (2018) have also shown that violence and militancy significantly negatively impact welfare in the short and long run.

Logistic regression is a statistical model that, in basic form, uses a logistic function to model a binary dependent variable, estimating the parameters of a logistic model (a form of binary regression). It has a dependent variable with two possible values, such as yes/no, which is represented by an indicator variable, where the two values are labelled "0" and "1" (Tolles & Meurer, 2016; Danlami et al., 2017).

3.6.1 Model Specification Declining Food Consumption

The economic welfare of a household may be affected by violent crime. The estimated impacts of violent crime on household food consumption and income in NWN will be analyzed using a logit regression model to determine whether violence impacts household economic welfare. The empirical logit model estimated in this study (Declining food consumption) can be expressed based on (Scott Long, 1997) as follows:

$$\Pr(y_i = 1|X_i) = \frac{\exp(X_i\beta)}{1+\exp(X_i\beta)} \tag{3.13}$$

where the left-hand-side (LHS) expression $\Pr(y_i = 1|X_i)$ is "the probability of y_i equals 1 conditional on the value of "**x**" and the right-hand-side (RHS) expression is a logistic function. It is known as the logit model (Scott Long, 1997).

Because y_i is a binary variable (which takes the value of either 1 or 0), the complement of equation (3.13) (i.e., the probability of y_i equals 0 conditional on x) can be shown in line with (Scott Long, 1997) as:

$$\Pr(y_i = 0|X_i) = \frac{1}{1+\exp(X_i\beta)} \tag{3.14}$$

Thus, the odds ratio between the likelihood of occurrences and non-occurrences can be stated as:

$$\frac{\Pr(y_i = 1|X_i)}{\Pr(y_i = 0|X_i)} = \frac{\exp(X_i\beta)}{1+\exp(X_i\beta)} \times \frac{1+\exp(X_i\beta)}{1} = \exp(X_i\beta) \tag{3.15}$$

As exp $(X_i\beta)$ denotes the odds ratio of the household's economic welfare, the ratio of the possibility of a household will experience declining food consumption to the likelihood or otherwise, using the natural log of equation (3.15), we arrived at the following expression:

$$\text{Log}\left(\frac{\Pr(y_i = 1|X_i)}{\Pr(y_i = 0|X_i)}\right) = \text{Log}\,\Omega(X_i) = X_i\beta \tag{3.16}$$

Therefore, the empirical logit model estimated in this study (Declining food consumption) can be expressed in linear form as follows:

$$\text{Log}\,\Omega(X_i) = \beta_0 + \beta_1 X_i + \beta_2 X_i + \beta_n X_n \tag{3.17}$$

P_r Is the probability that a household experienced declining food consumption, and $exp\ (X_i\beta)$ is the odds of experiencing declining food consumption owing to violent crimes. β signifies the model's various coefficients, and *X* denotes the variables to be estimated.

Therefore,

$$\text{Log}\,\Omega(X_i) = \beta_0 + \beta_1 MSC_i + \beta_2 KID_i + \beta_3 RAP_i + \beta_4 PRO_i + \beta_5 ROB_i \tag{3.18}$$

Where,

MSC_i	=	Massacre
KID_i	=	Kidnapping
RAP_i	=	Rape
PRO_i	=	Property crime
ROB_i	=	Robbery

3.6.2 Model Specification Loss of Income

The empirical logit model estimated in this study for Loss of income can be expressed based on (Scott Long, 1997) as follows:

The empirical logit model estimated in this study (Loss of income) can be expressed based on (Scott Long, 1997) as follows:

$$\Pr(y_i = 1|X_i) = \frac{\exp(X_i\beta)}{1+\exp(X_i\beta)} \quad (3.19)$$

where the left-hand-side (LHS) expression $\Pr(y_i = 1|X_i)$ is "the probability of y_i equals 1 conditional on the value of "x" and the right-hand-side (RHS) expression is a logistic function. It is known as the logit model (Scott Long, 1997).

Because y_i is a binary variable (which takes the value of either 1 or 0), the complement of Equation (3.19) (i.e., the probability of y_i equals 0 conditional on x) can be shown in line with (Scott Long, 1997) as:

$$\Pr(y_i = 0|X_i) = \frac{1}{1+\exp(X_i\beta)} \quad (3.20)$$

Thus, the odds ratio between the likelihood of occurrences and non-occurrences can be stated as:

$$\frac{\Pr(y_i = 1|X_i)}{\Pr(y_i = 0|X_i)} = \frac{\exp(X_i\beta)}{1+\exp(X_i\beta)} \times \frac{1+\exp(X_i\beta)}{1} = \exp(X_i\beta) \tag{3.21}$$

As $\exp(X_i\beta)$ denotes the odds ratio of the household's economic welfare, the ratio of the possibility of a household will experience loss of income to the likelihood or otherwise, using the natural log of equation (3.21), we arrived at the following expression:

$$\text{Log}\left(\frac{\Pr(y_i = 1|X_i)}{\Pr(y_i = 0|X_i)}\right) = \text{Log}\,\Omega(X_i) = X_i\beta \tag{3.22}$$

Therefore, the empirical logit model estimated in this study (loss of income) can be expressed in linear form as follows:

$$\text{Log}\,\Omega(X_i) = \beta_0 + \beta_1 X_i + \beta_2 X_i + \beta_n X_n \tag{3.23}$$

P_r is the probability that an experienced household loss of income, and $\exp(X_i\beta)$ is the odds of experiencing a loss of income due to violent crimes. β signifies the model's various coefficients, and X denotes the variables to be estimated.

Therefore,

$$\text{Log}\,\Omega(X_i) = \beta_0 + \beta_1 MSC_i + \beta_2 KID_i + \beta_3 RAP_i + \beta_4 PRO_i + \beta_5 ROB_i \tag{3.24}$$

3.7 Research Hypotheses Development

The underlying hypotheses of this research will be tested to achieve the study's objective; there are two relationships between variables: non-directional and directional (Sekaran & Bougie, 2019). The non-directional hypothesis is when there is a relationship between two variables, but the direction of the relationship is unspecified. When one variable affects the other variables, referred to as the directional hypothesis. The focus of this study is to investigate the influence of deterrence factors (probability of detection and severity of punishment), corruption, the rule of law, and socioeconomic variables (level of education, employment status, income, Nationality, age, gender, marital status, location, hard drugs, father's employment status, and family size) on violent crime and its impact of violent crime on household economic welfare.

3.7.1 Probability of Detection

The association between perceptions of the certainty and severity of penalty and criminality has received much research attention. According to Roche et al. (2020), anxiety about being apprehended is linked to a higher likelihood of committing a crime, and cognitive assertions of control, severity, and certainty have an exciting influence on documented crime propensity. Jaynes and Loughran (2020) confirmed that the perceived certainty of detection is considered highly vigorous in deterring the severity of punishment.

Earlier perceptual deterrent studies concluded that perceived certainty of apprehension is inversely related to involvement in illegal behaviour; therefore, perceived certainty has a significant deterrent effect (Grasmick & Bryjak, 1980). Costantini et al. (2018) confirmed police enforcement activities have a divergent impact on the two major types of crimes: a 1% increase in police causes a 0.98 per cent and 0.25 per cent reduction in property and violent crime, respectively. Hence, the following hypotheses were developed:

H1: There is a significant relationship between the probability of detection and the extent of criminal involvement.

3.7.2 Severity of Punishment

Barati (2019) confirms that the magnitude of punishment plays a major role in preventing crime. The use of government organizations to respond to crime is referred to as formal crime control (Jiang et al., 2010). Official crime control pertains to government-run crime-combatting agencies. The police, courts, and corrections are the most popular methods of formal crime control. Formal crime control stems from laws enacted by a society's government and enforced on citizens through official government agencies. At the same time, Informal sanctions are generally unofficial consequences for flouting a group norm implemented by members of the social group (Jiang et al., 2010).

Perceived severity of punishment was a significant direct predictor (Truelove et al., 2021). Another point of view of Jaynes and Loughran (2020) confirmed that the perceived certainty of detection is considered highly vigorous in deterring crime over the severity of punishment.

Other studies confirmed that unofficial sanctions have a more significant deterrent effect than formal punishments (Bossler, 2019). Patchin and Hinduja (2018) established that school and parental sanctions deter American middle school children more than police punishments. Also, Lee et al. (2018) discovered cybercrime is negatively associated with unofficial social control. Likewise, Informal punishments like social loss (stigma/peer rejection, disgrace /guiltiness/awkwardness) were significant predictors of unlawful actions (Kaviani et al., 2020).

Perceived legal punishment (certainty and severity) and non-legal (fear of social, internal injury) were significantly effective, aligning with earlier studies. However, non-legal sanctions were more effective deterrents than legal sanctions (Freeman et al., 2020). Thus, the study seeks to investigate the influence of both official and unofficial sanctions on crime involvement, hence proposing the following hypothesis:

H2: There is a significant relationship between the official severity of punishment and the extent of criminality.

H3: There is a significant relationship between the unofficial severity of punishment and the extent of criminality.

3.7.3 Corruption

Corruption prevents economic growth and development, weakens democratic institutions, and generates policy confusion and chaos that can lead to crime and violence (Cotte & Martinez, 2019). Neapolitan (1999) analyzed nations with lower and higher crime rates using a cross-national crime variance model. High levels of corruption indicate countries with high crime levels and ineffectiveness within the criminal justice system. Jiang (2017) has described corruption as an uncertain phenomenon that affects both private and public realms at the same time. Corporate corruption's erosion of social rules carries high social costs, leading to social, political, and institutional instability. Police officers have more direct and frequent contact with criminals, so criminals frequently target them. The prime motives for criminals to use corruption are to extract information on investigations and operations, which disrupts police work and reduces the likelihood of detection (Gamba, Immordino & Piccolo, 2018).

Criminal groups also bribed the judiciary by gaining access to the officials through socio-political and family connections. According to Gamba, Immordino & Piccolo (2018), criminals can directly contact judiciary officials through elite social networks to sway court decisions by bribing police officers and prosecutors (Alesina, Piccolo & Pinotti, 2019). And this is considered the diminishment of deterrence.

The studies by Buscaglia and Dijk (2003), Morris (2019), and Smith et al. (2020) confirmed the connection between organized crime and corruption, while the findings of Habibullah, Din & Hamid (2016) affirmed control of corruption is statistically significant at the 10% level. As a result, good governance significantly decreases crime rates in Malaysia, and, interestingly, the best government tool for reducing total crime rates is control of corruption. The following hypotheses were developed for empirical testing based on the argument mentioned above:

H4: There is a significant relationship between control of corruption and violent crime.

3.7.4 The Rule of Law

The rule of law is fundamental in every society. The rule of law implies that some parts of the administration and community life be governed in a way that separates it from its two opposites, anarchy and tyranny (Sempill, 2020). In virtue of the rule of law provisions, the government and the authorities must uphold and follow the law in all dealings. However, the rule of law is ridiculous in Nigeria. Nigeria cannot obey set regulations and operates within the norms of a given establishment (John, 2011). In this situation, adherence to court orders is a vital indicator of compliance with the rules of law in any society.

The escalating of violent attacks reflects the weak and exclusionary governance systems (Ojewale, 2021). According to Chukwuma and Ebai (2012), pervasive impunity exists for government actors and elites, rising violent crime, political instability, widespread corruption, disease, and poverty, all of which present immense challenges to the rule of law in Nigeria. In societies with little confidence in the legal system and few proponents of the legal system, like Nigeria, all sorts of illegal and criminal activities are taking place, as nobody sees it in their interest to abide by the law. According to Ruwan et al. (2021), there is a strong negative correlation between perceived legal fairness and criminal intent. According to Van Dijk (2007), organized crime and the rule of law are perfectly correlated ($r = -.89$), with crimes being more prevalent in countries where the rule of law is less well-established. Based on those arguments, a hypothesis was developed to be empirically tested:

H5: There is a significant relationship between the rule of law and violent crime.

3.7.5 Socio-economic Factors

Socioeconomic aspects are relevant for explaining crime, which is caused by the influence of harsh socio-economic factors, among other poor housing conditions, residential stability, a broken family home, and unemployment, as ascertained by social disorganization theory (Shaw & Mckay, 1942).

According to Peres and Nivette (2017), certain structural socioeconomic factors weaken the community's ability to retain common views and exercise social control. Such as poverty, ethnic heterogeneity, and family disturbance, which undermine society's ability to survive social relationships and norms, which raise the possibility of criminal activity. Divorce, broken homes, poor schools, poor housing quality, racial and ethnic mix, residential mobility, single-family homes, lack of discipline, or the absence of other social and community controls, and population turnover are common research problems in this area. Separating the variables and assessing each one's sole impact on crime would be difficult, if not impossible (Hall, 2007). In addition, two additional predictor variables, single-parent households and household population density, were also identified as relevant to the model (Petee & Kowalski, 1993).

Poverty, social ostracism, income disparities, steep lawful earnings, migration, inflation, mobility, human capital, worker skill or job market skills, unemployment. Poor employment logs, cultural factors, age, gender, fertility, demographic trends, educational background, family background, and inequitable representation, urbanization level are all factors that influence crimes (Nikolaos & Alexandros, 2009; Chang & Wu, 2012; Hamzah & Lau, 2013; Freeman, 1999).

There are different approaches to explaining the causes of crime, terrorism, and violence – socioeconomic, political, cultural, and psychosocial (Crenshaw, 2010). Nevertheless, socio-economic factors have contributed significantly to exciting debates on the connection between deprivation, education, and violence. Other factors include single-family homes, indiscipline, residential mobility, non-availability of other community and social controls, and urbanization (Hall, 2007).

Individuals with higher qualifications receive higher incomes and have more opportunities in the legal work market, reducing their desire to engage in unlawful activities (Kume, 2004). An additional year of higher schooling reduces homicide rates by about 6% in the short term and 12% in the long run. According to Becker and Kassouf (2017), a 1% increase in education investment can cut homicide rates in the country by 0.1 per cent. de Barros et al. (2020) argue that crime reduction in Brazil is related to socioeconomic and educational development.

According to a review of crime reports, in most violent offences, such as theft, armed robbery, and severe assault, most culprits are male (Pelfrey et al., 2018). Other findings show that crime is higher in areas with lesser wealth and education and more young males (Wallace, Wisener & Collins, 2006). Scorzafave and Soares (2009) discovered that individuals between the ages of 15 and 24 play a critical role in explaining crime in Brazil because this group suffers the most and commits the most homicides. Becker and Kassouf (2017) found that unemployment significantly determines crime in the country, particularly among young people. Poor social structural conditions can provide a "Safe haven" for criminal behaviour and groups, leading to violent death (Peres & Nivette, 2017).

According to the findings of Edomwonyı-Otu and Edomwonyı-Otu (2020), unemployment, poverty, and corruption negatively impact crime levels. Unemployment and poverty significantly affect crime levels (Kuhe, 2016). Adekoya and AbdulRazak's (2018) findings revealed that unemployment leads to violence. Awofeso and Irabor (2022) confirmed the connection between youth unemployment and violent behaviour. Moreover, criminals now use rural areas as a base of operations to carry out their horrific activities, as rural areas have a significantly lower police presence than urban areas (Arisukwu et al., 2020).

Similarly, Albu et al. (2013) and Bjerk (2010) confirmed a significant relationship between the rural environment and criminal behaviour. Most criminal cases relate to low-income levels. Because most of the women who lived in rural areas of Punjab were married off to men who earned just enough to feed their family members, with few resources and a low level of well-being, contributing significantly to the crime rate (Islam, Farooq & Mahmood, 2019).

Family disruption positively impacts the rates of both forms of violent crime (Bezin, Verdier & Zenou, 2020; Messner & Sampson, 1991; Williams & Flewelling, 1988). It is frequently expressed as a case of single-parent families, a proportion of divorced people, or combining the two (Sampson, 1987; Sampson and Groves, 1989). Family disruption (e.g., divorce; single-parent families) facilitates crime by reducing social control and increasing the likelihood of unsupervised adolescent behaviour, raising crime rates (Sampson & Groves, 1989). This study considers the proportion of divorced mothers who grew up without a mother, referred to as single-father families (Wong, 2017). Being married or living as married was related to a 12% reduction in the likelihood of committing a new crime ($p < 0.05$) (Visher et al., 2009).

The likelihood of convictions and imprisonment was considerably caused by lower family socioeconomic position and parental relationship status (Mohr-Jensenet al., 2019). Savolainen et al. (2018) confirm the significant direct impact of socioeconomic disadvantage on crime. The family socioeconomic disadvantage has also been found to be a strong predictor of behavioural problems such as interpersonal conflict, violence, and crime (Boyle & Lipman, 2002). Furthermore, families with a higher income are much more likely to have fewer violent attitudes (Wallace, Wisener & Collins, 2006). However, the relationship between childhood household income and eventual risks of psychiatric problems, drug abuse, and violent crime is unclear (Sariaslan et al., 2021).

Several studies have found a high pervasiveness of illicit drug consumers in criminal justice populations (Fazel et al., 2017; Salas-Wright et al., 2016). According to Bronson et al. (2017), over half of the prison inmates and two-thirds of jail inmates in the United States met the requirements for drug abuse. Drug use is linked to an increased risk of violent and property crime (Degenhardt & Hall, 2012; Felson & Staff, 2017). Furthermore, Li et al. (2021) discovered a significant positive relationship between drug users and crime. As indicated in the literature, marital status is also a determinant of crime; Ex-prisoners who were married or lived as married had half the chance of committing a new crime (Visher et al., 2009). Compared to the unmarried group, having married, or staying married was related to a 12 per cent lower risk of committing a new offence (p 0.05) and a 2% lower risk of illegal drug use or intoxication (p 0.10). In line with Wang et al. (2019), culprit demographics (such as age and marital status) strongly predict both forms of crime.

Past studies have investigated the connection between crime and unemployment, and some affirmed a positive association between crime and unemployment (Speziale, 2014). Others affirmed negative results (Wu & Wu, 2012), while Pyle and Deadman (1994) confirm there is no evidence to support the notion that unemployment significantly affects crime. Based on the arguments above, the following hypotheses were developed to test empirically, as presented in Table 3.1.

H6: There is a significant relationship between socioeconomic variables and violent crime in NWN.

Table 3. 1
Summary of the Socio-economic Hypotheses

H6	Variables	Measurement	Hypothesized
H6a	Employment status	Binary choice; 1 if employed, otherwise 0	significant relationship
H6b	Marital status	Binary choice; 1 if married, otherwise 0	"
H6c	Location	Binary choice; 1 if living in a rural area, otherwise 0	"
H6d	Age	Number of years	"
H6e	Income	Naira Value	"
H6f	Gender	Binary; 1 if male, otherwise 0	"
H6g	Size of household	Per head number	"
H6h	Education attainment	Binary choice; 1 formal/Qurán, otherwise 0	"
H6i	Family disruption	Binary choice; 1 if father and mother living together; otherwise, 0	"
H6j	Drug consumption	Binary choice; 1 if yes, otherwise 0	"
H6k	Father employment	Binary choice; 1 if employed, otherwise 0	"
H6l	Household members' employment status	Binary choice; 1 if employed, otherwise 0	"

3.7.6 Loss of Income

Violence can directly and indirectly impact households' ability to generate income (Ibáñez & Moya, 2010; Justino, 2009). According to Brown and Velásquez (2017), recurrent violence in Mexico significantly impacts Mexican employees' labour market participation and incomes.

The findings of Babangida, Hakim, and Abdullah (2022) reveal that people have been deprived of work due to the uncertainty generated by violence. Leading to the closure of enterprises, causing emotional trauma, and the diminution of job opportunities as well as loss of assets, stocks, or workforce required to operate businesses, such as appliances and apparatus, which by implication, cause a severe decline in income. Conflict can prevent people from having a chance to work for so many reasons. The confusion generated during violence can force businesses to close and job opportunities to decline (Brück et al., 2011). Although the utmost cost of crime is death, victims may inflict additional expenses such as health bills, property loss, or loss of income (Atkinson et al., 2005). Henceforth, the following hypotheses were developed:

H7: There is a significant relationship between violent crime and Household loss of income.

3.7.7 Declining Food Consumption

Violence may limit household food supply and consumption; for example, the advent of war will significantly reduce food imports, make food production, and purchases riskier, increase food prices, and decrease food supplies and disposable incomes (Martin-Shields & Stojetz, 2019). Serneels and Verpoorten (2015) discovered that households that experienced high violence in their communities during the Rwandan genocide in 1994 had at least 28 per cent lower consumption levels in 2000 than households that had not experienced a conflict. Mercier, Ngenzebuke, and Verwimp (2020) found that the exposure of a locality to conflict during the Burundi Civil War (1998–2007) is associated with reducing at least 9% in household consumption in 2012. Evidence shows that food production has declined in areas with active insurgency (Adelaja & George, 2019).

Babangida, Hakim, and Abdullah (2022) found that rampant crop devastation, food thievery, animal theft, and market access hurdles contribute to declining food consumption. The proportion of households impacted by the violence relies significantly on farms and markets to meet their food needs, making them vulnerable to the impacts of deteriorating infrastructure. The people of Northwestern Nigeria are facing considerable challenges because most of their crops and markets have been eroded. Furthermore, food price volatility exhausts household budgets to the point that they cannot fulfil basic consumption needs, resulting in decreased food consumption. Based on the argument above, the following hypotheses were proposed to test empirically:

H8: There is a significant relationship between violent crime and Household declining food consumption.

3.8 Design of the Study

Research design denotes the outline for data collection and analysis (Bryman, 2016). The research design is a grand plan that outlines the process and procedure for collecting and analyzing the necessary facts and data (Sekaran & Bougie, 2013). Explicitly, descriptive analysis using quantitative methods has been the most appropriate approach to achieve these objectives following (Taneja, Taneja & Gupta (2011). This research will use a quantitative approach and numerical data measurement to depict the phenomenon under investigation.

The survey technique allows the researcher to collect and interpret quantitative data using standard descriptive, correlations, and regression statistics as reasons for examining the individual relationship among variables and models (Cresswell, 2008; Fisher & Buglear, 2010; Saunders et al., 2011). This enables the researcher to assess the relationship between socioeconomic variables (education level, employment status, HH income, and family size) and deterrence factors (probability of detection, the severity of punishment), corruption, and the rule of law with dependent variables (DV) violent crime as well as measuring the relationship between violent crime with household economic welfare (DFC & LI). Different studies on the antecedents and consequences of different areas used the same approach (Cantisano, Domínguez & Depolo, 2008; Willness, Steel & Lee, 2007; Zahra, Priem, & Rasheed, 2005).

3.8.1 The Strength and the Weakness of the Research Approach

The study sample is randomly selected from the study population. According to Duffy (1985), statistical sampling depends on the study sample to generate general laws that may be applied to a larger population. The benefit of results from random sampling is that there is a higher chance that the conclusions will be generalised. However, this method has a weakness in that random selection takes time, which leads to much research using opportunistic samples that are more readily available (Duffy 1985). This limits the potential for generalisation, mainly if the sample size is insufficient.

The researcher maintains a detached, objective viewpoint for the research's technique. The technique may not necessitate physical interaction with subjects (Bryman 1988). And the benefit of such a dispassionate method is eliminating researcher engagement, which protects against study bias and guarantees objectivity. On the contrary, when it comes to the intimacy of the interaction between the researcher and the respondent, Duffy (1987) contends that one advantage of such an interactive relationship is that the researcher gains first-hand experience, which enables the researcher to provide valuable, meaningful data. Data are more likely to be accurate and reliable when the researcher and subject interact more (Bryman,1988).

Another strength of this approach is that it offers enough details about the connections between the variables under inquiry to allow for outcome prediction and control (Cormack 1991). Moreover, this strength can also be the drawback of the quantitative approach. As shown in Bockmon & Rieman work (1987), the methodology disregards the person's experiences as insignificant and views people as passively reacting and responding to their surroundings.

This quantitative approach is thought to be more reliable, As the approach seeks to control or eradicate irrelevant variables within the organisational structure of the study, and the data generated may also be evaluated by standard testing (Duffy, 1985). However, one can dispute the validity of quantitative research, mainly if the data have been abstracted from their natural context or if random or unavoidable occurrences are presumed not to have occurred (Comer, 1991). The next segment addresses the sample for the study.

3.9 The Study Population and Procedure for Sampling

Cresswell (2012) identified the population as a whole citizen, subjects of concern a study seeks to investigate. NWN is among Nigeria’s six geopolitical zones, comprising Zamfara, Katsina, Kano, Sokoto, Kebbi, Jigawa, and Kaduna. The research employed multi-stage random sampling. Phase one is the cluster sampling of the Katsina and Zamfara state, the states reported as the momentous flashpoint for violence. According to UNHCR/NCFRMI (2019), Zamfara state is the worst affected by violent crimes. The seriously affected local government areas are Anka, Birnin Magaji, Maradun, Zurmi, and Gusau LGAs. Similarly, in Katsina state, 8 LGAs were seriously affected by violent crime; the LGAs are Batsari, Danmusa, Danja, Faskari, and Kankara. Others are Jibia, Safana, and Katsina LGAs. (UNHCR/NCFRMI, 2019).

In the second phase, the study used the second stage of cluster sampling to select the affected LGAs, Comprising five LGAs from Zamfara and eight LGAs from Katsina. The inmates are from the two major prisons, the medium-security custodial centre in Katsina and Zamfara states, targeting only bandits among the inmates through purposive sampling and census sampling, which is the selection of every unit in a population, also called the complete census (Gorondutse, 2016).

The research areas and the choice of respondents were based on topography and indiscriminate process, regardless of socioeconomic status (such as income, education, gender or age, or distribution). The target population consisted of households and inmates. Sample size

It is virtually impossible for research that examines many elements to obtain, test, and analyze each aspect (Sekaran & Bougie, 2019). Sample size selection is a normal and apparent activity for numerous researchers (Bartlett, Kotrlik & Higgins, 2001). Because of its significance on the study's accuracy and quality, to be precise, there is no predetermined percentage of the population for representation. The total sample size is essential, not a portion of the study population (Jeff, 2001). Roscoe (1975) proposes a basic rule for selecting a sample size greater than 30 but less than 500. In the case of multivariate studies, the sample shall be at least ten times larger than the variables' number. Bartlett et al. (2001) suggested a general rule of at least 5 to 10 times greater than the study's variables for the precise sample size.

Thus, a sample that is a subset of the study population is chosen for analysis (Cavana et al., 2001). Samples may also be identified as subsets of the study's population (Zikmund et al., 2013). The study sample is from the Households and the youth (Inmates) from Katsina and Zamfara states. The probability sampling method entails selecting each population segment with a known, non-zero chance of being included in the study sample. Non-probability designs are those in which the likelihood of each component being selected is unknown. Usually, components of non-probability are chosen based on the decisions concerning the distinctiveness of the target population and the preferences of the inquiry or choice based on ease or convenience. Hence, the study employed multistage probabilistic sampling for the Household.

Watson's (2003) sample size criteria were used in this study to determine the sample representing the population. The criteria considered the level of confidence and precision to reduce sampling error. With a population of 48,942,307 people in Northwest Nigeria (NPC, 2006), given the criteria used by the Watson (2003) sample size table, with a population of 48,942,307, a sample size of 400 would have been sufficient to cover the study's population while obtaining a sample of 384 using the Krejcie and Morgan (1970) sample size table.

The sample size was also calculated using Israel's (2009) equations to guarantee that the sample size was sufficient to achieve the study objective. And it was determined using the following: $n = \frac{N}{1=N(e)^2}$ (3.25)

Whereas:

n = the size of the sample

N = the total number of people

e = the degree of precision

With a precision level of 0.05 and a population of 48,942,307 in Northwest Nigeria (NPC, 2006), the sample size is calculated as follows:

$$N= \frac{48,942,307}{1+48,942,307(0.05)^2} = \frac{48,942,307}{1+48,942,307(0.0025)} = \frac{48,942,307}{122,356.77} = 399.99 \qquad (3.26)$$

Based on the above formulae, the total sample is 400 HH for both Zamfara and Katsina states. However, due to the challenge of a low response rate and the results obtained from a sample that would be generalised to the whole population (Hair et al., 2010), it was justified that bigger sample size can improve statistical results and lower sampling error (Creswell, 2012). Hence the study incorporated 50% of the main sample, which helped to get a satisfactory response rate in line with (Hair et al., 2008). For this reason, the study added 200 (200+400) = 600 HH, divided proportionately based on the number of regular households for Katsina and Zamfara states, respectively (385:215). Katsina has a regular HH of 1,066,320 and Zamfara 592,110 (NPC, 2006).

Probabilistic sampling approaches would be more suited to determine the sample for the inmate population when the sample's representation is significant for greater generalisation (Sekaran & Bougie, 2013). However, due to the relatively small population size of the inmates (bandits), a census sampling can be used as the sample size (Gorondutse, 2016). Therefore, this study employed the complete census sample method, which selects every unit within a population to generalise the population. The census sampling also offers an absolute count of the population with little or no sampling error and a very reliable result (Hilman & Kaliappen, 2014).

Krejcie & Morgan's (1970) sample size criteria were used to determine the inmate population sample. The criteria considered the level of confidence and precision to reduce sampling error. Considering the population of Inmates, the population of Convict and awaiting trial persons is 68,872 as of 2021 (Nigerian correctional service, 2021). Given the Krejcie & Morgan (1970) sample size table, to examine the inmate population of 68,872, a sample of 398 would have been sufficient:

$$N = \frac{68{,}872}{1+68{,}872(0.05)^2} = \frac{68{,}872}{1+68{,}872(0.0025)} = \frac{68{,}872}{173.18} = 398 \qquad (3.27)$$

The sample size can be doubled to address the non-response issue and minimize sample size errors (Hair, Wolfinbarger, & Ortinau 2008). Therefore, the study rounds it up to 800.

3.9.1 Sampling Framework

Multistage sampling was used to obtain the study's sample for the Household. Multistage sampling entails two or more stages of random sampling based on the hierarchical structure of natural clusters within the population (Sedgwick, 2015). The sampling involved five stages; the first stage is cluster sampling, the selection of NWN due to the humanitarian catastrophe that erupted in the region (Campbell, 2021). The second stage was the selection of Katsina and Zamfara states from NWN, the most stressed states shown in Fig 1.4 and recorded as major flashpoint areas of violence (UNHCR/NCFRMI, 2019). The third stage was the selection of the most seriously affected LGAs, in Zamfara state Anka, Birnin Magaji, Kauran namoda, Maradun, Zurmi, and Gusau LGAs. Similarly, in Katsina state, 8 LGAs were seriously affected by violent crime; the LGAs are Batsari, Danmusa, Danja, Faskari, and Kankara. Others are Jibia, Safana, and Katsina LGAs. (UNHCR/NCFRMI, 2019).

The fourth stage involves stratified random selection of Urban & Rural LGAs; the rural LGAs are 7 and 4 LGAs, in Katsina and Zamfara, respectively. Urban classified as metropolitan Katsina and Gusau, the state's capitals, as a control sample. The final stage consisted of randomly sampling three wards from the selected LGA in Katsina and Zamfara states according to the population size of the LGAs. 15 regular HH from each ward in rural LGAs in Katsina state and 25 from the metropolitan. And 14 regular HH from each ward in rural LGAs in Zamfara state and 15 from the metropolitan.

The sampling technique for the inmates is as follows; the first stage was selecting the medium-security custodial centre in Katsina and Gusau, Zamfara state. The next stage was purposive sampling selecting the Bandits among the Inmates. The final phase was Census sampling, selecting all the Bandits (798) in the two medium-security custodial centres. Census sampling is the selection of every unit in a population, also called the complete census (Gorondutse, 2016); all the inmates were chosen.

The steps involved in the sampling process are illustrated in Figure 3.2. Mukhtar (2019) and Amaza (2018) used a similar sampling procedure.

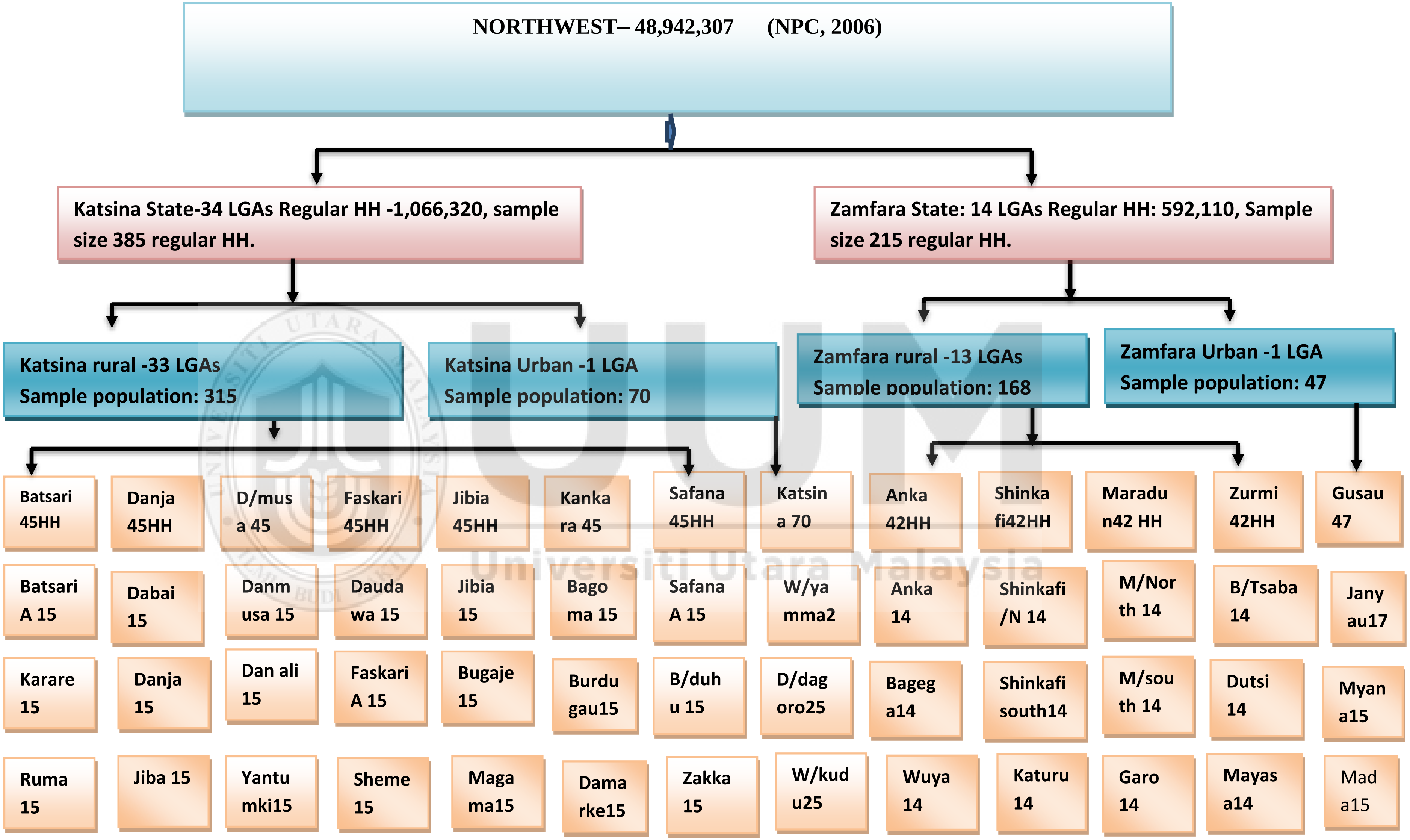

Figure 3. 2
Sampling Framework

3.10 Unit of Analysis

The term "unit of analysis" refers to the subject to be investigated in each study. Organization, group, and individual units of analysis are used in social science research (Creswell, 2012). The study's analysis unit is household and youth (inmates). Thus, only one respondent represented each HH and an individual inmate.

3.11 Data Collection Procedure

This section will briefly present the distinct techniques for the collection of data. The crime variables operationalized as violent crime exposure, deterrence variables, and demographic and socio-economic features gathered via a cross-sectional survey of chosen households and Inmates from Katsina and Zamfara states; the primary survey tools are a well-organized questionnaire.

3.12 Operationalization and Measurements of Variables

An operational definition is a structure on how the investigator wants to relate to and measure research variables specific to that study (Nunally & Bernstein, 1994; Creswell, 2012). Based on Sekaran's (2013) ideas, " The association between IVs and DVs might be positive or negative.” The variables measurements in this analysis were adapted from previous studies and summarized in Table 3.2.

Table 3. 2

Summary of the Measurements and their Sources

Variable and Dimensions	items	Sources of items
Deterrence factors		
Probability of detection	4	(Bailey & Lott, 1976; Paternoster et al., 1983)
Severity of punishment	3	(Bailey & Lott, 1976; Paternoster et al., 1983)
The rule of law	6	(Kaufmann et al., 2010; Torgler et al., 2007; Saidu, Din & Kling, 2016; Uslaner, 2007)
Control of corruption	4	
Crime exposure		
Crime exposure	11	(UCHR & OHCHR, 2011; Mazurana et al., 2014; Levine, 2016)
Economic welfare Declining Food consumption	9	(Brück et al., 2013; Babangida, Hakim & Abdullah, 2022)
Loss of Income	13	(Brück et al., 2013; Babangida, Hakim & Abdullah, 2022)
	50	

Sources: Researcher.

3.12.1 Deterrence Factors

Several researchers have referred to the deterrence theory to explain the prevalence of violent crimes. Deterrence advocates claim that people choose to follow or violate the law after weighing the benefits and consequences of their actions. In the economic theory of deterrence, Becker (1968) highlights two major deterrence variables: the probability of detection and the severity of punishment. Bowles and Garoupa (1997) extended Becker's model of crime with corruption. Neapolitan (1999) reveals high corruption levels indicate countries with high crime levels and ineffectiveness within the criminal justice system.

According to Waldo and Chiricos (1970), the questions of deterrence can be adequately addressed through microdata; therefore, future empirical research should not be based on macroscopic data. As the official aggregate has severe inadequacies, aggregate data on crime and imprisonment produce inconsistent findings when studied at different points. Hence, the present study asked about the subjects' perceptions of their chances of being arrested and convicted before committing a crime and their self-reported criminal involvement.

3.12.2 Probability of Detection

Substantial attention has been paid to the association between perceptions of the probability of detection and severity of penalty and participation in criminal behaviour (Bailey & Lott 1976; Burkett & Jensen, 1975). Perceived severity of punishment was a significant direct predictor (Truelove et al., 2021). Jaynes and Loughran (2020) confirmed that the perceived certainty of detection is considered highly vigorous in deterring the severity of punishment.

For the consistency factor, some researchers asked participants to evaluate the probability of arrest for "people in general" or "people like yourself" (Anderson et al., 1977; Grasmick & Appleton, 1977; Silberman, 1976). At the same time, others asked participants to evaluate their probability of being apprehended (Burkett & Jensen, 1975; Tittle, 1969). Other researchers compared the two measures (Bailey & Lott 1976; Waldo & Chiricos, 1972). These results reveal that a more personalized measure is more closely linked to participation in illegal activities and provides a solid foundation for potential researchers to use this test. Hence this research adapts Bailey and Lott (1976) and Waldo and Chiricos (1972), which has four items, as presented in

Table 3.3. A dichotomous scale has been used in this study with two options 1. = "likely." 2. = "Not likely". the internal consistency reliability Cronbach alpha was 0.82 (Grasmick & Bryjak, 1980). The items are presented in Table 3.3 and part 2 of appendix 1.

Table 3. 3
Survey Items to Measure Probability of Detection

Source	Original construct	Modified construct
Bailey and Lott (1976); Waldo and Chiricos (1972)	If you were to commit each of the crimes listed below, what do you think your chances would be of getting caught by the police?	Before committing the crimes, what do you think are your chances of getting caught by the police?
	If you were to commit each of the crimes below, what do you think your chances would be of getting caught and convicted in court?	Before committing the crimes, what do you think are your chances of getting caught and convicted in court?
	Compared to "other persons like yourself," how likely do you think it would be that you would be arrested if you committed a crime?	Compared to "other persons like yourself," how likely do you think it would be that you would be arrested if you committed a crime?
	Compared to "other persons like yourself," how likely do you think it would be that you would be convicted in court if you committed a crime?	Compared to "other persons like yourself," how likely do you think you would be convicted in court if you committed a crime?

The subsequent section will discuss on measurement of the Severity of punishment.

3.12.3 Severity of Punishment

Deterrence literature studies involve perceived certainty and severity of legal punishment (Anderson et al., 1977). Bossler (2021) confirmed that Unofficial sanctions have a more significant deterrent effect than formal punishments. Patchin and Hinduja (2018) established that sanctions of school and parental sanctions deterred more than police punishments. Also, Lee et al. (2018) discovered cybercrime is negatively associated with unofficial social control. Likewise, Informal punishments like social loss, stigma/peer rejection, disgrace /guiltiness/awkwardness were significant predictors of unlawful actions (Kaviani et al., 2020).

Perceived legal punishment (certainty and severity) and non-legal (fear of social humiliation) were perceived to be significantly effective, which aligned with earlier studies. However, non-legal sanctions were more effective deterrents than legal sanctions (Freeman et al., 2020). At the same time, almost all these researchers conclude that legal punishment's perceived severity is also a deterrent.

Several researchers measured perceived severity with questions on maximum legal sanctions. Respondents were asked to estimate the probability of obtaining the maximum legal punishment (Silberman, 1976; Waldo & Chiricos, 1972) or the maximum legal penalty (Anderson et al., 1 977; Waldo & Chiricos, 1972). Hence this research adapts the Bailey and Lott (1976); Waldo and Chiricos (1972) 3 items as shown in Table 3.4, and the internal consistency reliability Cronbach alpha was 0.88 (Grasmick & Bryjak, 1980). A dichotomous scale has been used in this study with two options: 1, = "Release by the police" 2. = "Conviction and a prison sentence" for the unofficial punishment with two Binary choices: 1. = "pleased," 2. = "displeased" As to achieve better information processing and scale reliability (See part 2 of appendix 1)

Table 3. 4
Survey Items to Measure Severity of Punishment

Source	Original construct	Modified construct
Bailey and Lott (1976); Waldo and Chiricos (1972)	What do you think would happen to you if you were caught by the police committing the following crimes?	Before committing the crime, what do you think would happen to you if the police caught you?
	If your parents (guardian) found out that you had committed the crimes listed below, how do you think they would feel about you?	If your parents (guardian) found out that you had committed the crimes, how would they feel about you?
	If your close friends found out that you had committed the crimes listed below, how do you think they would feel about you?	If your close friends found out that you had committed the crimes, how do you think they would feel about you?

Questions 1, 2, and 3 enable an analysis of the anticipated official and unofficial punishments. The following section will discuss on measurement of corruption.

3.12.4 Corruption

The study adopts the measurements of control of corruption, a sub-dimension of the World Bank's indicators for corruption. It measures the perception of how much public power is exerted for personal gain, including both small and large forms of corruption, and how much the state is dominated by politicians and private interests (Kaufmann, Kraay & Mastruzzi, 2005). The survey items are presented in Table 3.5.

3.12.5 The Rule of Law

The rule of law indicators is used to evaluate the perception of the quality of administration of the country's rule of law. The state's ability to efficiently investigate, prosecute, and punish corruption cases is undermined by a weak and corrupt judicial system making criminal gangs act with impunity (Chêne & Hodess, 2008). The survey items are presented in Table 3.5.

Table 3. 5
Measurements of Corruption, Rule of Law, and their Source

Dimension	Sources of Dimension	Measurement Items
Control of Corruption	Kaufmann et al. (2004, 2005), Torgler et al. (2007), Torgler and Schneider (2009), Uslaner, (2007)	Trust in the financial honesty of politicians Diversion of public funds Corruption in contract and tax payment Private interests control the state
The rule of law	Kaufmann et al. (2004; 2005), Torgler et al. (2007), Torgler and Schneidler (2009), Saidu, Din, and Kling (2016).	Fairness in the administration of justice Confidence in the legal system Police effectiveness Independence of the judiciary Abide by the rules of society. Quality contract enforcement in Likelihood of crime and violence

Table 3. 6

Survey Items to Measure Corruption and Rule of Law

Source	Original construct	Modified construct
Kaufmann et al. (2004), Torgler et al. (2007) Torgler & Schneider (2009),	Trust of financial honesty	The level of trust in the financial honesty of officials is low in Nigeria.
	Diversion of public funds	The diversion of public funds is common due to corruption
	Corruption in contract and tax payment	There are petty and grand forms of corruption in Nigeria.
	Private interests control the state.	Private interests control the state.

Source	Original construct	Modified construct
Kaufmann et al. (2004), Torgler et al. (2007) Torgler & Schneider (2009)	Fairness in the administration of justice	The citizens abide by the rule of the society.
	Confidence in the legal system	The citizens are confident in the rules guiding the society
	Independence of the judiciary	The judiciary is independent of the political influence of government, citizens, or other organizations
	Property rights	Property rights are guaranteed in Nigeria.
	Quality contract enforcement	The police forces are effective in enforcing laws in Nigeria.
	Likelihood of crime and violence	There is a likelihood of crime and violence in Nigeria

In studies of cross-national homicide, respective indicators of ‘poor governance,' the indicator rule of law, appeared as major independent determinants of rates of homicide (Huebert & Brown, 2019; Karstedt, 2015; Stamatel, 2016).

The Control of corruption and the rule of law have been extensively employed in tax compliance behaviour. The study of Alabede, Ariffin, and Idris (2011) empirically investigated public governance (Control of corruption and the rule of law) in the context of tax compliance behaviour. However, tax evasion is a serious economic crime. This study looks at the determinants, and economic consequences of violent crime, another justification for using control of corruption and the rule of law in the context of violent crime is based on the studies (Van Dijk, 2007; Chêne & Hodess, 2008; Buscaglia & van Dijk, 2003). They established the connection between organized crime, the judicial system, and corruption, and they found that high corruption and money laundering are strongly correlated with organized crime. In contrast, the effectiveness of judicial systems is negatively correlated with organized crime, as shown in appendix 1, part two. With two Binary choice 1. = “Agree,” 2. = “Not agree”. To achieve better optimal information processing and scale reliability.

3.12.6 Violent Crime Exposure

The existing crime exposure instruments that add up multiple numbers of exposures to a diverse array of violent events are the exposure of the crimes built based on a field study conducted by the United Nations Office of the High Commissioner for Human Rights (OHCHR & Uganda Human Rights Commission (UHRC) in Greater Northern Uganda between 2007 and 2011. The items were built from documenting trends in exposure to gross violations of international humanitarian law and human rights law. Originating from the experiences and impressions of affected people and victims in the Greater North of Uganda, in which they define 11 categories of serious violations (UCHR & OHCHR, 2011; Mazurana et al., 2014; Levine, 2016), as shown in Table 3.7.

At this point, the adapted instruments were sent for evaluation using the content validity processes posited by Engström et al. (2018) that assessment of the validation of the instrument ought to be carried out by a person with a deep understanding as well as a comprehensive background of the constructs under study, along with expertise in scale construction. Adjustments have been made to reflect this research's environment and suit the context. Consequently, after receiving the experts' opinions and suggestions, many questions have been redrafted, rephrased, and merged to measure the required variable and be fair for potential respondents. The modified version of the items is shown in table 3.8 and made it technically possible to assess if each item in the questionnaires is integral and appropriate for the construct measurement (Saunders et al., 2011).

Item 1 is the destruction of property, such as farms and food supplies, which is a grave breach of international humanitarian law. To ruin people's livelihoods, they destroy their homes, farmlands, food stores, and livestock, including cattle, Sheep, and Goats (UHRC & OHCHR, 2011). Item 2 is robbery, taking people's personal and commercial belongings while they are away or forcibly from them (UHRC & OHCHR, 2011). Item 3 is the kidnapping of ramson; the extent of the kidnapping was massive, with criminals preferring to kidnap and hold mostly girls in their adolescent years. Captives of both sexes, children, and adults were compelled to carry plundered goods, as well as firearms, ammunition, and supplies for the armed group, during raids, also inducing the youth to join them (Annan et al., 2008).

Item 4 experienced sexual abuse/rape; females were assaulted and sexually violated regularly, resulting in widespread sexual servitude, which included mutilation and castration. The criminals pushed adolescent girls and young women into forced marriage, forced pregnancy, and forced childbearing, which are heinous offences under international law and other major sexual abuses (Annan et al., 2008; UHRC & OHCHR, 2011).

Item 5 Massacre (gruesome group killing), the massacres were carried out in a coordinated and indiscriminate manner by the criminals, who killed citizens and tortured them by tying people hands and arms behind their backs so tightly that it caused lasting nerve damage (Erin Baines et al., 2009). A time deliberately set people on fire or burned alive; Brutally murdered, including dismemberment, having body parts cut off and burned alive. Attacking with a dangerous weapon like an axe, sword, or gun or compelling the victims to kill other abductees or to decapitate and roast their loved ones and friends in this type of heinous deed course emotional injury against targeted populations (UHRC & OHCHR, 2011).

The adjustments have been made to reflect the environment of this research and suit the context, which is in line with the American Security Project (2021); EASO (2021). Nigeria's northwest armed banditry has grown into a serious security issue, a sort of organized crime that encompasses kidnapping, armed robbery, murder, rape, cattle theft, and the exploitation of resources. A dichotomous scale has been used in this study with two Binary choices. Yes or No (See appendix 1) to achieve better optimal information processing and scale reliability. The items are presented in Table 3.7 and the modified items with their translations in Hausa language in Table 3.8.

Table 3. 7
Survey Items to Measure Crimes Exposure

Sources	**Original construct** Can you tell me for each household member if they ever experienced
CHR and OHCHR (2011) Mazurana, D., Marshak, A., Opio, J. H., Gordon, R., & Atim, T. (2014); Levine, S. (2016)	Someone associated with parties to the GoU/LRA conflict or armed raiders took or destroyed your property?
	Was taken (abducted) by a party to the GoU/LRA conflict or armed raiders?
	Experienced severe beating or torture by parties to the GoU/LRA conflict or armed raiders
	Was set on fire or put in a building that was deliberately set on fire
	Survived a massacre ('gruesome group killing')
	Was attacked with a panga, axe, hoe, or other weapons by a party to the GoU/LRA conflict or armed raiders
	Experienced sexual abuse by a party to the GoU/LRA conflict or armed raiders
	Returned from captivity with a child born in the bush
	Forced into labour/ slavery by a party to the GoU/LRA conflict or armed raiders
	Forced to kill or seriously injure another person
	Received a serious physical injury due to the war (beating, torture, rebel attack, battle, etc.)
	Suffers from emotional distress related to the GoU/LRA conflict or from armed raiders that inhibits their ability to contribute to the household

Table 3. 8
Modified Construct

	In the past 12 months, have you or any of the household members been exposed to the following violent crimes? *A cikin watanni shabiyu da suka gabata, wadannan taaddacin sun taba rutsuwa da kai ko wani dan gidanku*
1	Destruction and looting of properties, including farms, food items, cattle, Sheep, and Goats *Ɓarnatar da satar kayayyakin gona, kayan abinci, dabbobi (shanu da tumaki da awaki)*
2	Sexual abuse/rape *Cin zarafin mata (fyaɗe da sauransu).*
3	Abduction/Kidnapping for ramson *Sace mutun dayin garkuwa da su don kuɗin fansa*
4	Armed robbery *Fashi da makami*
5	Gruesome group killing (massacre) *Munanan ayyuka irin na kisan gilla.*

3.12.7 Household Economic Welfare

"Economic welfare" refers to the aspect of wellness that deals with present and future consumption, as well as the means that enable consumption "inclusive wealth, households' time endowments, and earnings" (Reinsdorf, 2020).

However, the basis for using the two dimensions to measure household welfare (DFC and LI) is a matter of practicality (Babangida, Hakim & Abdullah, 2022). For practical purposes of reliability, the preference for consumption, which is considered the preferred welfare indicator, is articulated by the World Bank (2001). Consumption is measured to reflect long-term welfare levels better. The concept of well-being is multifaceted, therefore, can be measured in terms of income and consumption variability (Babangida, Hakim & Abdullah, 2022).

3.12.8 Declining Food Consumption

Deteriorating food consumption is a key indicator of the extreme effect of violence and conflict. The questions in this module are designed to determine how violent crime creates economic shocks for the household and assess the magnitude of such shocks. DFC items adopted from (Brück et al., 2013; Babangida, Hakim & Abdullah, 2022) are shown in Table 3.8. However, Babangida, Hakim, and Abdullah (2022) found that rampant crop devastation, food thievery, animal theft, and market access hurdles contribute to declining food consumption. The proportion of households impacted by the violence relies significantly on farms and markets to meet their food needs, making them vulnerable to the impacts of deteriorating infrastructure. The people of Northwestern Nigeria are facing considerable challenges because most of their crops and markets have been eroded.

Furthermore, food price volatility exhausts household budgets to the point that they cannot fulfil basic consumption needs, resulting in decreased food consumption. Justino and Verwimp (2013) assess extreme food consumption reductions to identify the most susceptible households and explore instances of acute welfare shocks, with two Binary choices, “Yes” or “No,” to achieve better optimal information processing and scale reliability. The items are presented in Table 3.9.

Table 3. 9
Survey Items to Measure DFC

Source	Did your household experience severe declines in food consumption or hungry periods before the conflict or since its onset?	Modified construct. In the past 12 months, did you or any households experience any of the following due to violent crimes?
Brück, et al., 2013)	1. Destruction of crops/livestock	1. Destruction of crops 2. Destruction of livestock
Babangida,	2. Absence of food markets	3. Scarcity of food items in our markets

Hakim & Abdullah (2022)	3. Too dangerous to get to market	4. Too dangerous to get to market due to fear of attacks
	4. Transport to market impossible	5. Transport to market is not possible
	5. Inflation/volatility of prices	6. Inflation/volatility of prices
	6. Lack of available money to buy food	7. No available money to buy food
	7. Food aid shortage/not delivered	8. Too difficult to get food aid
	8. Theft of crops/livestock/food stores	9. Theft of crops/livestock/food stores
	9. Poor harvest	10. Poor harvest

3.12.9 Loss of Income

Violence can affect households' ability to create intrinsic and extrinsically income (Ibáez & Moya, 2010b). The modules cover a variety of conflict scenarios that could result in lost income, destruction or devastation of property, inventories, and resources required to operate a business, as well as preventing specific people from working or acquiring credit. (Brück et al., 2013; Brück & Vothknecht, 2011; World Bank, 2006).

The findings of Babangida, Hakim, and Abdullah (2022) reveal that violence caused a severe decline in income; the items are displayed in Table 3.10. Also, A dichotomous scale has been used with the Binary choice "Yes" or "No" to achieve better optimal information processing and scale reliability, presented in Table 3.9.

Table 3. 10
Survey Items to Measure LI

Source	**Original construct**	**Modified construct.**
	Have your household suffered significant income losses since the beginning of the conflict?	In the last 12 months, have you or any household member experienced any of the following due to the violence?
Brück, et al., 2013) Babangida, Hakim & Abdullah (2022)	Lack of employment opportunities	closing of businesses
	Loss of necessary assets or inputs/ destruction of dwellings	Loss of assets, inventories, machinery, stocks, and dwellings
	Loss of access to input markets	Access to the input markets is not possible
	Loss of access to output markets	Access to the product markets is not possible
	No credit available	Difficult to access credit
	Lack of manpower.	Prevented from going to work
	Vandalism or crime in the area	Serious Infrastructural destruction, including schools and hospital buildings.
	Discrimination	
	Military service	Normal activities are Interrupted due to security operations

	Forced military service/ abduction	Violence has caused people to voluntarily or forcefully form a vigilante group
	Security/ landmines	Productivity reduces due to Injuries because of violence
	Had to pay money to the warring parties	Criminals tax communities to pay money to them
	Inflation; volatility of prices Setbacks in terms of health	The violence resulted in inflation, price volatility, and Setbacks in terms of health
	injuries, handicaps, psychological distress) caused by violence	Productivity reduces due to psychological distress because of violence

The multidimensional nature of violence can be easily comprehended through responses from people using different variables and dimensions, such as violent crime exposure.

Micro-level surveys in sectarian strife countries can be more practicable and meaningful by adopting/adapting the violence exposure module to local concerns and circumstances. Researchers using these conflict-sensitive surveys will be more nuanced and convincing whether they try to clarify violence or analyze the legacies of violence. Even studies that do not explicitly contribute to violence will be enhanced if they use conflict variables recommended in the conflict exposure module. Otherwise, analyses risk incurring omitted bias (Brück et al., 2013).

Social scientists use aggregate-level variables in various circumstances based on the mean of individual item characteristics (O'brien,1990). Therefore, all the items in the respective variables were aggregated through the mean aggregation process.

3.13 Source of Data

The study used both primary and secondary data. The study's secondary data mainly came from Global Development Indices, the National Statistics Bureau, published publications, and other sources. However, the data used in this study's analysis is entirely derived from primary sources. The data relating to the socioeconomic factors, deterrence factors, corruption and the rule of law, violent crime exposure, and economic welfare are soured from selected HH and Inmates from Katsina and Zamfara states.

3.14 Questionnaire Designs

The study aims to investigate the influence of deterrence factors (probability of detection, the severity of punishment), corruption, and the rule of law on violent crime and to examine the effect of violent crime on economic welfare (DFC & LI) in Northwest Nigeria. Sekaran and Bougie (2019) demonstrated that attention should be given to the wording, scaling, coding, planning, and categorization of variables and the overall appearance of the questionnaire. Therefore, avoiding ambiguous issues, technical terms, and dual-barrelled questions is necessary. The questionnaire is designed to be simple and straightforward within the context of the discussion (Frazer & Lawley, 2000). The study uses a comprehensive questionnaire with closed-ended multi-option answers. The respondents answered questions on the influence of deterrence factors (probability of detection, the severity of punishment), corruption and the rule of law on violent crime, and the impact of violent crime on household economic welfare. The study used simple language to avoid any form of vagueness (Frazer & Lawley, 2000).

The sample size should be doubled to reduce the sample size error and address the non-response problem (Hair et al., 2015). Hence, the study distributes rounded up to 800 questionnaires for inmates and 600 to households. The first questionnaire is constructed to comprise the following: the first portion is the Introduction section. Part

2, a demographic profile of participants, encompasses 14 questions. Part 3 consists of 2 questions on the probability of detection, 3 questions for both official and unofficial severity of punishment, 6 for the rule of law, and 4 for control of corruption. Part 4 consists of 5 questions covering the dependent variables (see appendix 1).

The second questionnaire is constructed to comprise the following: the first portion is the Introduction section. Part 2, a demographic profile of participants, encompasses 11 questions. Part 3 consists of 5 questions covering the independent variable. Part 4 consists of 23 questions covering the dependent variables (economic welfare), DFC 10 questions & LI 13 questions (see appendix 2).

3.15 Estimating Responses Rate

Six hundred questionnaires were distributed for the household and 800 questionnaires for the inmates, a total of 1,400 questionnaires for this study. The objective was to achieve a response rate of at least 50%, responses for the household and inmates, respectively. Sequence to Sekaran's (2003) assertion that a 30% response rate is appropriate and satisfactory for a research study.

3.16 Content Validity

Hair et al. (2010) define validity as “The extent were the instruments, concepts, or measures employed in a study measure what it is intended to define or measure” (Hair et al., 2010). The questionnaires were sent to 12 experts in scale construction, criminology, development economics, survey technique, and group dynamics (See appendix 4 for the list of the experts and areas of specialties). According to Gable and Wolf (1993) the number of experts should be between 2 and 20.

The expert reviewed and scrutinized the instrument, looked at the instruments' ethics and consistency, evaluated the dimensions' content validity, and commented on construct clarity and the reliability of the measurements. The expert evaluations are rephrasing, redrafting, merging, and separating items with a double barrel. The recommendations are as follows: (1) The operationalization of the variable as violent crime exposure to reflect contextual/factual situations (2) Enhancing the wording of such items to guarantee that the lack of clarification does not interfere with coherence, validity, and adequacy (3) In the case of words, experts advised the exclusion of redundant terminology and ambiguous wording. (4) Items with double barrels were separated.

The study After gathering the comments and suggestions, a range of adjustments was made; item one was separated into 2; Destruction of properties and Robbery. Items 2 and 9 were merged as Kidnapping. Items 3, 4, 5, and 6 are content as Massacre. Item 7, 8, as Sexual abuse, to reflect the context of the study area. Additionally, the instruments were translated into the Hausa language so the targeted participant could fully comprehend them.

3.17 Pilot Study

The pilot study is a test in which fewer research scales are conducted prior to the actual study scale (Lancaster et al., 2004). A pilot test sample size of fifteen to thirty participants is normal. However, it may be higher if the analysis involves several steps (Powell, 2012). As a result, this study used 40 questionnaire sets from its sample, with 30 copies filled out and returned, indicating a rate of response of 75 per cent. The Cronbach alpha coefficient, the most often used internal consistency reliability test, was utilized in the study. The findings indicated significant reliability of 0.70 and higher.

3.17.1 Reliability Test

The analyses carried out in the context of reliability assessment aim to test the items' internal consistency and reliability. The Cronbach's alpha coefficient was calculated to analyze the validity of the variable items. It is also a measure of how well variables assess a concept. It has to do with the interrelationship of the test's variables. Cronbach's alpha analyses the average correlations of variables in a survey instrument to determine its reliability (1999). Cronbach's alpha is a number that runs from 0 to 1, with a value closer to 1 indicating a better result. According to Gliem & Gliem (2003) any Cronbach's alpha value less than 0.5 is unacceptable. While Santos (1999) maintains that any Cronbach's alpha value from 0.7 is appropriate, lower threshold values are occasionally employed in the literature. Table 3.11 illustrates Cronbach's alpha of the crime exposure (CE), DFC, and LI modules.

Table 3. 11
Internal Consistency Reliability

Variables	Observations	Cronbach's Alpha
Crime exposure	30	0.937
Declining food consumption	30	0.934
Loss of income	30	0.935

The above Table shows the Cronbach alpha coefficient for CE, DFC, and LI. 0.937, 0.934, and 0.935, respectively, are above the cut-off point of 0.70 (Nunally & Bernstein, 1994; Santos, 1999). This confirms how consistency and reliability of both constructs. Thus, confirming the consistency and reliability of the construct signified a good correlation between both scales in both modules, ensuring good reliability.

Therefore, the items were deemed reliable indicators for VCE, DFC, and LI. The findings are consistent with (Bagozzi, Yi & Phillips, 1991). The Cronbach's alpha coefficient was used to analyze the validity of the variable items. And all the items of the variables were aggregated through the mean aggregation process. An aggregation is a process in which item numbers are gathered for statistical purposes and are expressed as one variable. The aggregation technique involves collecting item numbers into a single variable for statistical analysis (O'brien,1990).

3.18 Summary

In conclusion, the research methodology used in this study was described in detail in this chapter, such as the conceptual framework and hypotheses formulation: the philosophical framework, the operationalizing variables, and the source of survey items. Accordingly, the research design, demographic, sample, collecting data techniques, and data analysis procedures are all covered in this chapter. It also specifies the modes for analyzing the data. Practices and approaches deployed in the study include the location, unit of study, and sampling technique. The next chapter will explain the study results, data issues, and collection procedure.

CHAPTER FOUR
FINDINGS FOR DETERMINANTS OF VIOLENT CRIME

4.1 Introduction

This chapter will provide an explanation of the study outcomes, data matters, procedure for gathering data and responses, aspects of non-response bias, data cleaning essentially related to missing values and outliers, and the responders' demographics. The chapter also describes the merits of the measurements, consisting of the measurements model. Issues relating to the validation of the measures, discriminant validity, convergent, and reliability test. The descriptive statistics have been discussed. In addition, it provides a structured model for hypothesis testing.

4.2 Survey Responses

Based on the study's population, as discussed in the preceding chapter. The researcher deployed research assistants to administer the questionnaire to the medium-security custodial centre in Katsina, Katsina state, and the medium-security custodial centre in Gusau, Zamfara state. Some respondents responded to the questionnaire immediately, others within a few days, and others took a week to respond. The questionnaires were administered by self and research assistants, and the data collection duration lasted approximately four months, from May to September 2020.

A whopping 800 questionnaires were dispersed 607 returned successfully, representing a 76% response rate, as indicated in table 4.1. Sequence to Sekaran's

(2003) assertion that a 30% response rate is appropriate and satisfactory for a study. Hence, the number of responses is sufficient.

Table 4. 1
Response rate

Items	Frequency	Per centage %
Distributed Questionnaires	800	100
Returned Questionnaires	607	76
Deleted Questionnaires	49	6.1
Retained Questionnaires	558	70

4.3 Nonresponse Bias

Having addressed the response rate in the previous section, this section discusses non-response bias, termed the most common error, and how the investigator can predict the characteristics of the sample as some aspects of participants are under-represented due to non-response (Yu, 2015).

4.4 Data Cleaning and Preliminary Analysis

Pallant (2011) highlighted the importance of data cleaning in statistical analysis. The findings' effectiveness heavily depends on the data test and clean-up process. At the same time, Tabachnick and Fidell (2007) argued that normal proofreading could protect the data's value. But when dealing with a large amount of data, this method can be extremely difficult. In this research, outliers and missing data issues have thus been thoroughly examined and treated.

4.4.1 Missing Value

Because missing data can have a detrimental effect on analysis, the author took all necessary precautions to ensure that no missing value was unearthed. The researcher carefully tracked the entry of data bit by bit as it is pertinent to verify the missing values in the data set. Hair advocated that 10% used by researchers is the allowable limit for missing values. Less than three per cent of the data set was missing, below the 10% criterion; the missing values have been replaced by mean substitution, as shown in Table 4.2. As the most widely used method of replacing missing values (Hair et al., 2013).

Table 4. 2
Missing Values

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values First	Last	N of Valid Cases	Creating Function
1	Rol3_1	2	1	607	607	MEDIAN(Rol3,2)
2	Rol5_1	1	1	607	607	MEDIAN(Rol5,2)
3	Rol6_1	1	1	607	607	MEDIAN(Rol6,2)
4	Crp2_1	0[a]	1	607	606	MEDIAN(Crp2,2)
5	Crp4_1	1	1	607	607	MEDIAN(Crp4,2)
6	Vc1_1	2	1	607	607	MEDIAN(Vc1,2)
7	Vc3_1	2	1	607	607	MEDIAN(Vc3,2)
8	Vc4_1	3	1	607	607	MEDIAN(Vc4,2)
9	Vc5_1	0[a]	1	606	606	MEDIAN(Vc5,2)

a. The input variable contains no embedded missing values, or there are too few valid cases for the specified half span. The number of missing cases is replaced.

4.4.2 Outliers

Byrne (2011) pointed out, "Outliers are issues of which values differ significantly from all others in a given set of data." Mahalanobis distance was conducted for the discovery of multivariate outliers. Cases with Mahalanobis distance above and beyond the recommended yardstick ±3.29 at a degree of freedom of 0.05 are considered univariate outliers, as such no case for the univariate outlier. Mahalanobis distance was again conducted, and the 19 variables indicated the degree of freedom in the Chi-square statistics table with $P < 0.001$; according to the table, the benchmark is 55.48 (Tabachnick & Fidell, 2014). This indicates any number having a Mahalanobis Distance of 55.48 or higher is a multivariate outlier and therefore needs to be excluded from the data sets. From this assertion, 49 cases have been erased; 278, 242, 477, 343, 244, 177, 277, 261, 330, 149, 486, 449, 186, 397, 256, 255, 290, 282, 583, 67, 274, 259, 260, 262, 331, 270, 336, 607, 326, 284, 347, 243, 225, 333, 263, 91, 332, 273, 215, 337, 349, 341, 266, 238, 342, 335, 344, 239, 346 were dictated to be greater than 55.48 which represent multivariate outliers and removed from the analysis. 558 cases of 607 returned were considered suitable for further analysis.

4.4.3 Normality Test

Normality is a “situation where properties or characteristics of the population are commonly and normally distributed” (Sekaran & Bougie, 2014). According to Tabachnick and Fidell (2014), among the multivariate technique's core assumptions, analysis is that every variable and all linear groupings of the variable should be distributed. Hair et al. (2013) believed the need for a normality test is enormous. Data that is heavily skewed or kurtotic may increase the bootstrapped standard error (Chernick, 2011), affecting the path coefficient's statistical significance in approximate (Ringle et al., 2020).

Numerical or graphical approaches are the most common way to check for normalcy. Skewness and kurtosis are two popular approaches to statistical normality. As a result, if the data distribution is normal, the values of skewness and curtosis should be ± 2.58 (Tabachnick & Fidell, 2007).

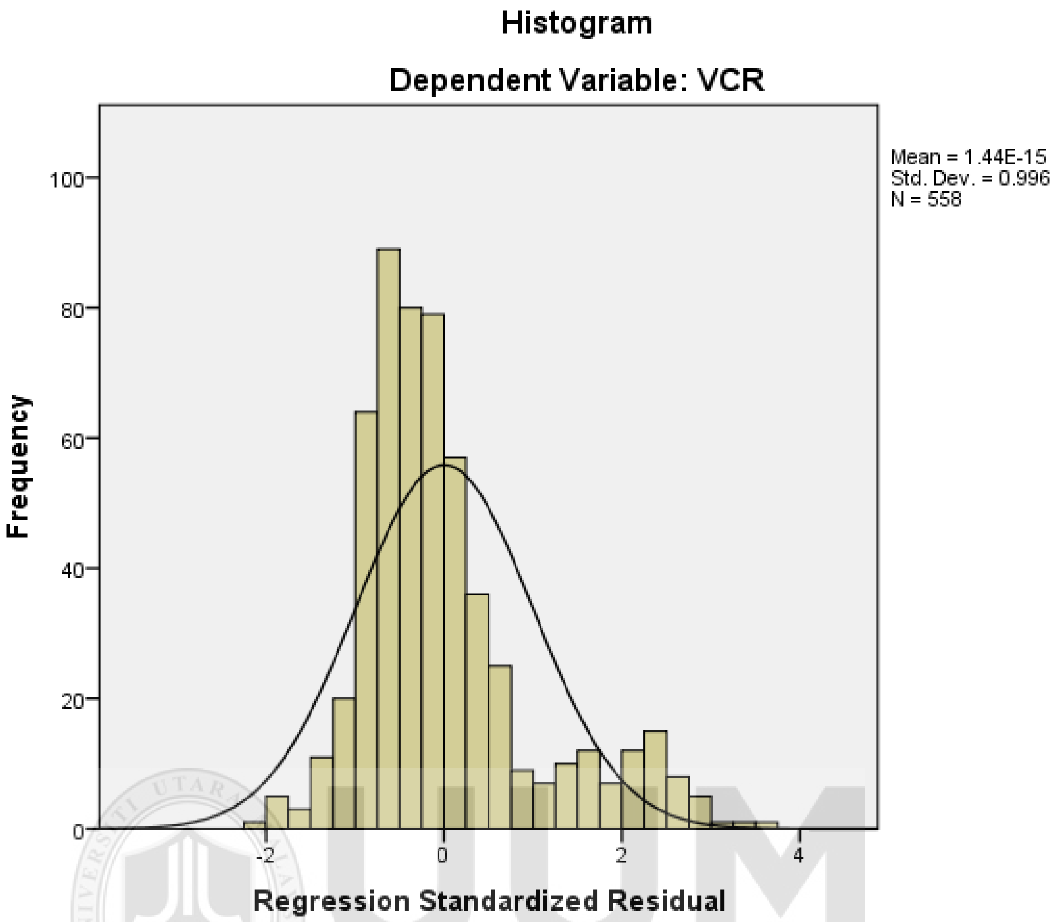

Figure 4. 1
Normality

In this study, the histogram and normal probability plots were accessed, as Field (2009) suggested, to ensure that no normality assumptions were violated. Figure 4.1 shows that the data obtained formed a normal pattern since all the bars on the histogram are close to a normal curve. As a result, Figure 4.1 clearly demonstrates that the assumption of normality was achieved in the study.

4.4.4 Linearity

According to Tabachnick and Fidell (2007) alongside the normal distribution features, Linearity is an important numerical assumption in multivariate analysis, and one of the basic notions of the method is the relationship between the predictive variable and the criterion of the constructs that ought to be linear, as shown in Figure 4.2.

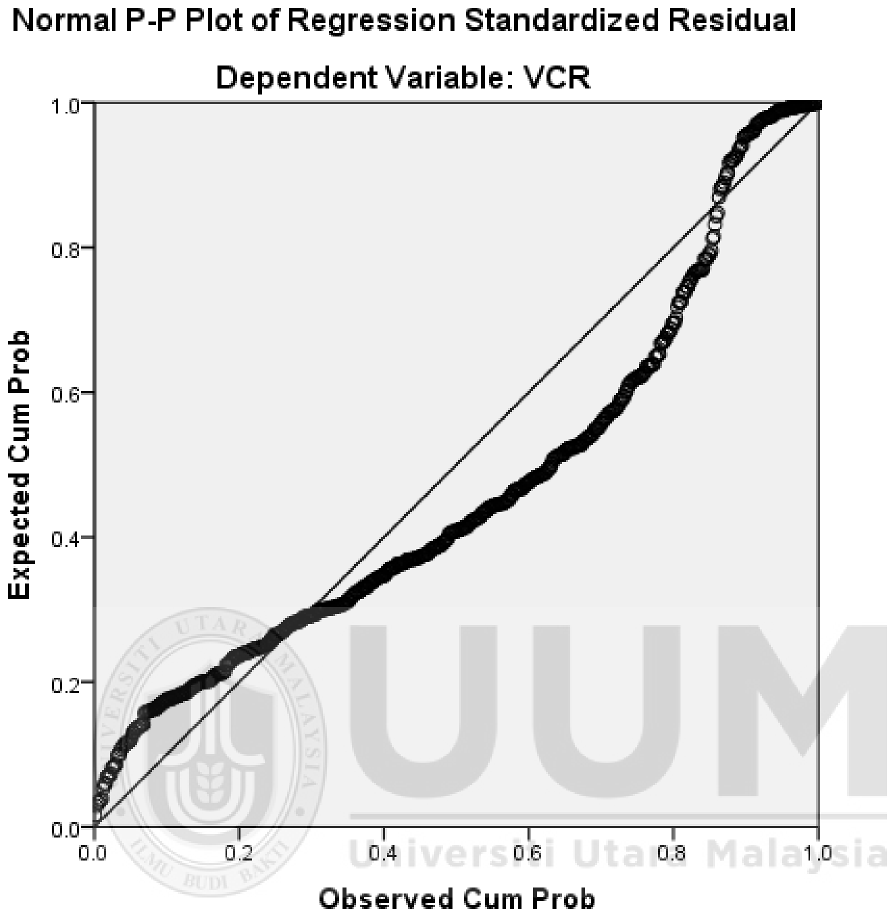

Figure 4. 2
Linearity

If there are sizable non-linear associations will be omitted from the analysis, which underestimates the actual relationship strength (Sekaran & Bougie, 2014; Tabachnich & Fidell, 2014). For this purpose, based on the regression plot, this study shows that the residual scores aligned at the centre along with the zero points, implying that the linearity assertion is fulfilled. The preceding subsection explains multicollinearity.

4.4.5 Multicollinearity

According to Sekaran and Bougie (2014), "multicollinearity occurs when two or more predictive variables in multiple regressions are exceedingly interrelated." The correlation matrix of the predictive variables is the best means of detecting multicollinearity. Many scholars consider correlations of 0.7 and higher significant (Sekaran and Bougie, 2010). In contrast, some consider a correlation of more than 0.8 as excessive multicollinearity (Berry & Feldman, 1985). In comparison, the value of the predictive variables defined by Hair et al. (2010) is highly correlated with each other at 0.9. Pearson’s correlation was applied to identify a multicollinearity issue. The correlation of all predictive variables in this study using Pearson's correlation indicated no multicollinearity issue; all values ranged from 0.813 to 0.886.

The other method to detect multicollinearity is checking the tolerance value and VIF. Moreover, Hair et al. (2010) clarified and suggested that any VIF greater than 10 and tolerance below 0.10 should reveal a hurdle of multicollinearity. The Multicollinearity test result displays in table 4.3.

Table 4. 3
Multicollinearity Test Result

Multicollinearity Tolerance and VIF Values

Model		Collinearity Statistics Tolerance	VIF
1	Age	.783	1.277
	Gender	.961	1.041
	Marital status	.876	1.142
	Family Size	.839	1.191
	Location	.759	1.318
	Education attainment	.721	1.388
	Employment status	.754	1.326
	Father employment status	.783	1.277
	family Working	.888	1.126
	Family background	.889	1.125
	Income	.719	1.390
	Drug	.924	1.083
	Probability of detection	.692	1.444
	Official severity of punishment	.692	1.445
	Unofficial severity of punishment	.901	1.110
	Rule of law	.785	1.274
	Corruption	.805	1.242

a. Dependent Variable: VCR

Based on Table 4.3 above, there is no multicollinearity between the predicting variable given that the VIF is below 10. At the same time, the tolerance values are greater than .10. Hair, Ringle, & Sarstedt (2011) observes multicollinearity to be of serious concern now if the VIF value is greater than 5 and the tolerance value is below .20. Therefore, there is no multicollinearity in this study.

4.4.6 Homoscedasticity

Homoscedasticity is determined largely by inspecting the diagram of the regression residual scatter plot (Hair et al., 2010). Homoscedasticity occurs when the width of the residual band is roughly the same at varying levels of the DV, and the scatter plot reveals a pattern of residuals normally distributed around the mean variable (Berry & Feildman, 1985). The residual plots for the independent variable demonstrate no violation of the assumption of homoscedasticity.

4.5 Common Method of Variance Test (CMV)

This study seeks to scrutinize CMV, also recognized as mono-method bias, and Podsakoff et al. (2003) defined it as “variance that attributes to the measurement method rather than the construct of interest.” As Lindell and Whitney (2001) asserted, most researchers agreed that the CMV was endorsed by those using self-reporting surveys. Conway and Lance (2010) stated, "Common Method Bias inflates relationships between variables measured by self–reports.”

The study has also gone through several technicalities to reduce the impact of CMV (MacKenzie & Podsakoff, 2012). The goal is to reduce the fear associated with evaluation. When completing the questionnaire, the respondent was informed that there were no correct or incorrect answers and guaranteed their discretion and confidentiality. Furthermore, improving scale items was another way to reduce biases in this study. And this was accomplished by avoiding ambiguous concepts in the questionnaire; examples were provided to streamline the concept. In addition, the questions were translated into the Hausa language and written in a simple perceptive, precise context.

If a significant number of CMV is made, then a single factor or one general factor would report a greater percentage of covariance in exogenous and endogenous variables (Podsakoff & Organ, 1986). Following the above, the items used in the study have been subjected to a principal component factor analysis. The findings revealed 7 factors with a cumulative variance of 68.3 per cent. The result shows the first (largest) factor at 14.50 per cent is nowhere near 50 per cent (Kumar, 2012). As a result, this finding indicates that none of the factors accounted for high covariance in constructs of both the predictor and criterion (MacKenzie & Podsakoff, 2012). As a result, explain why common method bias an issue is not and cannot affect the relationships between the variables in this study.

4.6 Summary of Descriptive Statistics of Variables

The section contains details of descriptive statistics. The most important in descriptive statistics are the mean, standard deviation, minimum maximum, skewness, and kurtosis (Sekaran, 2003). While skewness and kurtosis test normality (Tabachnick & Fidell, 2014). Table 4.4 displays the summary statistics values.

Table 4. 4
Summary Statistics Values

	Valid	Mean	Std	Min	Max	Skewness	Kurtosis
Age	558	33.643	11.01936	18	80	1.223	1.574
M status	558	.473	.499705	0	1	.850	.206
Family Size	558	10.400	6.129382	3	20	.531	-.727
Location	558	.635	.4816603	0	1	.507	-.799
Education	558	1.170	.7795937	0	2	.274	-.674
Employment	558	.386	.4872415	0	1	-.365	-1.873
Femp	558	.595	.4912414	0	1	.396	-1.850
Fwrk	558	.805	.3965313	0	1	1.194	-.389
Fdsrp	558	.640	.4802649	0	1	.763	-1.067
income	558	81.218	65.31645	25	250	.680	-.020
Drugs	558	.572	.4951456	0	1	.571	-1.352
Prob_d	558	.542	.4986115	0	1	.163	-.828
Offps	558	.500	.4908486	0	1	-.952	.735
Unps	558	.344	.4755765	0	1	.763	-1.067
ROL	558	.620	.4856339	0	1	.264	.102
CRP	558	.767	.4230597	0	1	-1.430	1.382
VCR	558	1.745	1.489994	0	4	1.573	1.945

"Mean is a widely known measure of the central tendency regarded as the value of the average data set" (Hair et al., 2013). Similarly, "standard deviation is a measure of variability, or spread, which provides the index of distribution in the data set and the square root of the variance." Mean and standard deviation are essential for interval and ratio scale descriptive statistics (Sekaran & Bougie, 2013). Table 4.4 shows that the average age of the criminals (inmates) is 34 years, constituting 60 per cent of the inmates. Youth (inmates) earn around $81 per month on average, which means that most of the youth have poor backgrounds. According to the data, the typical household size in the region is around ten persons.

Table 4. 5
Descriptive Statistics

variables	Categories	Frequencies	Per centage
Age	Below 25	110	19.71
	26 - 35	269	48.21
	36 - 45	98	17.56
	46- 55	46	8.24
	56 and over	35	6.27
	Total	558	100
Gender	Male	536	96.06
	Female	22	3.94
	Total	558	100
Education	Education	228	40.86
	No education	330	59.14
	Total	558	100
Employment status	Employed	229	41.04
	Unemployed	329	58.96
	Total	558	100
Marital status	Married	257	46.06
	Unmarried	301	53.94
	Total	558	100
Location	Rural	323	57.89
	Urban	235	42.11
	Total	558	100
Family size	1 -5	145	25.99
	6 - 10	164	29.39
	11 - 15	128	22.94
	16 - 20	62	11.11
	21 above	59	10.57
	Total	558	100
Father employment	Yes	225	40.32
	No	333	59.68
	Total	558	100
Family Working	Yes	141	25.27
	No	417	74.73
	Total	558	100
Family disruption	Yes	365	65.41
	No	193	34.59
	Total	558	100
Monthly Income	0 income	195	34.95
	$1- $100	234	41.94
	$101- $200	103	18.46
	$201 above	26	4.66
	Total	558	100
Drug	Yes	404	72.40
	No	154	27,60
	Total	558	100

Descriptive analysis indicated that 96% of the inmates are male, 4% female, 46% are married, and 54% are not married, while 52% of family sizes are between 6 - 15 members, 22% 16 -above, while 26% are between 1-5 members. 72% of the inmates consumed hard drugs. The age group 84.9% are within the range of 26 – 55 years, 1.4% are below 25 years, and 56 years and above represent 13.7%. 59% are unemployed, 41% are employed, 60% of their fathers are employed, and 40% are unemployed. 41% of the respondents attained formal education, and 59% did without education. The majority earn Less than $25 per month, representing 35%; 42% earn $26- $125, 18% earn $126- $250, and only 5% earn above $250 monthly. 58% of the respondents live in rural areas, whereas 42% live in urban areas.

4.7 Correlation Among Constructs

Table 4. 6
Correlation among Constructs

	VCR	Emp	Educ	Prob~d	Offi~sp	Unsp	Rol	Crpt
VCrime	1.0000							
Emp	0.0271	1.0000						
Educ	-0.0654	0.1865	1.0000					
Prob_d	-0.0268	-0.0409	-0.0324	1.0000				
Offpsp	-0.1111	-0.0448	0.0710	-0.6478	1.0000			
Unsp	0.1095	0.0994	-0.0639	0.1913	-0.7380	1.0000		
Rol	-0.1269	0.0868	0.1182	0.2701	-0.1838	0.0358	1.0000	
Crpt	-0.0291	0.1192	-0.0563	0.2014	-0.4287	0.4445	0.0543	1.0000

Note: Emp= Employment status, Edu= Level of education, Prob_d = Probability of detection, Offsp = Official severity of punishment, Unsp = Unofficial severity of punishment Rol = Rule of law, Crpt = Corruption, and VCR = Violent crime.

All the constructs in Table 4.6 have a statistically significant linear relationship ($r = .448$, $p < .001$). The direction of the relationship is negative for Educ. Prob_d, Offpsp, Rolw, and Crp, meaning that these variables have an inverse relationship, and the negative signs meet the priori expectations. The association's magnitude, or strength, is approximately high, moderate, and weak. The above table demonstrates that there is no multicollinearity.

Table 4. 7

Correlation among Constructs

	VCR	Emp	Educ	Gen	Mrtl	Loc	Fsize	Femp	Fwkg	Fdsrp	Inc	Drug	Age
VCR	1.0000												
Emp	0.0271	1.0000											
Educ	-0.0654	0.1865	1.0000										
Gen	-0.0826	0.0754	0.0640	1.0000									
Mrtl	-0.0311	0.1014	-0.0056	0.0829	1.0000								
Loc	0.0131	-0.1812	-0.2285	0.0137	0.1359	1.0000							
Fsize	0.0242	0.2973	0.5206	-0.0049	0.0539	-0.3882	1.0000						
Femp	-0.0498	0.2105	0.1853	0.1151	0.0193	-0.1906	0.1593	1.0000					
Fwkg	-0.0384	0.1246	0.0704	0.0729	0.0397	0.0135	0.1001	0.0601	1.0000				
Fdisrp	-0.1298	-0.0291	0.1030	0.0269	0.0511	-0.0632	0.0477	0.1396	0.0974	1.0000			
Inc	0.0022	-0.3076	-0.1055	-0.0046	-0.0857	0.1152	0.2234	-0.2457	0.1701	-0.0497	1.0000		
Drug	0.0931	-0.0391	-0.0296	-0.0427	-0.0418	-0.0313	-0.0149	-0.0580	-0.0084	-0.0360	0.0191	1.0000	
Age	-0.0695	-0.1812	0.0470	-0.0176	-0.2386	-0.1781	0.0188	0.1495	-0.0790	0.0778	0.1518	-0.0041	1.0000

Note: Age=Age; Gen=Gender, Mrtl= Marital status, Fsize= Family size, Loc= Location, Edu= Education; Emp= Employment status, Femp= Father employment status, Fwk= Family working member, Fdisrp= Family destruction, Inc=Income, Drug= Drug consumption, VCR= Violent crimes.

According to Table 4.7, the correlations of all the variables are weak. Meaning all the variables have a weak relationship. This is explained by the fact no variables have a correlation coefficient greater than 0.70 with other variables. The strongest correlation was r = 0.52, indicating a correlation between educational attainment and family size. This means that no two variables measure the same phenomenon. Equally, there is no evidence of a high level of multicollinearity between all variables. As a result, the whole variables are considered for estimating the violent crime model. Furthermore, the correlation matrix shows a weak negative relationship between violent crime and education, gender, Family destruction, family working members, Father employment status, and age. The negative signs meet the expectations of the study. Furthermore, weak positive relationships were discovered between violent crime and other variables such as drug consumption income. Location and family size also show explicit support for priori expectations.

4.8 Estimations of Factors Influencing Violent Crimes in Northwest Nigeria

The results of the estimations of factors influencing violent crime are presented, discussed, and dissected in this section. The multinomial logit model (MNLM) was used to estimate the violent crime factors for objectives 1 -3. (1) To investigate the impact of deterrence factors (probability of detection and severity of punishment) on violent crime in Northwest Nigeria. (2) To examine the effect of corruption and the rule of law on violent crime in Northwest Nigeria. (3) To determine the influence of socioeconomic factors on violent crime in Northwest Nigeria.

4.8.1 Estimations Of Influence of Deterrence, Corruption, the Rule of Law, and Socioeconomic Factors on Violent Crimes.

This section depicts the estimations of the MNLM and the estimated model's marginal effects. The estimated coefficients of the MNLM are presented in Table 4.8.

Table 4. 8
Result of the Estimated Model

	(1)	(2)	(3)	(4)
VARIABLES	Kidnapping	Rape	Property	Armed robbery
Age	-0.0244*	-0.0432***	-0.0229	-0.0161
	(0.0146)	(0.0149)	(0.0150)	(0.0137)
Mrtl	-0.291	0.243	0.0460	0.00889
	(0.199)	(0.181)	(0.202)	(0.182)
Educ	-0.393	-0.694**	-0.393	-0.531
	(0.357)	(0.341)	(0.366)	(0.336)
Loc	0.453	0.472	0.271	0.160
	(0.349)	(0.331)	(0.362)	(0.330)
Fsize	0.493	0.440	0.546*	0.483
	(0.325)	(0.307)	(0.329)	(0.299)
Emp	-0.833**	0.296	-0.502	0.0332
	(0.345)	(0.330)	(0.359)	(0.328)
Income	-0.877***	-0.558***	-0.532**	-0.311*
	(0.227)	(0.199)	(0.212)	(0.183)
Femp	0.628*	0.0271	0.473	0.0363
	(0.333)	(0.317)	(0.345)	(0.314)
Fwkg	-0.440	-0.405	0.173	-0.283
	(0.352)	(0.327)	(0.342)	(0.323)
Fdisrup	-1.221***	-0.374	-0.922***	-0.859***
	(0.330)	(0.291)	(0.328)	(0.297)
Drugs	0.312	0.268	0.604*	0.702**
	(0.351)	(0.336)	(0.356)	(0.325)
Probability_of_d	-0.414*	-0.804***	-0.675***	-0.373*
	(0.215)	(0.202)	(0.224)	(0.200)
Officialpsp	-1.218***	-1.382***	-1.267***	-1.130***
	(0.399)	(0.373)	(0.420)	(0.375)
Upsp	0.585**	0.395*	0.125	0.207
	(0.227)	(0.204)	(0.231)	(0.206)
Rolw	-0.147	-0.168*	-0.212*	-0.243**
	(0.104)	(0.0965)	(0.109)	(0.0973)
Crpt	-0.144	-0.130	-0.277**	-0.256**
	(0.112)	(0.106)	(0.116)	(0.106)
Constant	7.454***	6.852***	6.981***	5.974***
	(1.979)	(1.842)	(2.054)	(1.837)
Observations	558	558	558	558
x2 (64) = 152.31				
Prob > x2 = 0.0000				

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

4.8.2 Diagnostic Tests

The following post-estimation tests were conducted: the test of joint significance and the test of the assumption of independence of irrelevant alternatives (IIA). Table 4.9 displays the results of the joint significant test of all the independent variables appended to the model. The null hypothesis that all the coefficients are sequentially equal to zero is rejected based on the test results, implying that the various independent variables estimated in the model have a combined substantial effect on violent crime**.**

Since the MNLM was built on the assumption of independence of irrelevant alternatives, researchers like Cheng and Long (2007) and McFadden (1974), who developed various IIA test statistical tools, challenged the validity and reliability of the several IIA test statistics. And thus, recommended MNLM can be estimated if such respective classifications differ in the inference of the decision-maker rather than relying hugely on the IIA test result. According to him, MNLM can be used when the various alternatives are feasibly presumed to be divergent and should be assessed differently based on the decision maker's perception.

As a result, this study used the IIA test to investigate the data's behaviour, even though the IIA assumption is already met in the estimated categories because none of the four categories seems to be the same as the others. The results of the IIA test using the Hausman and Small-Hsiao tests methods are presented in Table 4.9. & 4.10

Table 4. 9

Result of Hausman Test of II Assumption (N=558)

Categories	x^2	df	P-Value
Massacre	0.234	50	1
kidnapping	-2.252	50	1
Rape	2.362	49	1
Destruction/looting	-2.006	51	1
Armed robbery	-16.599	51	1

Table 4. 10

Small-Hsiao Tests of IIA Assumption (N=558)

Categories	x^2	df	P-Value
Massacre	26.847	51	0.998
kidnapping	23.301	51	1.000
Rape	26.141	51	0.999
Destruction/looting	30.873	51	0.988
Armed robbery	30.873	51	0.973

The P-values for all the two test statistics are not significant based on the IIA test results. Thus, the null hypothesis of fulfilling the IIA assumption stipulation is not rejected and is valid for the model.

4.8.3 Estimations of Deterrence Factors

The study's first objective is to investigate the impact of deterrence factors on violent crime in Northwest Nigeria. The multinomial logit coefficients model (MNLM) was used to estimate the factors influencing violent crime Table 4.8 presents the result of the estimated model.

4.8.4 Probability of Detection

Table 4.8 shows the estimated MNLM coefficients model. The probability of detection was statistically significant at 10% level for kidnapping, 1% for rape, property crime, and 10% for armed robbery. The findings revealed a negative relationship between the perceived probability of detection and kidnapping, rape, property crime, and armed robbery. The results reveal that the odds of committing kidnapping are 0.66 times smaller than the odds of a massacre when there is police enforcement than non, ceteris paribus. Also, the odds of committing rape are 0.45 times smaller than the odds of a massacre when there is police enforcement than non, ceteris paribus. The odds of committing property crime are 0.51 times smaller than the odds of a massacre when there is police enforcement than non, ceteris paribus. Likewise, the odds of committing armed robbery are 0.69 times smaller than the odds of a massacre when there is police enforcement than non, ceteris paribus. The results matched the priori expectations.

This implies that an increase in police enforcement activities in a state with a high rate of violent crime produces the expected result in terms of offence reduction (Costantini, Meco & Paradiso, 2018). The escalating violence in the region is due to the number of police officials in rural Nigeria are grossly inadequate (Arisukwu et al., 2020). Criminals now use rural areas as a base of operations to carry out their horrific activities, as rural areas have a significantly lower police presence (Lindström, 2015). Thus, police enforcement activities have a divergent effect on crimes (Burger, 2006; Costantini, Meco & Paradiso, 2018). Also, Paternoster et al. (1983) findings show a significant negative relationship between perceived certainty of arrest and subsequent criminal involvement.

The study result collaborated with Gary Becker's criminal deterrence theory, consistent with other deterrence studies' findings (Costantini et al., 2018; Kelly, 2000; Mahasuweerachai & SrungBoonmee 2021; Nagin, 2018; Teodorescu et al., 2021).

4.8.5 The severity of Punishment (Official and Unofficial)

According to the estimated MNLM coefficients model, the official severity of punishment was discovered to be statistically significant at 1% level for kidnapping, rape, property crime, and armed robbery. The findings revealed a negative relationship between the perceived severity of official punishment and the extent of committing kidnapping, rape, property crime, and armed robbery.

The results reveal that the odds of committing kidnapping are 0.30 times smaller than the odds of a massacre when there is severity of official punishment than non ceteris paribus. Also, the odds of committing rape are 0.25 times smaller than the odds of a massacre when there is severity of official punishment than non, ceteris paribus. The odds of committing a property crime are 0.28 times smaller than the odds of a massacre when there is severity of official punishment than non, ceteris paribus. Likewise, the odds of committing armed robbery are 0.32 times smaller than the odds of a massacre when there is severity of official punishment than non, ceteris paribus. The results matched the priori expectations.

Likewise, controlling for other factors, the relationship between the perceived severity of unofficial penalties (consequences from parents and friends) was found to be statistically negatively significant at 5% level for kidnapping and 10% for rape. The results reveal that the odds of committing kidnapping are 1.80 times greater than the odds of a massacre when there is a severity of unofficial punishment than non, ceteris paribus. Also, the odds of committing rape are 1.48 times greater than the odds of a massacre when there is a severity of unofficial punishment than non, ceteris paribus. According to Lambert, Elechi & Jiang (2010), the respondents believed unofficial consequences imposed by family, peers, and neighbours are a far more effective social sanction in crime control than formal control systems such as law enforcement courts and prisons. The results matched the priori expectations, implying that if the punishment is inconsequential, a rational individual may perpetrate a criminal act that will benefit him even if the punishment is swift and certain.

The severity of punishment is necessary to serve as a deterrence to others, and awareness of that certain action is essential (Tomlinson, 2016). Grasmick and Bryjak (1980) ascertained perceived severity of punishment is significantly connected to a self-reported crime, as postulated by the doctrine of deterrence. The study results supported Gary Becker's theory of criminal deterrence prediction. The theory holds that criminal penalties penalize violators and deter others from perpetrating related offences. As the study highlights the importance of deterring criminal behaviour, Johnson (2019) confirms that a harsher sentence would have deterred the crimes and could help prevent a similar crime. The result is consistent with the findings of other deterrence studies (Barati, 2019; Olutola, 2020).

4.8.6 Estimations of the Influence of Corruption and The Rule of Law

The study's second objective is to examine the effect of corruption and the rule of law on violent crime in Northwest Nigeria. The MNLM was employed to estimate the impact of corruption and the rule of law on violent crime. The result of the estimated model is demonstrated in table 4.8.

4.8.7 Corruption

According to the estimated MNLM coefficients, corruption operationalised as control of corruption was statistically significant at 5% level for property crime and armed robbery, respectively. The findings discovered a negative relationship. The results reveal that the odds of committing property crime are 0.76 times smaller than the odds of a massacre when there is corruption than non, ceteris paribus. Also, the odds of committing armed robbery are 0.77 times smaller than the odds of a massacre when there is corruption than non, ceteris paribus. The result matched the priori expectations. The findings of Habibullah, Din & Hamid (2016) affirmed control of corruption is statistically significant. Interestingly, it is Malaysia's best government tool for reducing total crime rates.

In the case of the study area, police officers have more direct and frequent contact with criminals. As a result, criminals frequently target them with the prime motive of using corruption to extract information on operations and investigations (Gamba, Immordino & Piccolo, 2018), which disrupts police work and reduces the likelihood of detection. Criminal groups also bribed the judiciary by gaining access to the officials through socio-political and family connections. Criminals can directly contact judiciary officials through elite social networks to sway court decisions by bribing police officers and prosecutors (Alesina, Piccolo & Pinotti, 2019; Gamba, Immordino & Piccolo, 2019). And this is termed the diminishment of deterrence.

The finding is consistent with failed state theory (Rotberg, 2003 & Zartman, 1995), which postulated a link between the weakness of the state and violent crime. According to them, failed state theory is a functional catalogue of different variables, including corruption, unemployment, and poverty, creating a favourable environment for criminals (Sandole, 2010). The findings supported the extent findings of (Buscaglia & Dijk, 2003; Habibullah, Din & Hamid, 2016; Van Dijk, 2007).

4.8.8 Rule of Law

According to the estimated MNLM coefficients in Table 4.8. Rule of law is statistically significant at 10% level for rape, property crime, and 5% for armed robbery, respectively. The results reveal that the odds of committing rape are 0.85 times smaller than the odds of a massacre when there is adherence to the rule of law than non, ceteris paribus. Also, the odds of committing property crime are 0.81 times smaller than the odds of a massacre when there is adherence to the rule of law than non, ceteris paribus. The odds of committing armed robbery are 0.78 times smaller than the odds of a massacre when there is adherence to the rule of law than non, ceteris paribus. The findings matched the priori expectations because the region's economic realities, state inefficiencies, and weak governance have made it prone to crime (Agande, 2019). As a result, the region has become a hub for criminal activities. Organized crime and the rule of law correlate perfectly with crimes being more predominant in countries where the legal system is not well established (Van Dijk, 2007; World Economic Forum, 2020).

Where state and democratic institutions are weak, crime is much more prevalent. Previous research suggests that this is true not only for homicide (Chu & Tusalem, 2013; Karstedt, 2015) and organized crime (van Dijk, 2007; ENACT, 2021) but also, to a certain extent, for common crimes. (Van Dijk, Nieuwbeerta & Larsen, 2021). The result supported failed state theory which postulated a link between the weakness of the state and violent crime. The findings supported the extent findings of (Buscaglia & Dijk, 2003; Chu & Tusalem, 2013; ENACT, 2021; Habibullah, Din & Hamid, 2016; van Dijk, Nieuwbeerta & Larsen, 2021).

Therefore, the findings confirmed that corruption and the rule of law determine the impunity of criminals in Nigeria. There are confirmed reports of security agents engaging in the same kidnapping crime they were hired to combat. And there is clear evidence that Nigerian police officers will only respond to distress calls if they receive remuneration from the plaintiff. Otherwise, such a complainant will be informed that there are not enough police officers on duty (Nwaechefu & Kalama, 2020).

4.9 Estimations of the Socio-Economic Determinants of Violent Crime

The third objective of the study is to determine the influence of socio-economic factors on violent crime in Northwest Nigeria. To achieve the study's third objective, a Multinomial logit coefficients model was used to estimate the factors influencing violent crime. The estimated model's result is shown in Table 4.8.

4.9.1 Family Disruption

According to the estimated MNLM coefficients model in Table 4.8, the variable was statistically significant at 1% level for kidnapping, property crime, and robbery.

The results reveal that the odds of committing kidnapping are 0.3 times smaller than the odds of committing massacre for an individual from a broken family (household where father and mother are separated) than those from an intact family, ceteris paribus. Similarly, the odds of committing property crime are 0.4 times smaller than the odds of committing a massacre for an individual from a broken family than from an intact family, ceteris paribus. Also, the odds of committing robbery are 0.42 times smaller than the odds of committing a massacre for an individual from a broken home than from an intact family, ceteris paribus.

Considering the polygamous family structures and the extended family system practised in NWN, with high prevalence rates of divorce, which is among the highest in West Africa. Even though there are no definitive figures, it’s believed that one in every three marriages fails within three years (Adow, 2012), which caused a pervasiveness of reconstituted/single-parent families and stepfamilies (Alabi et al., 2020). Therefore, children who grow up in broken families are more likely to engage in criminal activity. Most stepmothers cannot adequately supervise and discipline the children, which are common traits of broken families. As a result, the children from these broken families frequently have negative community experiences that further motivate them to engage in criminal activity. These circumstances cause the breakdown of family values and the neighbourhood to deteriorate, leaving violent criminals living there and making it easy to recruit these children into a disastrous relationship, which descends into violence and social instability. The outcomes conform to a priori expectations. The study outcomes were based on Shaw and Mckay's social disorganisation theory and have provided solid evidence supporting the theory's core assumptions, which postulate that family structure is a reliable indicator of a child's future criminal behaviour (Bezin, Verdier & Zenou, 2020).

4.9.2 Employment Status

According to the estimated MNLM coefficients model in Table 4.8, Employment was statistically significant at 5% for kidnapping. The results reveal that the odds of committing kidnapping are 0.44 times smaller than the odds of committing massacre for an individual who is unemployed than an employed, ceteris paribus. This conforms to a priori expectations. The findings support the assertion that employment can influence individual-level criminal activity participation after controlling for other factors. Employed youth are less likely to be involved in violent crime. The result corroborates the work of (Apel & Horney, 2017; Bennett & Ouazad, 2016; Dell, Feigenberg & Teshima, 2019). The findings are consistent with Shaw and Mckay's Social Disorganization Theory.

4.9.3 Age

According to the estimated MNLM coefficients model in Table 4.8, the Age of the bandits was statistically significant at 10% level for kidnapping and 1% for rape. The result shows that as the individuals get older by 1 year is expected to reduce the odds of kidnapping relative to a massacre by 2.4% ceteris paribus. When an individual gets older by 1 year is expected to reduce the odds of rape relative to a massacre by 4.2%, ceteris paribus. This conforms to a priori expectations, as 68% of the bandits (Inmates) in the study are 35 years old and below. This confirmed, Youths are the most vulnerable to social and economic hick-ups and are the most inclined to commit heinous crimes (Fajnzylber & Araujo, 2001). Loureiro and Carvalho (2007) discovered evidence that Individuals in their early adolescence play a vital part in explaining crime. The same group suffers the greatest and is responsible for most homicides (Scorzafave & Soares, 2009; Becker & Kassouf, 2017). The result supported Shaw and Mckay's Social Disorganization Theory (1942) which makes a clear assertion, declaring that assailants commit crimes because of their social environment, including their age, income, family status, and background. (Islam, Farooq & Mahmood, 2019).

4.9.4 Education

According to the estimated MNLM coefficients model in Table 4.8, education attainment was negatively significant at 5% for rape. The results reveal that the odds of committing rape are 0.5 times smaller than the odds of a massacre for an educated individual than uneducated, ceteris paribus. This matched priori expectations, as education reduces the likelihood of participating in a crime. The Voice of America (VOA) quoted one of the terror gang leaders in Zamfara state justifying their deadliest and most brutal actions. “We have not been educated, we don’t have security, and the government is not doing anything for us” (Malumfashi & Maina, 2021). Thus, education enhances an individual's abilities and skills, increasing the earnings for legitimate activities while raising the opportunity costs of illegal activities, and people become risk averse. Increased educational attainment implied a reduction in the benefits derived from criminal activity. For example, the opportunity cost (a wage paid in the formal labour market) would be greater than the criminal proceeds. This will deter people from engaging in illegal activities, consistent with Becker's (1968) Economic Theory of Rational Choice propositions and Ehrlich's extensions (1973). It is also consistent with Shaw and Mckay’s (1942) Social Disorganization Theory. The findings supported the findings of (Bell, Costa & Machin, 2016; Cano-Urbina &

Lochner, 2019; Igbinedion & Ebomoyi, 2017; Khan et al., 2015; Lancher, 2007; Senyefia, Francis & Prince, 2020).

4.9.5 Family Size

According to the estimated MNLM coefficients model in Table 4.8. family size was statistically significant at 10% for property crime. The results reveal that an increase in family size with an additional 1 member is expected to increase the odds of property crime relative to a massacre by 72.6% ceteris paribus. Signifying family size is among the important determinants of violent crime in NWN, accorded with the priori expectations. The positive relationship between family size and crime indicates that large family size contributes significantly to crime. The larger family size weakens the household's ability to hold common values and exercise social control, linked to a cluster of unfavourable family circumstances with poor role models, such as bad parenting and sibling recidivism. Large family size is also related to poor child-rearing techniques, such as insufficient parental monitoring and discipline, as well as physical and psychological resource competition, such as overcrowding and low income (Fischer, 1984). The findings are consistent with Shaw and Mckay's Social Disorganization Theory. The result corroborates the findings of (Islam, Farooq, & Mahmood, 2019).

4.9.6 Family Background

According to the estimated MNLM coefficients in Table 4.8. The variables Father's employment status operationalised as the family background were statistically significant at 10% levels for kidnapping. The results reveal that the odds of committing kidnapping are 1.88 times greater than the odds of committing massacre for an individual from a family with an unemployed father than with employed fathers, ceteris paribus. This is consistent with a priori expectations, signifying more income to the family when the head of the family is working class. At the same time, families with a higher income are less likely to commit violence (Wallace, Wisener & Collins, 2006).

Similarly, the findings of Islam, Farooq, and Mahmood (2019) confirm the income level of the larger proportion of female convicted murderers in Pakistan are low-class families with poor backgrounds and inadequate resources. The finding is consistent with the work of (Islam, Farooq & Mahmood, 2019). The result validated Shaw and Mckay's Social Disorganization Theory.

4.9.7 Drug Consumption

According to the estimated MNLM coefficients model in Table 4.8, the variable was statistically significant at 10% and 5% for property crime and armed robbery, respectively. The results reveal that the odds of committing property crime are 1.83 times greater than the odds of a massacre for individuals who consume illicit drugs than those who don’t, ceteris paribus. Also, the odds of committing armed robbery are 2 times greater than the odds of a massacre for individuals who consume illicit drugs than those who don’t, ceteris paribus. Drug abuse has a detrimental impact on youth’s violent crimes (Anetor & Oyekan-Thomas, 2018). Data from 2014 to 2016 (http://www.ngerianstat.gov.ng) show that 8,805, 8,778, and 8,257 cases were reported, indicating that substance abuse may have led youth to engage in violence and criminal acts to sustain their addictions. Substance youths with exposure to weapons murder people to get money for their drugs, which helps to explain why so many young people engage in armed robbery (Aigbovo & Eidenoje, 2016). This corresponds to a priori expectations. The finding is consistent with (Contreras & Hipp, 2020; Degenhardt & Hall, 2012; Felson & Staff, 2017; Li, Zhao & Zhang, 2021).

4.9.8 Income

According to the estimated MNLM coefficients model in Table 4.8, income was significant at 1% for kidnapping and rape, 5% for property crime, and 10% level for robbery. The results reveal that an increase in income by ₦1,000 is expected to reduce the odds of kidnapping relative to a massacre by 58.4% ceteris paribus. Likewise, an increase in income by ₦1,000 is expected to reduce the odds of rape relative to a massacre by 42.8% ceteris paribus. An increase in income by ₦1,000 is expected to reduce the odds of property crime relative to a massacre by 41.3% ceteris paribus. Also, an increase in income by ₦1,000 is expected to reduce the odds of arm robbery relative to a massacre by 26.7% ceteris paribus.

The higher the individual's average income, the lower the chance of committing a crime. This is consistent with a priori expectations, and the findings of Islam, Farooq & Mahmood (2019) confirmed that most women with crime cases have low-income levels. Awojobi (2014) and Onuoha (2014) demonstrated that most assailants are resentful unemployed youths who lack a reliable source of income and have ceased to receive favours from politicians who once engaged them but stopped after they took power.

4.10 The Estimated Marginal Effects of the MNLM

Despite being the most used regression model for categorical unordered outcomes, MNLM has two significant interpretational complications. The base category in the model is one type of outcome variable, in our case, for example, a Massacre. The model's coefficient compares all other categories, including kidnapping, rape, property crime, and armed robbery, to the base category. This hinders the ability to grasp how different factors interact. The nonlinearity of the model, which makes it challenging to understand regression coefficients, adds to the problem.

The marginal effects of MNLM are computed in the second analytical phase to address the challenges mentioned above. The Marginal effects for continuous independent variables show the impact of a unit change in an independent variable on the likelihood of committing a specific crime. The Marginal effects for independent binomial variables show the influence of being a member of a particular group (such as being uneducated, unemployed, or a drug user) on the probability of deciding a specific crime and the explanation for the connection between the crime and that group. The direction of the influence of independent variables on the probability of choosing one of the explanations for violent crime is shown by the sign of marginal effects, which may or may not match the sign of the regression coefficient.

Table 4.11 displays the coefficients and the p-values of the estimated marginal effects of the MNLM on violent crime. There are five categories of violent crimes: massacre, kidnapping, rape, property crime, and armed robbery.

Table 4. 11
Estimated Marginal Effects

	Marginal effects after mlogit				
VARIABLES	Massacre	Kidnapping	Rape	Property	Armed robbery
Age	0.0039**	-0.0004	-0.0050**	-0.0009	0.0015
	(0.018)	(0.832)	(0.020)	(0.957)	(0.441)
Mrtl	-0.0032	-0.0529*	0.0539**	0.0046	-0.0023
	(0.882)	(0.019)	(0.035)	(0.838)	(0.929)
Educ	0.0759*	0.0062	-0.0631	0.0059	-0.0249
	(0.068)	(0.873)	(0.165)	(0.877)	(0.582)
Loc	-0.0483	0.0304	0.0472	-0.0007	-0.0285
	(0.227)	(0.424)	(0.295)	(0.985)	(0.533)
Fsize	-0.0701*	0.0158	0.0095	0.0243	0.0205
	(0.053)	(0.662)	(0.823)	(0.498)	(0.623)
Emp	0.0257	-0.1175***	0.1065*	-0.0591	0.0445
	(0.519)	(0.001)	(0.016)	(0.121)	(0.319)
Income	0.0787***	-0.0731	-0.0260	-0.0138	0.0342
	(0.000)	(0.376)	(0.227)	(0.574)	(0.215)
Femp	-0.0353	0.0730*	-0.0419	0.0452	-0.0409
	(0.352)	(0.043)	(0.338)	(0.226)	(0.354)
Fwkg	0.0374	-0.0387	-0.0459	0.0643	-0.0170
	(0.326)	(0.338)	(0.328)	(0.086)	(0.717)
Fdisrup	0.1164***	-0.0952*	0.0697*	-0.0429	-0.0481
	(0.001)	(0.012)	(0.093)	(0.246)	(0.268)
Drugs	-0.0686*	-0.0136	-0.0298	0.0354	0.0767*
	(0.091)	(0.712)	(0.496)	(0.333)	(0.067)
Prob of_det	0.0820***	0.0094	-0.0807***	-0.0343	0.0236
	(0.001)	(0.704)	(0.004)	(0.169)	(0.420)
Officialpsp	0.1805***	-0.0322	-0.0844	-0.0393	-0.0246
	(0.000)	(0.488)	(0.123)	(0.419)	(0.662)
Upsp	-0.0468*	0.0545*	0.0307	-0.0236	-0.0147
	(0.055)	(0.034)	(0.286)	(0.369)	(0.621)
Rolw	0.0282*	0.0024	-0.0017	-0.0085	-0.0203
	(0.013)	(0.842)	(0.901)	(0.492)	(0.151)
Crp4	0.0289*	0.0036	0.0086	-0.0186	-0.0225
	(0.022)	(0.772)	(0.557)	(0.135)	(0.123)
Observations	558	558	558	558	558

4.10.1 Probability of Detection

Table 4.11 contains estimates of discrete change. If there is police enforcement, the probability of massacre is .08 times greater than when there is no police enforcement, holding all other variables at their means. If there is police enforcement, the probability of rape is .08 times smaller than when there is no police enforcement, holding all other variables at their means. Obarisiagbon and Aderinto's (2018) investigation exposed the corrupt practices, tendencies, and actions of some law enforcement officers and their administrative staff who have tarnished the temple of justice. Law enforcement officers collect money from accused people and thus grant bail to suspected criminals in highly dubious circumstances. There are confirmed reports of security agents engaging in the same crime they were hired to combat (Nwaechefu & Kalama, 2020). Since criminals can have their way by bribing, police officers and prosecutors aim to minimize the risk of conviction or sway court decisions (Alesina, Piccolo & Pinotti, 2019; Gamba, Immordino & Piccolo, 2018). thus, corruption allows criminal groups to operate in relatively sheltered circumstances.

4.10.2 Severity of Punishment

The results in table 4.11 show the estimated marginal effect of this coefficient. If there is official punishment, the probability of massacre is .18 times greater than when there is no official punishment, holding all other variables at their means. Likewise, if there is unofficial punishment, the probability of massacre is .05 times smaller than when there is no unofficial punishment, holding all other variables at their means. Also, if there is unofficial punishment, the probability of kidnapping is .05 times smaller than when there is no unofficial punishment, holding all other variables at their means. The increase in the intensity of the massacre can be confirmed as the government ramped up its crackdown on criminals. The gang leader confirmed to Voice of America (VOA) that "security forces and vigilantes kill us" and that "we also kill every day." That is why they carried out more terrifying raids on the rural communities in northern Nigeria.” (Malumfashi & Maina, 2021).

The result conforms with the findings of Antunes and Hunt (1973), indicating the severity of punishment, regardless of its certainty, is not linked to reduced crime rates. A potential criminal may have no information on an eventual penalty (Wright, 2010). In the case of the study area, it has to do with the issues of corruption, as Nwaechefu and Kalama (2020); Obarisiagbon and Aderinto (2018) confirm corrupt practices within law enforcement officials in Nigeria.

4.10.3 Rule of Law

Table 4.11 contains the estimated marginal effects of the rule of law. If there is adherence to the rule of law, the probability of massacre is .03 times greater than when there is non-adherence to the rule of law, holding all other variables at their means. Indicating that infringing the rule of law is a major contributing factor to the impunity of criminals in Nigeria. There are confirmed reports of security agents engaging in the same crimes they were hired to combat (Nwaechefu & Kalama, 2020). This demonstrated Nigeria's state failures and bad governance, rendering the region prone to crime (Agande, 2019). As a result, the region has become a hub for criminal activities.

4.10.4 Corruption

The result in table 4.11 revealed the marginal effect of corruption. The results reveal if there is corruption, the probability of massacre is .02 times greater than when there is no corruption, holding all other variables at their means. Nwaechefu and Kalama (2020); Obarisiagbon and Aderinto (2018) confirm that corrupt practices among law enforcement officials in Nigeria minimize the risk of apprehension and conviction and sway the impunity of criminals to operate freely in relatively cosy settings. The result indicates that violent crime can be more damaging when it coexists with corruption. It is determined by a trade-off between a lower supply of crimes and the likelihood these crimes will be succeeded. Besides its direct cost to criminals, corruption results in a higher significant parameter from coercion. The growth-marginal effect of crime is higher in the complicity of corruption.

4.10.5 Family Disruption

The results in table 4.11 show the estimated marginal effect of the family disruption. If an individual is from a broken family, his probability of committing a massacre is 1.12 times greater than the individual from an intact family, holding all other variables at their means. Also, if an individual is from a broken family, his probability of committing kidnapping is 0.91 times smaller than the individual from an intact family, holding all other variables at their means. Likewise, if an individual is from a broken family, his probability of committing rape is 1.07 times greater than the individual from an intact family, holding all other variables at their means. The finding aligns with (Bezin, Verdier & Zenou, 2020).

4.10.6 Marital Status

The estimated marginal effects of the marital status coefficient in Table 4.11 show that if an individual is married, his probability of committing rape is 0.95 times smaller than the unmarried individual, holding all other variables at their means. Also, if an individual is married, his probability of committing kidnapping is 1.05 times greater than the unmarried individual, holding all other variables at their means, in line with the findings of Andresen & Brantingham (2007). Visher et al. (2009) confirm single people are related to increases in the prevalence of crime.

4.10.7 Employment

The estimated marginal effects of the employment coefficient in Table 4.11 shows that if an individual is employed, his probability of committing kidnapping is 0.89 times smaller than the unemployed individual, holding all other variables at their means. Also, if an individual is employed, his probability of committing rape is 1.11 times greater than the unemployed individual, holding all other variables at their means. Those who are unemployed, conversely, are more likely to commit kidnapping and rape than those who are employed, confirming that employment status influences individual-level participation in criminal activities. The findings are consistent with the work of (Freeman 1999; Apel & Horney, 2017).

4.10.8 Age

Table 4.11 displays the results of the estimated marginal effects of the age coefficient. The probability of committing a massacre increases by 0.4% for each additional year of age. The probability of committing rape increases by 0.5% for each additional year of age. Consistent with the previous studies (Scorzafave & Soares, 2009; Becker & Kassouf, 2017).

4.10.9 Education

Table 4.11 shows the estimated marginal effects of the education coefficient. The result shows that if an individual is uneducated, his probability of committing kidnapping is 1.08 times greater than the educated individual, holding all other variables at their means. Indicating that education attainment influences individual-level participation in criminal activities. The result is consistent with the work of (Freeman 1999; Apel & Horney, 2017).

4.10.10 Family Size

Table 4.11 displays the results of the estimated marginal effects of the family size coefficient. The result reveals that for the family size, each additional member decreases the probability of committing a massacre by 6.77%. Indicating family size influences individual-level participation in criminal activities. And this confirms that the family is very supportive and has good parental monitoring in the aspect of family management, which conforms with the work of (Hirschi, 2017).

4.10.11 Family Background (Father's Employment Status)

Table 4.11 shows the estimated marginal effects of the Father employment status coefficient. The result shows that if an individual is from a family with an employed father, his probability of committing kidnapping is 1.08 times greater than an individual from a family with an unemployed father, holding all other variables at their means. Indicating that being from a good family background reduced the probability of the individual participating in crime.

4.10.12 Income

Table 4.11 shows the estimated marginal effects of the income coefficient. The results reveal that each additional ₦1,000 of the individual income increases the probability of committing a massacre by 8.2%. Ehrlich (1973) noted that poor youth find earnings from criminal activity more alluring. The result is consistent with Islam, Farooq & Mahmood (2019) confirmed that most women with crime cases have low incomes.

4.10.13 Drugs Consumption

Table 4.11 shows the estimated marginal effects of the drug consumption coefficient. The result reveals that if an individual consumes drugs, his probability of committing a massacre is 0.07 times smaller than a non-drug consumer, holding all other variables at their means. The outcome is in line with the findings of (Felson & Staff, 2017).

4.11 Summary of the Chapter

The chapter dissects issues related to the findings and explanation of the empirical study's result. The chapter commenced with the data collection and response process, preceded by a non-response bias issue. Data screening to treat problems relating to outliers and missing data. Both univariate and multivariate outlier treatments were done to ensure quality data. To illustrate the inmates' profile, descriptive statistics were captured from the medium-security custodial centre in Katsina, Katsina state, and the medium-security custodial centre in Gusau, Zamfara state, Nigeria.

This chapter discusses the estimated results using the MNLM coefficients and the marginal effects of the MNLM to estimate the variables that influence violent crime. The model was evaluated and analyzed to elucidate the influence of deterrence factors on violent crimes. Finally, all the estimated outcomes were analyzed in this chapter and discussed the diagnostic check results for the estimated model.

CHAPTER FIVE

FINDINGS FOR THE HOUSEHOLD ECONOMIC WELFARE

5.1 Introduction

This chapter will provide an explanation of the study outcomes, data issues, procedure for gathering data and responses, aspects of non-response bias, data cleaning essentially related to missing values and outliers, and the responders' demographics. The chapter also describes the merits of the measurements, consisting of the measurements model. Issues relating to validating the measures, discriminant validity, convergent, and reliability test, to illustrate the respondents' characteristics, descriptive statistics were compiled from the households of the most affected violent crimes in Katsina state and Zamfara state, Nigeria. This chapter discusses the estimated results using the logit regression. The model was estimated and analyzed to elucidate the effect of violent crimes on household economic welfare.

5.2 Survey Responses

Based on the study's population, as discussed in the preceding chapter. The researcher deployed research assistants to administer the questionnaire to the Household. Some respondents responded to the questionnaire immediately, others within a few days, and others took a week to respond. The questionnaires were administered by self and research assistants, and the data collection duration lasted approximately four months, from May to September 2020. The questionnaires were administered by self and research assistants to the chosen locations by hand delivery, which is more successful in a community where the research culture is not well internalized, like Nigeria

(Gorondutse & Hilman, 2014). Which meant that all community members had the same probability of being selected.

The research assistants administered the questionnaire house to house for 10 chosen HH in three selected words in a particular LGA. It comprised 100 questionnaires in every selected 6 LGAs, a total of 300 respondents in each Katsina and Zamfara state. As highlighted in Table 5.1. 600 questionnaires were distributed, and 504 were filled and returned, representing an 84 % response rate. The percentage of the response is satisfactory (Sekaran, 2003), who asserts that a 30% response rate is appropriate for a study.

Table 5. 1
The Response rate for Household

Items	Frequency	Per centage %
Distributed Questionnaires	600	100
Returned Questionnaires	502	83.6
Deleted Questionnaires (outliers)	4	0.7
Retained Questionnaires	498	83

5.3 Nonresponse Bias

Having addressed the response rate in the previous section, this section discusses non-response bias, termed the most common error, and how the investigator can predict the characteristics of the sample as some aspects of participants are under-represented due to non-response (Yu, 2015).

5.4 Data Cleaning

Pallant (2011) highlighted the importance of data cleaning in statistical analysis. The findings' effectiveness heavily depends on the data test and clean-up process. At the same time, Tabachnick and Fidell (2007) argued that normal proofreading could protect the data's value. But when dealing with a large amount of data, this method can be extremely difficult. In this research, outliers and missing data issues have thus been thoroughly examined and treated.

5.4.1 Missing Value

Because missing data can harm analysis, the author took all necessary precautions to ensure no missing value was unearthed. The researcher scrutinized the data entry process. It is pertinent to verify the missing values in the data set. As advocated by Hair et al. (2014) that 10% used by researchers is the allowable limit for missing values. Only 0.0011 per cent of the data set was discovered missing, below the 10% criterion. Even then, the missing values were replaced by mean substitution as the most widely used method.

Table 5. 2
Missing Value for HH

	Result Variable	N of Replaced Missing Values	Case Non-Missing Values First	Last	Valid Cases	Creating Function
1	MSTATUS_1	5	1	502	502	SMEAN(MSTATUS)
2	HHS_1	4	1	502	502	SMEAN(HHS)
3	LOC_1	2	1	502	502	SMEAN(LOC)
4	LI_1	1	1	502	502	SMEAN(LI)

5.4.2 Outliers

Byrne (2011) pointed out, "Outliers are issues of which values differ significantly from all others in a given set of data." Mahalanobis distance was conducted for the discovery of multivariate outliers. Cases with Mahalanobis distance above and beyond the recommended yardstick ±3.29 at a degree of freedom of 0.05 are considered univariate outliers; as such, no case for univariate outlier as the value is below the recommended yardstick of ±3.29 of the Univariate outlier.

Mahalanobis distance was again conducted, and the 7 variables indicated the degree of freedom in the Chi-square statistics table with $P < 0.05$. According to the table, the benchmark is 14.07. (Tabachnick & Fidell, 2014). Any number with a Mahalanobis Distance of 14.07 or higher is a multivariate outlier and, therefore, must be excluded from the data sets. From the assertion, 4 cases were erased, 171, 74, 284, and 164, as dictated to be greater than 14.07. Finally, 498 of 502 questionnaires were retained and considered suitable for further analysis.

5.4.3 Normality Test

The term "normality" refers to “a condition in which a population's features or characteristics are widely and evenly distributed.” (Sekaran & Bougie, 2014). According to Tabachnick and Fidell (2014), among the core assumptions of the multivariate technique analysis is that every variable and all linear groupings of the variable should be distributed. Hair et al. (2013) believed the need for a normality test is enormous. Heavy skewed or kurtotic data may increase the bootstrapped standard error (Chernick, 2011), affecting the path coefficient's statistical significance in approximate (Ringle et al., 2020).

Numerical or graphical approaches are the most common way to check for normalcy. Skewness and kurtosis are two popular approaches to statistical normality. As a result, if the data distribution is normal, the values of skewness and curtosis should be ± 2.58 (Tabachnick & Fidell, 2007). As such, the normality assumptions were satisfied.

5.4.4 Multicollinearity

According to Sekaran and Bougie (2014), "multicollinearity occurs when two or more predictive variables in multiple regressions are exceedingly interrelated." The correlation matrix of the predictive variables is the best means of detecting multicollinearity. Many scholars consider correlations of 0.7 and higher significant (Sekaran and Bougie, 2010). In contrast, some consider a correlation of more than 0.8 viewed as excessive multicollinearity (Berry & Feldman, 1985). In comparison, the value of the predictive variables defined by Hair et al. (2010) is highly correlated with each other at 0.9. Pearson's correlation was applied to identify a multicollinearity issue. The correlation of all predictive variables in this study using Pearson's correlation indicated no multicollinearity issue; all values are less than 0.8, as shown in Table 5.3.

Table 5. 3
Correlations among Variables

Correlations

	MSSCR	KDNP	RAPE	DSTLP	ROBBR	DFC	LI
MSSCR	1	.				.	.
KDNP	.267**	1	.				
RAPE	.396**	.292**	1				
DSTLP	.309**	.443**	.289**	1	.		
ROBBR	.432**	.262**	.332**	.245**	1		
DFC	.357**	.387**	.287**	.354**	.294**	1	
LI	.423**	.349**	.303**	.408**	.387**	.577**	1

**. Correlation is significant at the 0.01 level (2-tailed).

All the constructs have a statistically significant linear relationship ($p < .001$). The direction of the connections is positively correlated, meaning that these variables tend to increase together (i.e., more experience of violent crime is associated with more loss of income and declining food consumption). The magnitude, or strength, of the association is approximately large. The correlation indicates the possibility of multicollinearity through a correlation matrix, which, according to Gujarati (2004), must correlate with the constructs that do not exceed 0.8. Where the correlation is greater than .8, multicollinearity should be presumed. Table 5.3 shows an absence of multicollinearity.

The other method to detect multicollinearity is checking the tolerance value and VIF. Moreover, Hair et al. (2010) clarified and suggested that any VIF greater than 10 and tolerance below 0.10 should reveal a hurdle of multicollinearity. The Multicollinearity test result displays in table 5.4. & 5.5

Table 5. 4
Multicollinearity Test for DFC
Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	MSSCR	.716	1.397
	KDNP	.759	1.317
	RAPE	.774	1.291
	DSTLP	.752	1.331
	ROBBR	.767	1.305

a. Dependent Variable: DFC

Table 5. 5
Multiclonality Test for LI
Coefficients[a]

Model		Collinearity Statistics Tolerance	VIF
1	MSSCR	.716	1.397
	KDNP	.757	1.321
	RAPE	.773	1.294
	DSTLP	.750	1.333
	ROBBR	.767	1.304

a. Dependent Variable: LI

Based on Table 5.4 & 5.5 above vividly reveals there is no multicollinearity between the predicting variable, given the values for the VIF are below 10 and tolerance values are greater than .10. Hair, Ringle and Sarstedt (2011) observes multicollinearity to be of serious concern if the VIF value is greater than 5, the tolerance value below .20. Therefore, this has indicated that there is no multicollinearity in this study.

5.4.5 Homoscedasticity

Homoscedasticity is determined largely by inspecting the diagram of the regression residual scatter plot (Hair et al., 2010). Homoscedasticity occurs when the width of the residual band is roughly the same at varying levels of the DV, and the scatter plot reveals a pattern of residuals normally distributed around the mean variable (Berry & Feildman, 1985). The residual plots for the independent variable demonstrate no violation of the assumption of homoscedasticity, as shown in Figure 5.1.

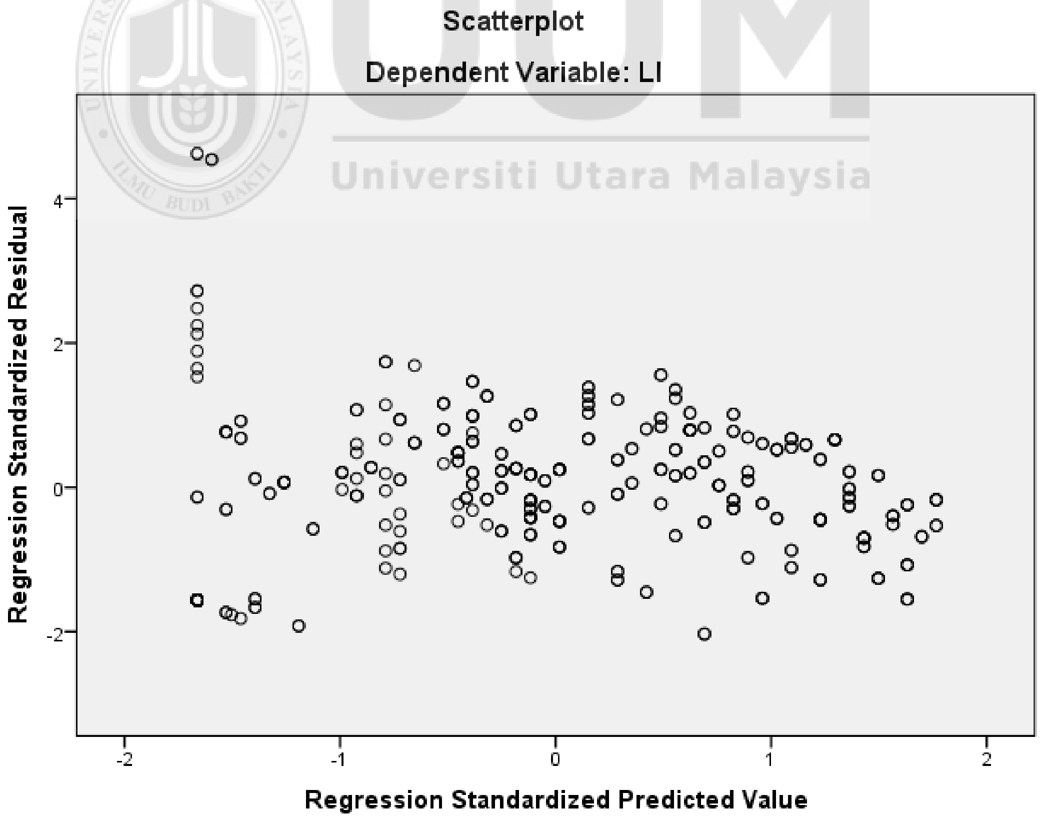

Figure 5. 1
residual plot

The residual plots for the independent variable demonstrate no violation of the assumption of homoscedasticity.

5.5 Common Method of Variance Test

This study seeks to scrutinize CMV, also recognized as mono-method bias, and Podsakoff et al. (2003) defined it as "variance that attributes to the measurement method rather than the construct of interest." In comparison, Lindell and Whitney (2001) asserted that most Researchers agreed that the CMV was endorsed by those using self-reporting surveys. Conway and Lance (2010) stated, "Common Method Bias inflates relationships between variables measured by self–reports."

The study has also gone through several technicalities to reduce the impact of CMV. The goal is to reduce the fear associated with evaluation. When answering the questionnaires, the respondent was instructed that there was no correct or incorrect answer and guaranteed their discretion confidentiality. Furthermore, improving scale items was another way to reduce biases in this study. And this was achieved by avoiding unclear statements in the questionnaire, where examples were provided to streamline the concept. In addition, the questions were translated into the Hausa language and written in a simple, precise context.

If a significant number of CMV is made, then a single factor or one general factor would report a greater percentage of covariance in exogenous and endogenous variables (Podsakoff & Organ, 1986). Following the above, the items used in the study have been subjected to a principal component factor analysis. The findings revealed

20 factors with a cumulative variance of 72.3 per cent. The result shows the first (largest) factor at 14.30 per cent, nowhere near 50 per cent (Kumar, 2012).

As a result, this finding indicates that none of the factors accounted for high covariance in constructs of both the predictor and criterion (MacKenzie & Podsakoff, 2012). As a result, explain why common method bias is not an issue and cannot affect the relationships between the variables in this study.

5.6 Descriptive Statistics – Respondent's Profile

This section presented the respondent demographic statistics. Demographic profile entails age distribution, education, employment, business years, and the nature of respondents' business. The outcomes are shown in Table 5.6

Table 5. 6
Profile of the HH Respondents

Demographic variables	Categories	Frequencies	Per centage
Age	Below 25	62	12.4
	26 - 35	112	22.5
	36 - 45	158	31.7
	46- above	166	33.3
	Total	498	100
Gender	Male	401	80.5
	Female	97	19.5
	Total	498	100
State	Katsina	251	50.4
	Zamfara	247	49.6
	Total	498	100
Education	Illiterate	34	6.8
	Quranic education	238	47.8
	Primary	39	7.8
	Secondary	74	14.9
	Tertiary	113	22.7
	Total	498	100
Monthly Income	Less than $25	27	5.4
	$26- $125	269	54.0
	$126- $250	145	29.1
	$250 above	57	11.4
	Total	498	100
Occupation	Farming/Pastoralist	242	48.6
	Business	148	29.7
	Public service	103	20.7

	Others	4	0.8
	None	1	0.2
	Total	498	100
Location	Rural	311	62.4
	Urban	187	37.6
	Total	498	100

5.6.1 Mean and Standard Deviation

According to Hair et al. (2013), "Mean is a widely known measure of the central tendency regarded as the average value of the set of data." Similarly, "standard deviation is a measure of variability, or spread, which provides the index of distribution in the data set and the square root of the variance" (Sekaran & Bougie, 2013). Mean and standard deviation are essential for interval and ratio scale descriptive statistics (Sekaran & Bougie, 2013). Table 5.7 illustrates the result for all variables in this research. Hence, the whole variable's mean remained in the moderate-level range.

Table 5. 7
Variable means and Standard Deviations

Variables	Valid	Mean	Std. Deviation	Minimum	Maximum
MASSACRE	498	.54	.499	0	1
KIDNAPPING	498	.44	.497	0	1
RAPE	498	.36	.479	0	1
PROPERTY	498	.51	.500	0	1
ROBBERY	498	.49	.500	0	1
DEC. FOOD CONSUMPTION	498	.77	.422	0	1
LOSS INCOME	498	.82	.383	0	1

Table 5.7 demonstrates that the mean differences are statistically significant. This signifies that the variables' mean, and standard deviations are close Massacre, kidnapping, rape, property crime, robbery, DFC, and LI, which proves their suitability for the study.

5.7 Estimations Effect of Violent Crimes on (DFC)

The results of varying estimations of the effect of violent crime on the household's economic welfare (DFC and LI) are presented, discussed, and dissected in this part. The effect of violent crime on the household's economic welfare was estimated using a logit regression model.

Violent crime may affect the household's economic food consumption. The 4th objective of the study is to examine the effect of violent crime on economic welfare (DFC & LI) in Northwest Nigeria following (Gujarati, 2004). A logit regression model was employed to examine the expected effects of violent crime on household food consumption In Northwest Nigeria. The estimated logit model of violent crimes is presented in Table 5.8.

Table 5. 8
Estimated coefficients of HH's Declining food consumption

VARIABLES	Coefficients	Standard error	P>|z|
INCOME	-0.002	(0.002)	0.288
EDUCATION	0.082	(0.106)	0.438
HH SIZE	-0.050**	(0.024)	0.034
LOCATION	0.303	(0.277)	0.273
AGE	0.028**	(0.011)	0.014
MASSACRE	1.163***	(0.311)	0.000
KIDNAPPING	2.171***	(0.412)	0.000
RAPE	0.939**	(0.379)	0.013
PROPERTY	1.024***	(0.320)	0.001
ROBBERY	0.743**	(0.309)	0.016
Constant	-1.355**	(0.602)	0.024
Observations	492		
Pseudo R2	0.3252		
Prob > chi2	0.0000		

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table 5. 9 *Estimated Marginal Effects of DFC*

VARIABLES	dy/dx	Standard error	P>|z|
INCOME	-.0002371	.0002227	0.287
EDUCATION	.009652	.0119826	0.421
HHSIZE	-.0058965*	.0027664	0.033
LOCATION	.035596	.0303284	0.241
AGE	.0033036**	.001245	0.008
MASSACRE	.1365279***	.0327386	0.000
KIDNAPING	.2547909***	.0420532	0.000
RAPE	.1102327**	.0447286	0.014
PROPERTY	.1201417***	.0342711	0.000
ROBBERY	.0871578**	.034275	0.011

5.7.1 Massacre

According to the logit model estimation, as shown in Table 5.8, massacre was statistically significant at 1% level. And reveal a positive relationship with the household odds of declining food consumption. The result shows that the odds of experiencing declining food consumption are 3.2 times greater than the odds of not experiencing declining food consumption for the household that suffered a massacre than the household that did not suffer a massacre or any violent crimes, ceteris paribus. This matched with the priori expectations. According to Crisis Group Africa Report (2020, pp 16), Agriculture provides a livelihood for about 80 per cent of the Northwest's population. Farmers from devastated areas have given up their farms for years for fear of massacres or abduction. In Zamfara state, about 13,000 hectares of cropland have been ruined or rendered inaccessible due to criminal gang attacks. 80,000 terrified farmers remained away in Sokoto state, leaving 21,316 hectares of uncultivated farmland. Thousands and thousands of animals rustled between 2011 and 2019: approximately 141,360 cows and 215,241 sheep were stolen from Zamfara state alone. The disruptions have negatively affected farmers and pastoralists remarkably, resulting in shortages in the food supply in the affected communities, causing declining household food consumption. The result is in line with the findings of D'Souza and

Jolliffe (2013) in Afghanistan, Dabalen and Paul (2014) in Cote d'Ivoire, Serneels, and Verpoorten (2015) in Rwanda.

Moreover, Table 5.9 contains estimates of discrete change. The result shows that the probability of experiencing declining food consumption is 0.14 times greater for a household that suffers from a massacre than a household that does not suffer from a massacre, holding all other variables at their means. The findings align with the work of (Verwimp & Munoz-Mora, 2013).

5.7.2 Kidnapping

According to the logit model estimation in Table 5.8, kidnapping was significant at 1%. And reveal a positive relationship with the household odds of declining food consumption. The result shows that the odds of experiencing declining food consumption are 8.77 times greater than the odds of not experiencing declining food consumption for the household that experienced kidnapping than the household that did not experience kidnapping or any violent crimes, ceteris paribus. The relationship remained the same even when controlling for other variables, which matched the priori expectations. According to an SB Morgen report, at least $18.34 million in ransom was paid to kidnappers – most often by relatives and the government – between June 2011 and March 2020 (Iyorah, 2021).

The ordeal has traumatized the abductees and their families, causing a fear that impedes production, supply, and economic activity. The value of money wasted on kidnappers is part of the kidnapping costs, and the large sum spent as ransom payments could have been used for meaningful economic purposes. This situation seriously impacts the household's well-being, as some families borrow to save their relatives from miscreants (Ene, 2018). In many cases, the families' breadwinners and women are the targets; families must starve themselves and adjust to their normal daily activities until they secure the victim's release. The findings align with the results of (Velásquez, 2020; Dabalen & Paul, 2014).

Table 5.9 contains marginal effect estimates. The result shows that if a household suffers kidnapping, the household’s probability of experiencing declining food consumption is .25 times greater than the household that did not suffer kidnapping, holding all other variables at their means. The findings align with the findings of (Velásquez, 2020; Dabalen & Paul, 2014).

5.7.3 Rape

According to the logit model estimation, as displayed in Table 5.8, rape/sexual abuse was significant at 5% level. And reveal a positive relationship with the household odds of declining food consumption. The result shows that the odds of experiencing declining food consumption are 2.56 times greater than the odds of not experiencing declining food consumption for the household that experienced rape than the household that did not experience rape or any violent crimes, ceteris paribus. The relationship remained the same even when controlling for other variables, which matched the priori expectations. Most victims of sexual assault cannot return to their regular businesses or cannot return to work, and they do not earn or pay. As a result, this cripples the household's ability to pay medical expenses and buy food. This, in turn, impacts them emotionally and their ability to function. Hence, it exemplifies the potential economic repercussions of sexual assault. The findings corroborate the findings of (Loya, 2012;2015; MacMillan, 2000).

Table 5.9 shows the estimated marginal effects of the coefficient. The result shows that if a household suffers a rape case, the household's probability of experiencing declining food consumption is .11 times greater than the household that did not suffer any rape case, holding all other variables at their means. The results supported the findings of (Loya, 2012;2015).

5.7.4 Destruction and Looting of Property (Property Crime)

According to the logit model estimation, as displayed in Table 5.8. property crime was significant at 1% level. And reveal a positive relationship with the household odds of declining food consumption. The result shows that the odds of experiencing declining food consumption are 2.78 times greater than the odds of not experiencing declining food consumption for the household that experienced property crime than the household that did not experience property crime or any violent crimes, ceteris paribus. The relationship remained the same even when controlling for other variables, which matched the priori expectations. As bandits disrupted agricultural production and markets, food availability and access were massively affected. Food systems were seriously damaged during their course of action, such as the destruction of crops or farmlands, and food items in some cases looted, including livestock, such as cattle, sheep, and goats, which has a negative impact on food supply to the affected household (FAO, 2015). Kaila and Azad (2019) confirmed that property-related events, like thievery or asset destruction, are more deleterious to food insecurity and consumption. The occurrence of violence can lead to a reversal of progress and increase the number of people facing hunger (Adelaja & George, 2019; Munoz-Mora, 2016; Mercier, Ngenzebuke & Verwimp, 2016; Rockmore, 2020; Serneels & Verpoorten, 2015).

Moreover, in Table 5.9. The estimated marginal effect of the coefficient shows that if a household suffers property crime, the household's probability of experiencing declining food consumption is .12 times greater than the household that did not suffer any property crime, holding all other variables at their means and the result supported the findings of (Adelaja & George, 2019; Kaila & Azad, 2019; Munoz-Mora, 2016).

5.7.5 Armed Robbery

According to the logit model, estimation reveals a positive relationship with the household odds of declining food consumption. The result shows that the odds of experiencing declining food consumption are 2.1 times greater than the odds of not experiencing declining food consumption for the household that experienced armed robbery than the household that did not experience armed robbery or any violent crimes, ceteris paribus. The relationship remained the same even when controlling for other variables, which matched the priori expectations. armed robbery makes it a heinous crime, and most robberies occur in rural farming communities. The nature of the attack obstructs the food supply by physically stealing the crops, reserves, livestock, and harvests and disrupting food transport systems due to fear of attack. The findings are in harmony with the findings of (Adelaja & George, 2019; Munoz-Mora, 2016).

Table 5.9 contains estimates of the marginal effect of the robbery. The result shows that if a household suffers armed robbery, the household's probability of experiencing declining food consumption is .87 times greater than the household that did not suffer any armed robbery, holding all other variables at their means. The results support the findings of (Adelaja & George, 2019; Munoz-Mora, 2016).

Generally, due to the violence, particularly in Northwest Nigeria, food supply declines significantly due to the adverse effects on labour supply, land access, and input and output markets. Data from Statista showed that the nation's millet production fell sharply between 2005 and 2021, from 7,168 metric tonnes to 2,000 metric tonnes in 2021. At the same time, sorghum production reached six million seven hundred twenty-five metric tonnes in 2021 compared to seven million one hundred forty-one metric tonnes in 2010 (Statista, 2022).

The unprecedented rise in violent crimes has caused staple food prices to be much higher than usual, limiting household access to food. On a national basis, the prices of staples such as beans and tomatoes increased by 253% in July 2020. A measure of beans *Mudu* cost 73 cents (N305.48) in July 2020, but by July 2021, it was going for \$2.16. (N900) (Daphne, 2022). In Kano's Dawanau market, which is the major market for food in Nigeria, in January 2022, maize prices, an essential staple for many low-income families in Nigeria, were 65% above average and 27% higher than last year (FEWS NET, 2022).

This seriously limits household food accessibility. As a result, from January to September 2022, in Northwest Nigeria, the Medecins sans Frontieres (MSF) teams working with the country's health authorities treated about 100,000 children with acute malnutrition in 34 outpatient clinics and took in about 17,000 children needing hospital care in 10 inpatient facilities in Kano one of the states in Northwest, Nigeria. In June

2022, MSF also discovered a 27.4 per cent rate of global acute malnutrition and a 7.1 per cent rate of severe acute malnutrition in the Mashi local government region of Katsina state (Osodi, 2022).

5.8 Estimations of the Effect of Violent Crimes on Loss of Income

Violent crime may affect the household's economic welfare (loss of income). The expected effects of violent crime on household income in Northwest Nigeria were analyzed using a logit regression model (Gujarati, 2004).

Table 5. 10
Estimated Coefficients of HH's loss of income

VARIABLES	Coefficients	Standard error	P>|z|
EDUCATION	-0.274**	(0.120)	0.024
HH SIZE	-0.0576*	(0.029)	0.046
LOCATION	-0.266	(0.320)	0.422
AGE	0.0353**	(0.015)	0.015
MASSACRE	1.965***	(0.471)	0.000
KIDNAPPING	2.144***	(0.652)	0.000
RAPE	1.741***	(0.657)	0.008
PROPERTY	2.219***	(0.450)	0.000
ROBBRY	1.818***	(0.502)	0.000
Constant	-0.923	(0.739)	0.218
Observations	492		
Pseudo R2	0.5009		
Prob > chi2	0.0000		

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table 5. 11
Estimated Marginal Effects of Loss of Income

VARIABLES	dy/dx	Standard error	P>|z|
EDUCATION	-.0052265*	.00299	0.080
HHSIZE	-.0010983	.00068	0.107
LOCATION	-.0050688	.00652	0.437
AGE	.0006734*	.00034	0.049
MASSACRE	.0462688**	.01886	0.014
KIDNAPING	.0424399**	.0164	0.010
RAPE	.0288994**	.01303	0.027
PROPERTY	.0506505**	.01303	0.011
ROBBERY	.0384196**	.01615	0.017

5.8.1 Massacre

According to the logit model estimation, as displayed in Table 5.10, a massacre was significant at 1% level. And reveal a positive relationship with the household odds of loss of income. The result shows that the odds of losing income are 7.13 times greater than the odds of not losing income for the household that suffered a massacre than the household that did not suffer a massacre or any violent crimes, ceteris paribus. The relationship remained the same even when controlling for other variables, which matched the priori expectations. The death of a working-age household member implies that the household's income potential is significantly weakened. And this is quite often sufficient to push affected households into abject poverty. The findings are in line with the findings of (Brück & Schindler, 2009; Brück & Vothknecht, 2011; Ibáñez & Moya, 2006; Rockmore, 2020).

Table 5.9 contains estimates of discrete change. The result shows that if a household suffers a massacre, the probability of losing income is .05 times greater than the household that did not suffer a massacre, holding all other variables at their means. As violence continues at a high rate in NWN, attacks by bandits exacerbate fear. The affected households could not engage in normal livelihood activities, markets disrupted dry season activities, and income-earning opportunities were constrained due to fear of attacks. The findings align with the findings of (Rockmore, 2017; Ibáñez & Moya, 2006).

5.8.2 Kidnapping

According to the logit model estimation, as shown in Table 5.10, kidnapping was significant at 1%. And reveal a positive relationship with the household odds of loss of income. The result shows that the odds of losing income are 8.53 times greater than the odds of not losing income for the household that experienced kidnapping than the household that did not have any kidnapping case or any violent crimes, ceteris paribus. This matched the priori expectations. Between June 2011 and March 2020, at least $18.34 million in ransom was paid to kidnappers (Iyorah, 2021). The value of money wasted on kidnappers is part of kidnapping costs. This situation seriously impacts household income, as some families borrow to save their relatives from miscreants (Ene, 2018). The findings align with the findings of (Ibrahim, Ahmad & Duguri, 2020; Velásquez, 2020).

Table 5.11 contains marginal effect estimates holding all other variables in the model constant. The result shows that if a household suffers kidnapping, the probability of losing income is .04 times greater than the household that did not suffer any kidnapping case, holding all other variables at their means. This corresponds to previous studies, as kidnapping and related crimes negatively impact wealth, reducing household income levels and leading to poverty (Ibrahim, Ahmad & Duguri, 2020; Velásquez, 2020).

5.8.3 Rape

According to the logit model estimation, as displayed in Table 5.10, rape/sexual abuse was significant at 1% level. And reveal a positive relationship with the household odds of loss of income. The result shows that the odds of losing income are 5.7 times greater than the odds of not losing income for the household that experienced rape than the household that did not experience rape or any violent crimes, ceteris paribus. The relationship remained the same even when controlling for other variables, which matched the priori expectations. Most victims of sexual assault cannot return to their regular businesses or cannot return to work, and they do not earn or pay. Consequently, households may be obliged to use existing reserves to settle for medical expenses, putting vulnerable households under extreme financial duress. The findings corroborate the findings of (Loya, 2012;2015; MacMillan, 2000).

As shown in Table 5.11, the estimated marginal effect of the coefficient. The result shows that if a household suffers a rape case, the probability of losing income is .03 times greater than the household that did not suffer any rape case, holding all other variables at their means. The result supported the findings of (Loya, 2012;2015).

5.8.4 Destruction and Looting of Property (Property Crime)

According to the logit model estimation, as shown in Table 5.8, property crime was significant at 1%. And reveal a positive relationship with the household odds of loss of income. The result shows that the odds of losing income are 9.2 times greater than the odds of not losing income for the household that experienced property crime than the household that did not experience property crime or any violent crimes, ceteris paribus. This matched the priori expectations. As violent crimes continue at a high rate in NWN, attacks by bandits, destruction of crops or farmlands, and looting of properties (livestock), including cattle, sheep, and goats, have exacerbated the level of fear and population displacement. The affected households could not engage in normal livelihood activities; markets remain disrupted, and dry season activities and income-earning opportunities are constrained. The findings align with (Rockmore, 2017; Serneels & Verpoorten, 2015).

Table 5.11 shows the estimated marginal effect of the coefficient. The result shows that if a household suffers property crime, the probability of the household losing income is .05 times greater than the household that did not suffer any property crime, holding all other variables at their means. The findings support the findings of (Rockmore, 2017; 2020).

5.8.5 Armed Robbery

According to the logit model estimation in Table 5.10, Robbery was significant at 1%. And reveal a positive relationship with the household odds of loss of income. The result shows that the odds of losing income are 6.16 times greater than the odds of not losing income for the household that experienced armed robbery than the household that did not experience armed robbery or any violent crimes, ceteris paribus. The relationship remained the same even when controlling for other variables, which matched the priori expectations. The attacks are physical theft of crops, cattle theft, cash reserves, livestock, and harvests. Most of the robberies are followed by injury or death. The victims are mostly working-age members, which implies that the household's earning capabilities will be significantly weakened, resulting in a serious decline in household income. The findings are in harmony with (Ibáñez & Moya 2010a; Justino, 2009; Rockmore, 2017).

Table 5.11 contains estimates of the marginal effect of the coefficient holding all other variables in the model constant. The result shows that if a household suffers armed robbery, the probability of the household losing income is .04 times greater than the household that did not suffer an armed robbery, holding all other variables at their means. The results support the findings of (Ibáñez & Moya, 2010a; Justino, 2009).

Generally, the findings imply that experiencing violence lowers household income. Income loss can push many households into poverty and deepen the poverty of those struggling. In 1992, the poverty rate, according to Eigbiremolen (2018), was 42.7%. The number of people living in extreme poverty significantly increases due to violence and crime. According to the National Bureau of Statistics (NBS), 60.9% of Nigerians lived in "absolute poverty" in 2018. Data from 2018 show that about 46.7% of Nigerians are living in extreme poverty (World Poverty Clock). Therefore, due to its poverty levels, Nigeria is now among the countries with the highest percentage of people living in extreme poverty worldwide (World Poverty Clock).

5.9 Summary of the Chapter

The chapter dissects issues related to the findings and explanation of the empirical study's result. The chapter commenced with the data collection response process, preceded by a non-response bias issue. Data screening was to treat issues relating to outliers and missing data. Both univariate and multivariate outlier treatments were done to ensure quality data. To illustrate the households' profile, descriptive statistics from the most affected households in Katsina and Zamfara states, Nigeria, provide an analysis opportunity.

This chapter discusses the estimated results using the logit regression model and the marginal effects estimations of the model for Household economic welfare to estimate the effect of violent crime in detail. The model was estimated and analyzed to elucidate the impact of violent crimes on household economic welfare. Finally, the variables were correlated significantly. Equally, the result supported all the hypotheses. Discussions and conclusions are in the following chapter.

CHAPTER SIX

DISCUSSION AND CONCLUSIONS

6.1 Introduction

The chapter discussed findings from the study's objectives and hypothesis testing and explored theoretical and practical implications. The chapter also covered the research's shortcomings and recommendations for future studies.

6.2 Summary

The study has four objectives. Objectives 1-3 use 558 criminals/bandits/inmates currently serving in the medium-security custodial centre in Katsina state and the medium-security custodial centre in Gusau, Zamfara state. While for objective 4, the study uses 498 households drawn from a cross-sectional population of regular households from the two selected states, Katsina and Zamfara from NWN being the most stressed states and recorded as a central flashpoint area of violence. Using the most seriously affected local governments areas (LGAs) in Zamfara state, namely Anka, Shinkafi, Maradun, Zurmi, and Gusau LGAs, while in Katsina state are Batsari, Danmusa, Danja, Faskari Kankara. Others are Jibia, Safana, and Katsina LGAs.

Descriptive analysis indicated that 96% of the criminals/bandits/inmates are male, 52% of their family size is between 6 – 15, and 72% of the inmates consumed hard drugs. 84.9% are 26 – 55 years old, 59% are unemployed, and 59.14 % have no education. The majority earn Less than $125 per month, representing 77%. While 80.5% of the household respondents are male, 48.6% are farmers, and 47.8 have Quranic education. The majority earn Less than $125 per month, representing 59.4%.

6.3 Discussion

Despite the deterrence factors to contain violent crime activities in Northwest Nigeria, violent crime has intensified over the years. Hence, the study sheds some light on this issue by examining the impact of corruption, the rule of law, and the influence of socioeconomic factors on violent crime in Northwest Nigeria.

The research questions and objectives outlined in chapter one of this study guide the discussion of this research. The main aim is to assess the influence of deterrence factors, corruption, the rule of law, and socioeconomic factors on violent crimes and their implications on household economic welfare. The research objectives are 1. To investigate the impact of deterrence factors on violent crime in NWN. (2) To examine the effect of corruption and the rule of law on violent crime in NWN. (3) To determine the influence of socioeconomic factors on violent crime in NWN. (4) To examine the effect of violent crime on economic welfare (DFC & LI) in NWN.

In achieving objectives 1 to 3, a whopping 700 questionnaires were dispersed, 607 were completed and returned, removed 38, and finally retained 558. While distributed, 600 questionnaires for objectives 4 and 502 were completed and returned. In the process, four were deleted and finally retained 498 questionnaires.

MLNM and Logit regression models are the models employed to analyse the data. The study conducted two post-estimation tests: the test of joint significance and the independence of irrelevant alternatives (IIA) assumption. The following is the summary of the results of the estimated models.

6.3.1 Estimations of Deterrence Factors and Violent Crime.

The multinomial logit coefficients model (MNLM) was used for the study's first objective to estimate the impact of deterrence factors on violent crime in Northwest Nigeria. Violent crimes with five main categories: Massacre (the reference category), destruction/looting of property, kidnapping, rape, and robbery. This corresponds to the research's first hypothesis; There is a significant relationship between the probability of detection and violent crime. The result shows that an increase in police enforcement causes a reduction in the intensity of committing kidnapping, rape, destruction /looting of property, and armed robbery. The first objective has been identified, and the H1 hypothesis is supported.

The study investigated the influence of official and unofficial punishment on crime involvement, with the following hypothesis: H2: There is a significant relationship between the official severity of punishment and the extent of criminality. H3: There is a significant relationship between the unofficial severity of punishment and the extent of criminality. The result shows that an increase in the severity of official punishment causes a reduction in the intensity of committing kidnapping, rape, destruction /looting of property, and armed robbery compared to a massacre. Likewise, it confirms an increase in the perceived severity of unofficial consequences leads to a reduction in the intensity of involvement in kidnapping and rape cases, compared to a massacre. Indicating the first objective has been achieved, and the findings supported H2 and H3. The results align with the findings of (Elechi, Lambert & Jiang, 2010).

According to the economic theory of deterrence, increasing the cost of a criminal act can deter persons from committing it. Indeed, people who believe they will be apprehended and penalised are less likely to engage in a crime than those who do not think they will be apprehended or punished. (Paternoster, 2010). Therefore, to raise the cost, the study suggested that government should improve the probability of apprehension and penalisation. Through policies to broaden the police, append more stratum to the security architecture, and retrain and equip the police with the latest technologies and values to meet the current impediments. The penalty should be open because publicly punishing someone deters someone else from perpetrating a crime owing to the offence's negative connotation. It will also act as a punitive measure in increasing the cost through unofficial sanctions, which can trigger substantial stigmatisation.

The study confirmed that the severity of unofficial punishment (the fear of stigmatisation) effectively curves criminality which can be achieved through strengthening community institutions. Their involvement becomes crucial in generating firsthand information that would go a long way to managing insecurity effectively. Therefore, the severity of punishment is unquestionably cogent, particularly as it rightly asserts that such a severe penalty deters criminality in our society. It is sufficient to argue that any society with effectively managed crimes has a promising possibility for luring investors, which could accelerate the nation's economic growth.

6.3.2 Estimations of Corruption and the Rule of Law

Nigeria's violent crime rate has surged significantly over the years, even with the deterrent measures to keep it at bay. Suggests that contributing factors may have a role as the instrumental component of the circumstances. Hence, the study employed the multinomial logit coefficients model to estimate the impact of corruption and the rule of law on violent crime in Northwest Nigeria. This corresponds to the fourth hypothesis of the study: that there is a significant relationship between corruption and violent crime, and the fifth hypothesis: there is a significant relationship between the rule of law and violent crime. Thus, the study concludes that corruption and a lack of commitment to the rule of law are vital variables impeding deterrent factors in the fight against violent crime.

The result shows that when there is control of corruption, it reduces the chances of corruption, in turn, lessens the intensity of property crimes and armed robbery. Also, adherence to the rule of law reduces the intensity of committing rape, property crimes and armed robbery. The findings support H3 and H4. Indicating objective two has been achieved. The region's economic realities, state inefficiencies, and weak governance have made it prone to crime.

Interestingly, control of corruption seems to be a government tool for reducing total crime rates in Nigeria as in some countries like Malaysia Habibullah et al., (2016). At the same time, compliance with the rule of law reduces the likelihood of property crime, rape, and robbery. The findings proved a broad leadership failure of the government; therefore, the central and state level government should declare an emergency in the war against corruption and regard for the rule of law. The main issue is that rule of law cannot be upheld without an independent judiciary of incorruptible judges. Under the rule of law provisions, the government and its officials are obliged to uphold and abide by the law in all its acts.

The analysis demonstrates how violent crime drives up the cost of business activity, creating an unfavourable business environment. As a result, growth is less than it otherwise would be. Demonstrating how the effects of violent crime may depend on corruption. The study shows that the conditionality might go either way. If corruption coexists with crime, criminality may be more detrimental. The underlying assumption is that because corruption functions as a tax on criminality, the outcome will rely on the projected payoffs of the crime mob when they bribe corrupt law enforcement officials.

The study's findings support the idea that the aspects of governance that might be important for crime control are robust legal and judicial systems and control of corruption. Inadequate governance fosters violence and crimes—especially in post-conflict countries and developing nations. Botswana, Singapore, Hong Kong Special Administrative Region of China, and Taiwan are examples of nations and territories prioritising combating crime and corruption in their early development steps. They are among the most prosperous economic nations today. Considering this, the country can undoubtedly remove a significant barrier to development by enhancing the government's capacity to manage corruption and robust judicial infrastructures.

In the study context, violent crime has intensified despite the deterrence factors to contain violent crime activities. Hence, the study uncovers that corruption and the paucity of adherence to the rule of law are the instrumental factors that hinder the deterrence factors in containing violent crimes and when tackled effectively, could control violent crime activities in Nigeria.

6.3.3 Socioeconomic Determinants of Violent Crime

With the deterrent measures in place to keep violent crime at bay in Nigeria, the violent crime rate has escalated substantially. Raising the possibility of other instrumental factors. As a result, the study investigated the impact of socioeconomic determinants on violent crime in Northwest Nigeria, which corresponds to the study's sixth hypothesis (A to L). The MLNM was used to estimate the study's third objective: the influence of socioeconomic factors on violent crime in Northwest Nigeria. The result shows that those who are employed have a lower probability log-odds of committing kidnapping and property crimes than the unemployed. The discovery of this study confirmed that 59% of the bandits/ inmates were unemployed before joining the criminal groups. The findings support H6a.

Conversely, educated people have a lesser risk of committing such a crime as rape than those who are uneducated. Education enhances an individual's abilities and skills, increasing the earnings for legitimate activities while raising the opportunity costs of illegal activities, and people become risk averse. The findings support H6h. hence, deters people from engaging in criminal acts and is in line with rational choice theory and Shaw and McKay's (1942) Social Disorganization Theory. The region's illiteracy rate is extremely high, as the literacy rate in the Northwest stood at 59% for males and 29% for females (Statista, 2022). Primary and secondary education has been in disarray for many years. Adult illiteracy is just as high as it is among youngsters. Many youths are out of school, exacerbated by many school dropouts. There are many illiterates, uninformed youths, and adults in the region. This enormous number of ignorant people is a recipe for disaster and easy criminal recruitment. The descriptive analysis confirmed the assertion, showing that 59.14 % of the criminals are illiterate, without formal and Quranic education.

The result reveals that the larger the family size increases, the multinomial log odds of property crime. Signifying family size as one of the attributes driving violent crime in NWN and the H6g hypothesis were supported. The positive relationship between family size and violent crime indicates that large family size contributes significantly to crime; the larger family size weakens the household's ability to hold common values and exercise social control. That is why the region has the highest number of beggars (*Almajiri*). Considering the average family size of 10 and 42% of the inmates are from a poor background with less than $100 monthly.

In most cases, the parents sent their children out to seek Islamic knowledge without adequate provision for food. The children must go from house to house begging for food. In turn, these children are easily recruited to join criminal gangs due to parental negligence. The findings are consistent with Shaw and Mckay's Social Disorganization Theory.

The family background (Father's employment status) was statistically significant. The findings discovered that households with unemployed fathers are likelier to commit crimes such as massacres than those with working fathers. The result supported hypothesis H6k and validated Shaw and Mckay's Social Disorganization Theory.

Family disruption: the region's high divorce rate, population growth, and broken family are high, particularly in the rural areas. Coupled with an extreme poverty rate, producing children to which parents cannot cater. It gives rise to many neglected children who are easily radicalised and recruited into crime. The study shows households with fathers and mothers living together have lower multinomial log odds of kidnapping, property crime, and robbery than households with fathers and mothers separated (single-parent families). Family disruption increases the prevalence of unsupervised teenagers, which increases the probability of criminal activities. The result supported hypothesis 6i and validated Shaw and Mckay's Social Disorganization Theory.

The result reveals an increase in income of the bandits lower the multinomial log-odds of committing kidnapping, rape, property crime, and armed robbery. Also, the higher the income, the lower the probability of committing a violent crime. The finding supported hypothesis H6e. Rising levels of poverty among the youth can exacerbate the Increasing insecurity. As confirmed from the descriptive statistics, 35% of the bandits had no income before joining the criminal gangs. According to the National Bureau of Statistics (NBS 2021), Nigeria's unemployment and young unemployment rates in 2020 were 33.3 and 53.4%, respectively. Meaning that 53.4% of Nigeria's young people, who make up 33.3% of the labour force, lack access to economic opportunities and have no income. The study corroborated the findings (Awojobi, 2014; Onuoha, 2014).

Those consuming illicit drugs are more likely to commit robbery than non-drug consumers. The findings supported hypothesis H6j and confirmed that hard drugs influence 74.2% of criminals during senseless and dreadful activities. The findings revealed a negative association between age and the level of criminal involvement. The result shows on average, their ages are 33, which confirms that most of the perpetrators of violence are the youth. As they get older reduces the intensity of the probability of committing the crimes. The result supported hypothesis H6d in line with Shaw and Mckay's Social Disorganization Theory. This makes a clear assertion that assailants commit crimes because of their social environment, including their age, income, family status, and background.

Also, the rural communities in the region were deprived of basic social amenities such as clean water, health services, access roads, agricultural input, communication facilities, television viewing centres, functional rural markets, schools, and so on. And this created disaffection among the exposed young people to depression. They eventually migrated to urban centres in search of greener pastures without education. These groups of youth are easily recruited into criminal gangs.

Therefore, governments, social organisations, and community-based associations should provide gainful opportunities for employment for rural youths. Training the youth in entrepreneurial skills and soft loans to help them start small businesses will alleviate the hardships and temptations that unemployed youths in rural areas face. The current social welfare programs and transfer payments provide temporary economic assistance to vulnerable members. The government should also focus on delivering infrastructure, particularly electricity, to promote a sustainable economic life and diversify economic activities among rural youths.

According to the preceding discussion, socioeconomic variables are strongly likely to influence all forms of crime in NWN. The findings also recommend the utmost priority for policies aimed at lowering crime rates and a priority for policies aimed at improving economic conditions to boost job opportunities, particularly in remote communities, which will alleviate the economic burden of jobless people. This study also endorses the strict policy on drugs, as the study proved that most of the inmates/bandits who participated in the survey used hard drugs.

6.3.4 Violent Crime and Household Economic Welfare

The research questions are: Does violent crime affect household economic welfare (DFC & LI) in Northwest Nigeria? The study's objective is to examine the effect of violent crime on household economic welfare (DFC & LI) in Northwest Nigeria. And this corresponds to Hypothesis 7: There is a positive relationship between violent crime and Household loss of income, and H8: There is a positive relationship between violent crime and household declining food consumption. Violent crimes have five main categories: Massacre, property crime, kidnapping, rape, and armed robbery.

6.3.5 Violent Crime and Declining Food Consumption

The expected effects of violent crime on household declining food consumption in Northwest Nigeria were analysed using a logit regression model. And this corresponds to Hypothesis H8: There is a positive relationship between violent crime and household declining food consumption. The result shows that households that experience violent crimes are more likely to experience higher odds of declining food consumption. Indicating the fourth objective has been achieved, and hypothesis H8 is supported. The main economic activity in the Northwest is large-scale agricultural and livestock herding and trade as a secondary source of money. The most common crops grown by farmers are yams, potatoes, lentils, beans, millet, tomatoes, and rice in the region. Throughout the year, targeted attacks on farmers have rendered cultivation and harvest impossible. The bandits threatened farmers to keep away from their farms, and In Batsari LGA of Katsina state, roughly 26 farmers disobeyed the order and were slaughtered (ACAPS, 2020). Animal husbandry in these areas has been affected by cattle rustlers. Victims of violence could not rely on locally grown cereals for subsistence and commercial cultivation, raising the prospect of food shortages for the teeming populace.

People in the region no longer engage in economic activities such as farming, trading, and at the same time, stealing their livestock. If care is not taken, the situation can lead to famine. The region's primary economic activities are large-scale farming and animal husbandry. Farmers in the affected areas have given up their farms for years for fear of being massacred or abducted (Ladan & Matawalle, 2021). As a result, Nigeria spent about N258.3 billion on wheat imports in the first quarter of 2021 (NBS, 2021). The insurgency in the northern part of the country hampered efforts to improve local wheat output.

In the worst-affected areas, Northwest Nigeria, persistent violence led to population displacement and economic stagnation. As a result of violence and banditry, economic activity has essentially halted and caused Internal refugees within the nation and in the neighbouring countries. According to Assessment Capacities Project (ACAPS, 2020), as of June 2020, the Northwest banditry issue had caused the displacement of almost 309,000 individuals. Nearly 70% of the IDPs in the Northwest lack sufficient food. Global acute malnutrition rates among children were reported as high as 18%, and 31% in Sokoto and Zamfara states, respectively.

Also, those living in the refugee camps cannot contribute to the economic activities, resulting in food shortages and high prices of agricultural produce. According to Tyndall et al. (2020), Herdsmen conflicts have decimated the nation for a decade, leaving behind a decimated and malfunctioning healthcare and socioeconomic sectors.

Many low-income conflict-affected households depend on the market for food since their food supplies have run out. The closure of the major local markets wrecked their economy and endured a dramatic setback to their well-being, devastating and seriously affecting the food supply. Households are experiencing a crisis due to the high cost of essential foods and lack of adequate income. From 10% of families experiencing food scarcity in 2010–2011 has increased to over 31% in 2018–2019 (Kralovec, 2020). Based on the ReliefWeb report, between June and November 2021, there could be as many as 5.1 million Nigerians who are highly at risk of experiencing catastrophic food insecurity (Okafor, 2021).

6.3.6 Violent Crime and Household Economic Welfare (Loss of Income)

The expected effects of violent crime on household income in Northwest Nigeria were analysed using a logit regression model. And this corresponds to Hypothesis H7: There is a positive relationship between violent crime and household loss of income. The study uncovered those unsecured situations forced the vulnerable into hardship and distress, linked to the destruction of critical infrastructure, social services and substantial commercial and public investment. Also, destroy and evict people, often making it difficult for households to find work and generate income.

The result shows that households that experience violent crime were more likely to experience higher odds of loss of income. Indicating the fourth objective has been achieved and that hypothesis H7 is supported. The loss of human lives is the most evident consequence of violence on household welfare, primarily young males of prime working age. The loss of a household member in ideal productive age means the household's earning ability will substantially decrease. This is often enough to push previously impoverished families to abject poverty.

The main economic activities in the Northwest are large-scale farming and animal husbandry. According to Famine early warning system network (2022), the availability of cattle on the market is slightly below average, and livestock production has been below average; demand is also below average because of decreased household purchasing power and higher-than-usual prices for cattle and meat. Thus, it affected their main source of livelihood and seriously caused a drop in their income.

According to Crisis Group Africa (2020), there are disruptions of commercial activities in Northwest Nigeria, where thousands of stores and other enterprises are destroyed or have closed, with substantial numbers of livestock stolen. In Zamfara state alone, between 2011 and 2019, over 141,360 cattle and 215,241 sheep were rustled. These disturbances have led to severe income and food shortages in the region's impoverished households.

According to Assessment Capacities Project (ACAPS, 2020), Bandits usually demanded payments of up to $1,100 before allowing farmers access to their farmlands, and farmers were abducted for ransom. So, households' ability to secure their family member from captives is determined mainly by their degree of savings and the property at their disposal. For the household to organise the ramson, they must surely use their savings and dispose of their properties. When cumulative savings are exhausted, the households may slip into poverty or become severely destitute.

According to Yusuf and Mohd (2022), N1.4 billion to N1.6 billion in commercial and business investments were lost between 2015 and 2018 due to rising insecurity in Nigeria. Additionally, the daily oil output fell from 2.2 million to 1.5 million barrels per day in 2018, which caused a drop in income for the government. Due to heightened insecurity, an estimated 91 million people, or 43% of the nation's population, live in extreme poverty (less than $2 per day). By 2030, it is predicted to grow by 29%, from 70 million to 106.6 million (Okafor, 2021).

One of the criminals' despicable acts is imposing taxes and monetary fines before a farmer can go to or develop his farm. Many farmers could not manage to pay the high sum imposed on them. They abandoned their farms; this wrecked their economy and endured a dramatic setback to their well-being, devastating and seriously affecting local and foreign investment. Many local and foreign investors have avoided the region for the sanctity of their lives and investments, thus seriously affecting their income.

6.3.7 Other Concomitant Impacts on the Nigerian Economy

Nigeria has spent at least six trillion naira in the last ten years on security without progress. Gross military expenditures in Nigeria totalled $2.07 billion in 2015. $1.72 billion was allotted for 2016. With a $1.62 billion budget projection for 2017. $2.04 billion for 2018. $1.8 billion in 2019 and $1.2 billion in 2020 (Adekoya, 2021). The enormous sums may have flowed to other programmes for development purposes.

According to data on the economic effects of violence on nations' Gross Domestic Product (GDP) by the Institute of Economics and Peace (IEP) in its 2021 report, rising violence in Nigeria has an economic impact of up to 8% of its GDP, or $132.59 billion (N50.38 trillion at N380/$1). According to NBS's recent data on capital imports, Nigeria received $9.68 billion in capital inflows in 2020, a 59.6% decrease from the $23.99 billion recorded in 2019 and a 42.4% decrease from the $16.81 billion recorded in 2018 (Adekoya, 2021). Due to insecurity, the Nigerian economy lost almost $40.6 billion in foreign investments in 2020 alone. Equivalent to 1.5% of the world's GDP (Okafor, 2021).

According to the United Nations Conference on Trade and Development (UNCTAD), Nigeria received an average of $5.3 billion in foreign direct investment annually from 2005 to 2007. However, between 2015 and 2019, a period marked by high violence and fatalities, that figure declined to $3.3 billion. According to the report, thirty-eight significant textile companies shut down operations in Nigeria between 1999 and 2009. Procter & Gamble's $300 million factory closure in 2018 was the most prominent of those shutdowns. Including major oil companies ExxonMobil, Shell, Chevron, Total, and ENI, around 45% of their onshore assets, worth about $10 billion, have been sold to regional interest groups.

According to data from the Nigerian Bureau of Statistics (NBS), Nigeria spent N258.3 billion on wheat imports in the first quarter of 2021 due to the insurgency in Northern Nigeria that hindered efforts to increase local wheat production (Okafor, 2021).

6.4 Contribution of the Study

The Northwest of Nigeria is embroiled in deadly violence due to armed groups comprising bandits, cattle rustlers (theft), and criminal groups, and the proliferation of guns and armed bandits who engage in massacring, cattle theft, kidnappings, looting, and armed robbery. The study has empirically investigated, identified, and evaluated the deterrence factors that ultimately serve as incentives for criminal activities, the impact of corruption, the rule of law, and the significant socioeconomic and demographic factors that influence violent crime in Northwest Nigeria. The study examines the effects of violence on household economic welfare in Northwest Nigeria. The study provided the following theoretical, methodological, and practical contributions.

6.4.1 Theoretical Contribution

This study attempts to contribute theoretically to the body of knowledge. The study's theoretical contribution is that the study was carried out based on existing theories, pertinent empirical works, and a priori literature in the subject field. The study could construct and test 20 hypotheses; 17 were supported, and 3 were not supported. Even though these hypotheses are based on past research, applicable theories, and a review of existing relevant work, to the best knowledge of the researcher, never across a study that sought to examine similar hypotheses in the same context.

Literature highlights that crime flourishes in a context with little deterrence, eventually incentivising criminal activities. However, a theoretical gap exists in the literature on a comprehensive model to explain violent crime in the NWN. In the theory of economic deterrence, Becker (1968) highlights two major deterrence variables, including the probability of detection and severity of punishment.

However, the economic deterrence theory would not be sufficient to explain the phenomenon in a developing country where governance is a major concern. Even with the effectiveness of deterrence factors to deter violent crime activities, the incidence of violent crime in NWN has intensified. Hence, this study attempts to shed more light on the issue by examining the influence of corruption and the rule of law on violent crime and its relationship with violent crime in Northwest Nigeria. The study is an addition to the existing literature.

Several studies on deterrence factors have been undertaken in Nigeria (Adekoya & Razak, 2016a; 2016b; Aladetoyinbo, 2020; Maria, 2018; Safiyanu, 2020). While these investigations have typically emphasised formal crime control, they pertain to official crime-controlling agencies, the police, courts, and corrections. At the same time, neglecting the Informal sanctions is the cost of social stigmatisation. This research has significantly contributed to the literature as it explored both formal and informal sanctions in the context of the research framework.

To recapitulate, it appears to be highly doubtful that a jurisdiction's actual punishment policies will match people's expectations of the severity and certainty of punishment. Whereas deterrence theory argues that one's subjective views of penalty are more vital than the objective likelihood of arrest and the real consequences, this impediment significantly limits deterrence studies. Consequently, looking at the link between people's perceptions of punishment and their actual crime participation is imperative.

Few studies have addressed this situation; hence, the study added to the existing body of knowledge.

Compelled by the fact that social factors can expound the phantom of criminal activities, this study is being conducted to assess the nexus between socioeconomic factors and crime empirically. Although there have been scholarly works on the phenomenon of violent crime in Nigeria, there is still a scarcity of impactful literature on the socioeconomic determinants of violence, particularly regarding the socioeconomic roots of the crisis.

Even though numerous studies investigate the socioeconomic determinants of crime in Nigeria (Igbinedion & Ebomoyi, 2017; Oyelade, 2019; Arisukwu et al., 2020), the above studies are deficient due to excluding other socioeconomic factors such as family background, family disruption, and family size as determinants of crime in Nigeria. Due to the polygamous family structures and the extended family system practised in NWN with high divorce rates, remarriage led to the pervasiveness of reconstituted, single-parent families and stepfamilies. Hence, the current study extends the previous work by examining more key variables related to socioeconomic determinants: family background, family disruption, family size concerning the five major crime types: Massacre, rape, and kidnapping, crime property armed robbery in NWN.

Another significance of this research is that it was keen to estimate the factors of violent crime from a broader point of view. The study estimated the effect of deterrence factors and informal sanctions on a person's decision on crime and the influence of corruption and the rule of law. Also, estimated the influence of the socioeconomic variables and explored the socioeconomic roots of the crisis regarding the ongoing massacring, shooting, cattle theft, abduction, sexual assault, ransacking of entire villages, and thefts of valuables, with casualties and grouped them into five categories namely, Massacre, rape, kidnapping, crime property, and armed robbery—the estimated effect of violence on the household economic welfare (DFC & LI). Relying on what the researcher spotted in the literature review, no previous studies have conducted similar estimations on violent crime and its consequences on household economic welfare within the context of the research area.

6.4.2 Methodological Contribution

In its attempt to analyse the socioeconomic determinants of violent crime and its impact on household economic welfare in Northwest Nigeria, this research made some methodological contributions. One of the study's methodological contributions is its broad application of different models to analyse the determinant factors of violent crime and their impact on household economic welfare using NWN micro households' data. Multinomial logit coefficients and logit regression models were used to achieve the stated objectives of this study.

Another contribution is that the instruments were adapted from earlier research works worldwide; deterrence factors Bailey & Lott (1976); Paternoster et al. (1983) from studies conducted in the USA, the rule of law, and corruption (Kaufmann, Kraay, & Mastruzzi, 2011) World Bank. At the same time, the scale of violent crimes was built based on a field study conducted by OHCHR and UHRC in Greater Northern Uganda. Economic welfare modules Brück et al. (2013) Washington, DC: World Bank Group.

Thus, this research has demonstrated that those instruments can be appropriately used in a different environment., i.e., the Nigerian context.

Another major contribution was that the study successfully developed and validated a second-order model for the economic welfare scale (Babangida, Hakim, & Abdullah, 2022). In response to the quest to analyse household welfare holistically and broader perspective, many models have been developed; The household asset index, the household farm model, and the Cantril ladder, among others (Filmer & Pritchett 2001; Krieger, Williams, et al. 1997; Cantril 2011; Sahn & Stifel 2001; Singh, Squire & Strauss, 1986). The models mentioned above, however, are not distinct from other social science models as they have discrepancies and constraints. They fall short of meeting the social indicators stream's mandate, which was to find a means to assess welfare in societies plagued by violence, crime, or conflict (Brück, Justino, Verwimp & Tedesco, 2013). As a result, the current research incorporated the level of violence's intensity in the measures and violent self-reporting responses, combining the DFC and LI dimensions into a unified model (second-order model). The second-order model for the economic welfare scale was constructively developed using the household data study to explain how household economic shocks are caused by violence and the magnitude of such shocks.

6.4.3 Practical Implication

It is also thrilling that the world is confronting violence and crimes, which is fundamental to people's quality of life. The findings were reached based on the statistical findings, and the practical implications were logically drawn from the conclusions. The findings will be helpful in policymaking not only in Nigeria but throughout the world of violence and crime. Also, relevant and exciting prospects for research on the economics of crime. The discovery and conclusions of this study presented a clear image and knowledge of the pattern of violent crimes in Northwest Nigeria. The study's findings and analyses can provide candid facts to relevant parties, which is the practical contribution of this study.

The study offers empirical proof that deterrence factors significantly impact violent crime. Therefore, the findings can help make legislative decisions that deter people from committing crimes. The likelihood of an offender being apprehended can be enhanced by coordinating the security agencies, Civil Defence Corps, and native guards (Dogarai) to form a joint task force to work together. Their primary duty includes addressing local herder-farmer skirmishes, which are more common in the Northwest. It also can be achieved by coordinating security agencies in collaboration with relevant academic departments to conduct hotspot mapping of bandit locations using advanced remote sensing facilities. Efforts should also be intensified at community-based intelligence gathering to aid security interventions.

To condense the ongoing banditry, the study suggests criminalising the act, as done by Kebbi and Jigawa states (capital punishment for kidnapping and raping), setting an appropriate consequence, organising an awareness campaign, and publicising the enforcement campaign would be a good strategy. There shouldn't be an indefinite waiting period for those legally sentenced to death. Mostly, they spend over ten years on death row (Ezedike, 2011). It can be higher than formally revealed. The criminal justice system is currently in a very ludicrous state. If sentences are executed vigorously without undue delays, the death penalty would be a highly efficient and effective deterrent.

Another issue of concern is the underfunded security personnel; as a result, the security agencies conspire with criminals for financial advantage. To dissuade the cops from engaging in illegal activity, their well-being must be appropriately addressed. Also, to combat impunity, the states and the central government need to secure appropriate resources for police and courts in impacted states so that the scores of people apprehended for cattle theft, abduction, and other crimes in recent years could be prosecuted more expeditiously.

Policymakers may explore increasing security focus in specific locations (forests and borders) and look for strategies to expand the synergy between public, private, and community-based groups. The extent of deterrence is not the only factor influencing crime rates. Deterrence is crucial in most research, although it explains a fraction of the crime in NWN. Corruption, the rule of law, and social factors such as family dysfunction account for a substantial percentage of the region's crime variation.

The study concludes that corruption and a lack of commitment to the rule of law are vital variables impeding deterrent factors in the fight against violent crime. Therefore, corruption within security is a prime concern, particularly along the border. With greater concerns about the operations of Sahel-based terrorist organisations, The Department of state should enhance intelligence gathering throughout border areas and target gun-smuggling channels. Nigeria's Immigration and Customs Services should improve their efforts to track cross-border operations and prevent the flow of illegal firearms. Because allegedly corrupt border officers constantly jeopardise the activities of these entities (Okoli & Ugwu, 2019). The Interior Ministry, in partnership with the Anti-Graft Agency, should investigate and sanction such misconduct.

The study proved a broad leadership failure of both central and state governments. Therefore, the government should declare an emergency in the war against corruption and regard for the rule of law. An essential impetus for efficient crime control is the implementation of policies aimed at increasing judicial independence and integrity.

According to the findings, socioeconomic variables are also crucial in determining all sorts of crimes in the NWN. The results point to a primary concern for reducing crime rates, prioritising policies targeting young people's empowerment. The government ought to develop more employment opportunities, particularly in rural regions, to alleviate the economic burden of unemployed individuals. Furthermore, the government should alleviate poverty through various projects and programs and provide individuals with diverse skills and unskilled employment opportunities. Policymakers should consider the need for religious institutions and traditional leaders to take a constructive role in community affairs.

According to the findings, the most vulnerable members of society are most prone to criminal activity (young unemployed and uneducated). The practice of the state and its relatives paying money to bandits and criminals for ransom was established as encouraging more criminality in the area. There must be a systematic approach to solving the unemployment problem, as the study confirmed that 59% of the bandits were unemployed before joining the criminal gangs. The government should strengthen the agricultural sector to alleviate poverty, as Agriculture is the region's mainstay and the largest employer of labour. The region has a comparative advantage in agriculture and should therefore be strengthened. To create massive employment through the sector. The government's responsibility is to provide an enabling environment for businesses to strive in the nation, encouraging people to learn about various businesses to eradicate poverty and engage the teeming unemployed youth.

The findings indicate that lack of education is one of the region's major drivers of criminal behaviour. The study recommended that the relevant authorities devise effective and appropriate policies to transform primary and secondary education through huge investment, reduce the number of out-of-school children, and reduce illiteracy among men and women through the aggressive mass literacy program. Reducing illiteracy and ignorance will halt the growth of hopelessness that led to banditry and other criminal activities in the region.

The findings provide policymakers with valuable facts for formulating policies to establish long-term peace frameworks and assisting those who have experienced the most severe economic losses due to violent crime. The findings suggest that the first component, LI, substantially impacts HH Economic Welfare, then the second component, DFC. According to the results, income should be considered more when assessing the well-being of affected households. Both can be used as critical measures of household economic welfare to explore the prevalence of significant welfare shocks and identify the most vulnerable households. These findings confirmed policymakers' assessment of income and consumption when determining effective interventions, like post-violent and humanitarian missions. The outcomes can also be used to assess the efficacy of comprehensive poverty trends and social programs.

Another policy that government should improve on is the relationship with international organisations like World Bank and NGOs that mainly assist countries experiencing violence, poverty, and famine. They usually provide donations, send volunteers, food, and sometimes massive grants to improve food production and distribution. Also, the foreign humanitarian groups, mainly concentrated in the Northeast for the past decade, should now shift their focus and finances to the Northwest. In delivering relief materials to internally displaced people in refugee camps and communities and livelihood restoration support, like farming equipment, to people returning to their devastated communities and enterprises. Furthermore, International development organisations should strive to provide more support to the region through developmental programs, mainly promoting youth empowerment and education.

The government should study and determine the social amenity needs across the states in the NWN and develop intervention strategies to address the deficit of social amenities. The provision of skill acquisition centres at the ward levels will empower young people in the short and medium-term to reduce redundancy and idleness among young people, especially during the dry season. Also, the strategy aims to create livestock grazing reserve areas with adequate infrastructure, such as schools, health facilities, boreholes, and grazing field demarcation, all of which will help overall stability.

Moreover, states and national policymakers must assess practical challenges linked with violence, criminality, food security, and conflict and translate research findings into practice. More reliable evidence is needed to fully comprehend and monitor violence's diversity, nature, interconnections, and consequences in violent areas. More precise and insightful data on social, economic, and institutional factors are needed at both levels. The nature of violence/conflicts locally must be better evaluated and analysed.

To develop competent, impactful, and fair policies, states and national policymakers need facts from all these directions. When there is no reliable data and proof, it will be challenging to track security or prevent the advent of violence, support individuals' and groups' livelihoods during the conflict, stimulate post-violence rehabilitation, react to volatility in global food prices, or inject food aid, to mention a few tasks. Economic theory has a lot to offer policymakers working in violent areas. The researcher believes that effective interaction between researchers and policymakers can bring better quality lives and increased safety for those in insecurity and war zones.

6.6 Limitations of the Study and Suggestions for Future Research

Integrating broader samples may lead to more reliable estimates in investigating violent crime. The survey covers only Northwest Nigeria. This is due to insufficient funds, as field research with large respondents nationwide requires substantial resources. However, it is appropriate and clear that scores have been ascertained in a population subjected to violence and in a control population of urban areas with little exposure, even though they are not points of reference. However, the chosen participants portray diverse exposures to violent crime in Nigeria. For this study, we do not involve other victims of terrorist groups, such as Boko Haram in the Northeast, Militant groups in the South-south, and Indigenous People of Biafra (IPOB) in the Southeast, as the scope of the survey was limited to Northwest, Nigeria. Hence, selection bias may ascend if only victims of banditry in NWN are chosen. Future research could use a much larger sample from other regions that reflects the country's demographic diversity. Also, future researchers can sufficiently compare the results in diverse contextual and social circumstances.

Accordingly, the current study is cross-sectional; future studies should focus on longitudinal data or time series analysis covering more years, making obtaining more comprehensive data and implications possible. The study investigates five criminal offences (Massacre, property crime, kidnapping, rape, and armed robbery) and other offences that should still be investigated. Also, only two unofficial sanctioning sources were explored (parents and friends). Employers, the Mosque, and neighbours' reactions, among others, should also be considered by future researchers.

REFERENCES

Abdullahi, M. K., & Madappalli, M. (2017). *The socio-economic repercussions of cattle rustling in Gusau local government Zamfara State, Nigeria* [Unpublished Doctoral Dissertation]. Lovely Professional University.

Abdullahi, S. S., Victor, S., & Binta, M. (2017). The Menace of Cattle Rustling and Banditry in North-western. *Journal of Research & Method in Education* 7 (6), 40-47.

Abdulrasheed, A. (2021). Armed Banditry and Human Security in Northwestern Nigeria: The impacts and the way forward. *Journal of Humanities Social and Management Sciences.*1(1). https://dx.doi.org/10.2139/ssrn.3881652

Abdulrashid, I., Saifullahi, S. I. & Amir, A. (2018). The incidence and impact of cattle rustling in some rural communities of Katsina state, Nigeria. *FUDMA Journal of Sciences,* 2(2), 288 – 296.

Abiodun, T. F., Asaolu, A. A., & Ndubuisi, A. I. (2020). Defence Budget and Military Spending on War Against Terror and Insecurity in Nigeria: Implications for state Politics Economy and National Security. *International Journal of Advanced Academic Research (Social and Management Sciences)*. 6 (7). DOI: 10.46654/ij.24889849.s6713

Abubakar, M. B. (2021). The Implications of cattle rustling to human and food security in the rural communities of Kaduna state, Nigeria. *Zamfara Journal of Politics and Development,* 2(1), 18-18.

Abu, N., Karim, M. Z. A., & Aziz, M. I. A. (2015). Corruption, political instability, and economic development in the economic community of West African States (ECOWAS): Is there a causal relationship? *Contemporary Economics*, 9(1), 45–60.doi:10.5709/ce.1897-9254.159

Adow M. (2012, Jul 16). Nigeria's Kano shakes off divorce capital tag. *Aljazeera.* https://www.aljazeera.com/features/2012/7/16/nigerias-kano-shakes-off-divorce-capital-tag

Adebajo K. (2021, July 12). Data: More Nigerians Kidnapped in the First 6 Months of 2021 than all of 2020. *HumAngle.Media*. https://humanglemedia.com/data-more-nigerians-kidnapped-in-first-6-months-of-2021-than-all-of-2020/

Adebayo, A. A. (2013). Youths' unemployment and crime in Nigeria: A nexus and implications for national development. *International Journal of Sociology and Anthropology*, *5*(8), 350-357. http://dx.doi.org/10.5897/IJSA2013.0452

Adebayo, A. G. (1991). Of man and cattle: A reconsideration of the traditions of origin of pastoral Fulani of Nigeria. *History in Africa, 18*, 1–21. https://doi.org/10.2307/3172050

Adekoya F. (2021, March 23). Nigerians pay more for insecurity as economic impact hits N50tr. *The Guardian*. https://guardian.ng/news/nigerians-pay-more-for-insecurity-as-economic-impact-hits-n50tr/

Adekoya, A. F., & Abdul Razak, N. A. (2017). The dynamic relationship between crime and economic growth in Nigeria. *International Journal of Management and Economics*, *53*(1), 47-64. DOI: 10.1515/ijme-2017-0004

Adekoya, A. F. (2017). *Socioeconomic strain, crime, and economic growth: evidence from Nigeria* [Doctoral Dissertation, Universiti Utara Malaysia]. Universiti Utara Malaysia, Theses and Dissertations Archive. https://etd.uum.edu.my/7205/2/s95735_02.pdf

Adekoya, A. F., & Abdul Razak, N. A. (2018). Unemployment and Violence: ARDL Endogeneity Approach. *Ensayos. Revista de economía*, 37(2), 155-175. https://doi.org/10.29105/ensayos37.2-2

Adekoya, A. F., & Razak, N. A. (2016). The link between economic growth, crime and deterrence measures in Nigeria. *Studia Universitatis Vasile Goldiș Arad, Seria Științe Economice*, 26 (4), 24-40. https://doi.org/10.1515/sues-2016-0017

Adekoya, A. F., & Abdul Razak, N. A. (2016). Inflation, deterrence, and crime: Evidence from Nigeria using bounds test approach. *Journal of Economics and Sustainable Development*, *7*(18), 23-32.

Adekoya, A. F. (2019). *Violence and economic disadvantage: education as a veritable tool in the Nigerian economy. Outlook on human capacity building and development; A Handbook of Research in Honour of Professor Ibrahim Njodi* (J.A. Opara, Ed). University of Maiduguri Press.

Adelaja, A., Labo, A., & Penar, E. (2018). Public opinion on the root causes of terrorism and objectives of terrorists: A Boko haram case study. *Perspectives on Terrorism*, 12(3), 35-49.

Adelaja, A., & George, J. (2019). Effects of conflict on agriculture: Evidence from the Boko Haram insurgency. *World Development*, *117*, 184-195. https://doi.org/10.1016/j.worlddev.2019.01.010

Afolabi, O. S., Amao-Kolawole, T. G., Shittu, A. K., & Oguntokun, O. O. (2018). Rule of law, governance, and sustainable development: The Nigerian perspective. In K.T. Alemu (Ed.), *Handbook of Research on Sustainable Development and Governance Strategies for Economic Growth in Africa* (pp. 273-290). IGI Global.

Agande, B. (2019, May 26). Security in Tatters: Govt ignored warning banditry, kidnapping, killings would escalate, spread to Katsina, Kaduna, Sokoto. *Vanguard*. https://www.vanguardngr.com/2019/05/security-in-tatters-govt-ignored-warning-banditry-kidnapping-killings-would-escalate-spread-to-katsina-kaduna-sokoto-researcher/

Agbiboa, D. E. (2013). Why Boko Haram exists: The relative deprivation perspective. *African Conflict and Peacebuilding Review*, *3*(1), 144-157. https://doi.org/10.2979/africonfpeacrevi.3.1.144

Agho, K. E., Mukabutera, C., Mukazi, M., Ntambara, M., Mbugua, I., Dowling, M., & Kamara, J. K. (2019). Moderate and severe household food insecurity predicts stunting and severe stunting among Rwanda children aged 6–59 months residing in Gicumbi district. *Maternal & child nutrition*, 15(3). https://doi.org/10.1111/mcn.12767

Agwu, G. (2020*). The Boko Haram conflict and food insecurity: does resilience capacity matter?* (Working Papers No: 2019-2020_4, CATT – UPPA). Université de Pau et des Pays de l'Adour. https://ideas.repec.org/p/tac/wpaper/2019-2020_4.html

Ahmadu, H. (2019). Insight into the dynamics and menace of cattle rustling: A case study of Lake Chad Basin area in Northern Nigeria. *World Journal of Social Sciences*, 6(1), 18-33. https://doi.org/10.22158/wjssr.v6n1p18

Aigbovo, O., & Eidenoje, O. (2016). Comment: Theorising Nigerian Crime Problems. *Mizan Law Review*, 10(1), 217-243. http://dx.doi.org/10.4314/mlr.v10i1.7

Ajaegbu, O. O. (2012). Rising youth unemployment and violent crime in Nigeria. *American Journal of Social Issues and Humanities*, *2*(5), 315-321.

Ajide, F. M. (2019). Institutional quality, economic misery and crime rate in Nigeria. *Economics and Business*, *33*(1), 170-182. https://doi.org/10.2478/eb-2019-0012

Ajodo-Adebanjoko, A. (2020). Rural Banditry in Northwest Nigeria Amidst a Global Pandemic: A Gender Perspective. *Political Crossroads*, *24*(1), 59-78. https://doi.org/10.7459/pc/24.1.05

Ajodo-Adebanjoko, A., & Okorie, N. (2014). Corruption and the challenges of insecurity in Nigeria: political economy implications. *Global Journal of Human-Social Science: F Political Science,* 14(5), 10-16.

Akem-Vingir, P. (2020). *The Lived Experiences of Reformed Armed Robbers in Nigeria* [Doctoral dissertation, Walden University]. Walden University, Theses and Dissertations Archive. https://scholarworks.waldenu.edu/dissertations/8659

Akowe, Tony, & Kayode, B. (2014, March 30). Cattle rustling: A Northern nightmare: *The Nation,* online: https://thenationonlineng.net/cattle-rustling-northern-nightmare/

Akwagyiram A. (2021, June 4*).* Violence in Nigeria's Northwestern Zamfara state spawn's humanitarian crisis *-Reuters*. https://www.reuters.com/world/africa/violence-nigerias-northwestern-zamfara-state-spawns-humanitarian-crisis-msf-2021-06-03/

Alabede, J. O., Ariffin, Z. Z., & Idris, K. M. (2011). Determinants of tax compliance behaviour: A proposed model for Nigeria. *International Research Journal of Finance and Economics*, *78*(1), 121-136.

Alabi O., Shamaki M.A., Omisakin O.A., Giro M., & Odusina E.K. (2020). Family and Household Issues in Northern Nigeria: Change and Continuity. In: Odimegwu C. (ed), *Family Demography and Post-2015. Development Agenda in Africa.* (pp 4-14). Springer, Cham.

Albu, C., Lobont, O. R., Moldovan, N. C., & Kuloglu, A. (2013). The criminal behaviour in Romanian socio-cultural contemporary context. *Journal of* Economic *Computation & Economic Cybernetics Studies & Research*, 47(4).

Alesina, A., Piccolo, S., & Pinotti, P. (2019). Organized crime, violence, and politics. *The Review of Economic Studies*, *86*(2), 457-499. https://doi.org/10.1093/restud/rdy036

Alhassan, Y. J., Sanchi, I. D., Dorh, L. E., & Vintenaba, S. S. (2021). Farmers/Herders conflict, cattle rustling and banditry: A threat to Agricultural productivity in Northwestern Nigeria: A Review. *Journal of Agricultural Economics, Extension and Rural Development. 9(1)*, 0032-039.

Alli, Y. (2016, April 27). EFCC uncovers $12.9b more fraud in arms deals probe. *The Nation*. http://thenationonlineng.net/efcc-uncovers-12-9b-fraud-arms-deals-probe/

Aliyu, M. A. (2010). *Micro econometric Analysis of the Residential Location Decision: The Case of Kano, Nigeria*. [Doctoral Dissertation, University of East Anglia, Norwich]. University of East Anglia, Theses and Dissertations *Archive.* https://ueaeprints.uea.ac.uk/id/eprint/34205/1/2010AliyuMAPhD.pdf

Aluko, O. (2020). Breaking the cycle of corruption in Nigeria: the myth and reality. *Journal of Co-operative and Business Studies,* 5(1), 115-125.

Amaza, P. (2018, July 23-August 2). *Impact on household food security of promoting sustainable agriculture among farming households in Borno state, Nigeria.* [Paper presentation]. international Conference, 2018, Vancouver, Columbia.

Aminu, U., Manu, D., El-Maude, J.G. & Kabiru, M. (2013). Relationship between crime level, unemployment, poverty, corruption, and inflation in Nigeria: An empirical analysis. *Global Advanced Research Journal of Management and Business Studies, 2(8)*, 411-422.

Amnesty International (2021, November 17) Nigeria: Failure to tackle rape crisis emboldens perpetrators and silences survivors. *Amnesty International*. https://www.amnesty.org/en/latest/news/2021/11/nigeria-failure-to-tackle-rape-crisis-emboldens-perpetrators-and-silences-survivors/

Amnesty International (2018). *Harvest of Death: Three Years of Bloody Clashes between Farmers and Herders in Nigeria*. (AFR 44/9503/2018). *Amnesty International*.https://www.amnesty.org/en/wpcontent/uploads/2021/05/AFR4495032018ENGLISH.pdf.

Andresen, M. A., & Brantingham, P. J. (2007). *Hot spots of crime in Vancouver and their relationship with population characteristics*. (Report No. 272943652). Ottawa: Department of Justice Canada.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin,* 103(3), 411–423. https://doi.org/10.1037/0033-2909.103.3.411

Anderson, L. S., Chiricos, T. G., & Waldo, G. P. (1977). Formal and informal sanctions: A comparison of deterrent effects. *Social problems*, 25(1), 103-114. https://doi.org/10.2307/800471

Anderson, D. A. (1999). The Aggregate Burden of Crime. *The Journal of Law and Economics*, 42, (2). 611- 642. https://doi.org/725699

Anetor, G. O., & Oyekan-Thomas, M. F. (2018). Knowledge and attitude of youths to substance abuse in Alimosho Local Government area of Lagos State. *International Journal of Biological and Chemical Sciences*, 12(2), 822-836.

Anka, A. S. (2017). Emerging Issues in Zamfara Armed Banditry and Cattle Rustling: Collapse of the Peace Deal and Resurgence of Fresh Violence. *International Journal of Innovative Research and Development*, 6(12),161-170. DOI.10.24940/ijird/2017/v6/i12/DEC17088

Anka, L. M. (2017b). *Agricultural Development Potentials in Zamfara state of Nigeria: A Survey of Empirical Evidence Paperback,* Lap Lambert Academic Publishing.

Antunes, G., & Hunt, A. L. (1973). The impact of certainty and severity of punishment on levels of crime in American states: An extended analysis. *The Journal of Criminal Law and Criminology*, 64(4), 486-493. https://doi.org/10.2307/1142449

Apel, R., & Horney, J. (2017). How and why does work matter? Employment conditions, routine activities, and crime among adult male offenders. *Criminology*, 55 (2), 307-343. https://doi.org/10.1111/1745-9125.12134

Arisukwu, O., Igbolekwu, C., Oye, J., Oyeyipo, E., Asamu, F., Rasak, B., & Oyekola, I. (2020). Community participation in crime prevention and control in rural Nigeria. *Heliyon*, 6(9). https://doi.org/10.1016/j.heliyon.2020.e05015

Arowolo, D. E. (2022). Ethnicisation of corruption in Nigeria. *Journal of Financial Crime*, 29 (1), 246-257. https://doi.org/10.1108/JFC-06-2020-0106

Asaju, K., & Yohanna, A. S. (2022). Insecurity and development administration in Nigeria: A crossroad. *African Social Science and Humanities Journal*, *3*(4), 170-181. https://doi.org/10.57040/asshj.v3i4.224

Assessment Capacities Project (2020). *Banditry violence and displacement in the Northwest.* (ACAPS 2020072). Assessment Capacities Project. https://www.acaps.org/special-report/nigeria-banditry-violence-and-displacement-northwest

Atkinson, G., Healey, A. & Mourato, S. (2005). Valuing the Costs of Violent Crime: A Stated Preference Approach, *Oxford Economic Paper*, 57(5), 559–585. https://doi.org/10.1093/oep/gpi036

Austin, J., Eisen, L. B., Cullen, J., Frank, J., Chettiar, I., & Brooks, C. W. (2016). *How many Americans are unnecessarily incarcerated*. Brennan Centre's Publications.

Awofeso O., Irabor P.A. (2022). Youth Unemployment and Electoral Violence in Nigeria: A Case of the 2019 General Elections. In: A. K.J., Ojakorotu (ed.), *Elections and Electoral Violence in Nigeria* (pp. 35–49). Palgrave Macmillan.

Awojobi, O. N. (2014). The socio-economic implications of Boko Haram insurgency in the north-east of Nigeria. *International Journal of Innovation and scientific research*, 11(1), 144-150.

Babangida, B.K., Abdul Hakim, R. & Abdullah, H.B. (2022). Validating second-order model for economic welfare scale: evidence from Nigeria. *International Journal of Social Economics,* 49 (4), 509-528. https://doi.org/10.1108/IJSE-06-2021-0327

Badiora, A. I., Okunola, O. H., & Ojewale, O. S. (2016). Crime statistics in a Nigerian traditional city: A geographic analysis. *Journal of Asian and African studies*, *51(5),* 545-559. doi/abs/10.1177/0021909614552917

Bagozzi, R.P., Yi, Y., & Phillips, L.W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36(3), 421–458. https://doi.org/10.2307/2393203

Bagu, C., & Smith, K. (2017, April 20). *Past is Prologue: Criminality and Reprisal Violence in Nigeria's Middle Belt*. Search for Common Ground.

https://www.sfcg.org/wp-content/uploads/2017/04/Criminality-Reprisal-Attack_FINAL.pdf.

Bailey, W. C., & Lott, R. P. (1976). Crime, Punishment and Personality: An Examination of the Deterrence Question. *Journal of Criminal Law & Criminology*, 67(1), 99-109. DOI:10.2307/1142461

Balarabe, A., Kirfi, M. M., & Abdulsaam, Z. (2021). An Assessment of the Impact of Structures and Interinstitutional Collaboration on the Delivery of Security Services in the Bandits-bedevilled Zamfara and Sokoto States. *International Journal of Management and Commerce Innovations*, 9 (20) 125-140.

Bartlett, J. E., Kotrlik, J. W., & Higgins, C. (2001). Organizational Research: Determining Appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal, 19(1),* 43 – 50.

Barati, M. (2019). Punishment Severity and Crime: The Case of Arkansas. *Review of Law & Economics*, 15 (1),2017-2025. https://doi.org/10.1515/rle-2017-0025

Beccaria, C. (1963). *On Crimes and Punishments: Introduction by H. Paolucci*, New York Macmillan.

Becker, K.L, & Kassouf, A.L (2017). An analysis of the effect of public spending on education on crime in Brazil. *Economy and Society*, 26 (1), 215-242. https://doi.org/10.1590/1982-3533.2017v26n1art8

Becker, J. M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models. *Long range planning*, 45 (5-6), 359-394. https://doi.org/10.1016/j.lrp.2012.10.001

Becker, G.S. (1968). Crime and Punishment: An Economic Approach. In: N.G Fielding, A. Clarke, & R. Witt (eds.). *The economic dimensions of crime*. (pp. 13 - 68). Palgrave Macmillan.

Becker, G. S., & Stigler, G. J. (1974). Law enforcement, malfeasance, and compensation of enforcers. *The Journal of Legal Studies*, *3(*1), 1-18.

Becg, C. B., & Gray, R. (1984). Calculation of polychotomous logistic regression parameters using individualized regressions. *Biometrika*, 71(1), 11-18. https://doi.org/10.1093/biomet/71.1.11

Bell, B., Jaitman, L., & Machin, S. (2014). Crime deterrence: Evidence from the London 2011 riots. *The Economic Journal*, 124(576), 480-506. https://doi.org/10.1111/ecoj.12137

Bell, B., Costa, R., & Machin, S. (2016). Crime, compulsory schooling laws, and education. *Economics of Education Review*, 54(C) 214-226. https://doi.org/10.1016/j.econedurev.2015.09.007

Bello, B., & Abdullahi, M. M. (2021). Farmers–Herdsmen Conflict, Cattle Rustling, and Banditry: The Dialectics of Insecurity in Anka and Maradun Local Government Area of Zamfara State, Nigeria. *SAGE* 11 (4). 1-12 https://doi.org/10.1177/21582440211040117

Bennett, P., & Ouazad, A. (2016). *Job displacement and crime: Evidence from Danish microdata.* (Working Paper, No: 2016/55/EPS). Copenhagen Business School, Department of Economics. https://researchapi.cbs.dk/ws/files/58770365/job_displacement_crime_ao_pb_2016.pdf

Bentham, J. (1948). *An Introduction to the Principles of Morals and Legislation*. Mineola, NY: Dover Publications.

Berry, W. D., & Feldman, S. (1985). The multiple regression model: a review. Multiple regression in practice. *Sage University Paper*, 9-17. https://dx.doi.org/10.4135/978141298520

Bezin, E., Verdier, T., & Zenou, Y. (2020). *Crime, broken families, and punishment.* (Discussion Paper DP13014). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3200773

Bhorat, H., Thornton, A. and Van der Zee, K. (2017). *Socioeconomic determinants of crime in South Africa: an empirical assessment*. (Working Paper, No. 201704). University of Cape Town, Development Policy Research Unit.

Bintube, M. (2015). Boko haram phenomenon: genesis and development in North-eastern region Nigeria. *International Journal of Sociology and Anthropology Research*, 1 (1), 1 - 22.

Birnin Kebbi A.B.I. (2021, January 30). Kebbi: Kidnappers, rapists get death penalty. `*The Guardian.* https://guardian.ng/news/kebbi-kidnappers-rapists-get-death-penalty/

Bjerk, D. (2010). Thieves, thugs, and neighbourhood poverty. *Journal of Urban Economics.* 68 (3), 231-246. https://doi.org/10.1016/j.jue.2010.06.002

Blackburn, K., Neanidis, K.C. & Rana, M.P. (2017). A theory of organized crime, corruption, and economic growth. *Economic Theory Bulletin 5***,** 227–245 https://doi.org/10.1007/s40505-017-0116-5

Bockmon, D. F., & Rieman D. J. (1987). Qualitative versus quantitative nursing research *Holistic Nursing Practice* 2(1), 71-75

Bodman, P.M., & Maultby, C. (1997). Crime, punishment, and deterrence in Australia: A further empirical investigation. *International Journal of Social Economics. 24* 7/8/*9,* 884-901. https://doi.org/10.1108/EUM0000000004335

Bossler, A. M. (2021). Perceived formal and informal sanctions in deterring cybercrime in a college sample. *Journal of Contemporary Criminal Justice*, 37(3), 452-470. https://doi.org/10.1177%2F10439862211001630

Bossler, A. M. (2019). Perceived formal and informal sanctions on the willingness to commit cyber-attacks against domestic and foreign targets. *Journal of Crime and Justice, 42, 599 – 615.* https://doi.org/10.1080/0735648X.2019.1692423

Botetzagias, I., Dima, A. F., & Malesios, C. (2015). Extending the theory of planned behaviour in the context of recycling: the role of moral norms and demographic predictors. *Resources, Conservation, and Recycling*, 95(1), 58-67. https://doi.org/10.1016/j.resconrec.2014.12.004

Bowles, R., & Garoupa, N. (1997). Casual police corruption and the economics of crime. *International review of Law and Economics*. 17(1), 75-87. https://doi.org/10.1016/S0144-8188(00)00020-X

Braga, A. A., Weisburd, D., & Turchan, B. (2018). Focused deterrence strategies and crime control: An updated systematic review and meta-analysis of the empirical evidence. *Criminology & Public Policy*, *17*(1), 205-250. https://doi.org/10.1111/1745-9133.12353

Braithwaite, J. (1989). *Crime, shame, and reintegration*. Cambridge University Press.

Brenner C. (2021, March 19). Combating Banditry in Northwest Nigeria. *American Security Project*. https://www.americansecurityproject.org/combating-banditry-in-northwest-nigeria/

Broidy, L., & Agnew, R. (1997). Gender and crime: A general strain theory perspective. *Journal of research in crime and delinquency*, *34*(3), 275-306. https://doi.org/10.1177/0022427897034003001

Bronson, J., Stroop, J., Zimmer, S., & Berzofsky, M. (2017). *Drug use, dependence, and abuse among state prisoners and jail inmates, 2007–2009*. (NCJ 250546) Washington, DC: United States Department of Justice, Office of Juvenile Justice, and Delinquency Prevention. https://mronline.org/wp-content/uploads/2018/01/dudaspji0709.pdf

Brooks, C. (2019). *Introductory Econometrics for Finance* (4th ed.). Cambridge University Press.

Brown, R. and Velásquez, A. (2017). The effect of violent crime on the human capital accumulation of young adults. *Journal of Development Economics,* 127 (1-12). https://doi.org/10.1016/j.jdeveco.2017.02.004

Brück, T., d'Errico, M., & Pietrelli, R. (2019). The effects of violent conflict on household resilience and food security: Evidence from the 2014 Gaza conflict. *World development,* 119, 203 – 223. https://doi.org/10.1016/j.worlddev.2018.05.008

Brück, T., & d'Errico, M. (2019). Food security and violent conflict: Introduction to the special issue. *World Development, 117,* 167-171. https://doi.org/10.1016/j.worlddev.2019.01.007.

Brück, T., Justino, P., Verwimp, P., Avdeenko, A., & Tedesco, A. (2015). Measuring violent conflict in micro-level surveys: Current practices and methodological challenges. *The World Bank Research Observer,* 31(1), 29-58. https://doi.org/10.1093/wbro/lkv011

Brück, T., & Vothknecht, M. (2011). Impact of Violent Conflicts on Women 's Economic Opportunities. In H. Hernes, K. Kuehnast & C. Oudraat, (eds), *Women and War: Power and Protection in the 21st Century*, (pp. 85-114). Springer.

Brück, T., Justino, P., Verwimp, P., & Avdeenko, A. (2010). *Identifying conflict and violence in micro-level surveys.* (Working Paper, IZA DP No. 5067). IZA

Brück, T., Naudé, W., & Verwimp, P. (2011). Small business, entrepreneurship, and violent conflict in developing countries. *Journal of Small Business and Entrepreneurship, 24* (2), 161 - 178. https://doi.org/10.1080/08276331.2011.10593532

Brück, T., & Müller, C. (2010). Comparing the determinants of concern about terrorism and crime. *Global Crime*, 11 (1), 1-15. https://doi.org/10.1080/17440570903475634

Brück, T., Justino, P., Verwimp, P., & Tedesco, A. (2013). *Measuring conflict exposure in micro-level surveys*. Stockholm International Peace Research Institute. Stable URL: http://www.jstor.com/stable/resrep19154

Brück, T., & Schindler, K. (2009). The impact of violent conflicts on households: What do we know and what should we know about war widows? *Oxford Development Studies, 37* (3), 289 - 309. https://doi.org/10.1080/13600810903108321

Bryman, A. (2016). *Social research methods* (5th ed.). New York: Oxford University press.

Bryman A. (1988). *Quantity and Quality in Social Research.* Routledge.

Bundervoet, T., Verwimp, P., & Akresh, R. (2009). Health and civil war in rural Burundi. Journal of human Resources, 44(2), 536 - 563. https://doi.org/10.3368/jhr.44.2.536

Buonanno, P., & Montolio, D. (2008). Identifying the socio-economic and demographic determinants of crime across Spanish provinces. *International Review of law and Economics*, *28*(2), 89-97. https://doi.org/10.1016/j.irle.2008.02.005

Burger, F. J. (2006). Crime combating in perspective: A strategic approach to policing and the prevention of crime. Acta Criminologica: *African Journal of Criminology & Victimology*, 19(2), 105 -118.

Burkett, S. R., & Jensen, E. L. (1975). Conventional ties, peer influence, and the fear of apprehension: A study of adolescent marijuana use. *The Sociological Quarterly*, *16*(4), 522-533. https://doi.org/10.1111/j.1533-8525.1975.tb00966.x

Burton, J. (1997). *Violence explained: The sources of conflict, violence and crime and their prevention*. Manchester University Press.

Buscaglia, E., & van Dijk, J. (2003). *Controlling organized crime and corruption in the public sector. In Forum on crime and society*. (Paper presentation) Latin American and Caribbean Law and Economics Association Annual Papers. University of California, USA. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=931046

Byeon, J., Kim, I., & Lee, D. (2018). Protest and property crime: political use of police resources and the deterrence of crime. *Public Choice,* 175(1), 181-196. https://doi.org/10.1007/s11127-018-0525-5

Byrne, B.M. (2011). *Structural Equation Modeling with Mplus: Basic Concepts, Applications, and Programming* (1st ed.). Routledge.

Cabot, C. (2017). Climate change and farmer–herder conflicts in west Africa. *In Climate change, security risks and conflict reduction in Africa* (pp. 11–44). Springer, Berlin, Heidelberg.

Campbell, J., & McCaslin, J. (2020). *Recent Flare Up in Violence Across Northwestern Nigeria*. The Council on Foreign Relations. https://www. cfr. org/blog/recent-flare-violence-across-northwestern-nigeria

Campbell, J. (2021). *Nigeria Security Tracker*. The Council on Foreign Relations. https://www.cfr.org/nigeria/nigeria-security-tracker/p29483

Campbell, J. (2018). *Nigeria's national kidnapping crisis is expanding*. The Council on Foreign Relations. https://www.cfr.org/blog/nigerias-national-kidnapping-crisis-expanding

Cano-Urbina, J., & Lochner, L. (2019). The effect of education and school quality on female crime. *Journal of Human Capital, 13*(2), 188-235. https://www.journals.uchicago.edu/doi/abs/10.1086/702927

Cantisano, G. T., Domínguez, J. M., & Depolo, M. (2008). Perceived sexual harassment at work: Meta-analysis and structural model of antecedents and consequences. *The Spanish journal of psychology*, 11(1), 207-218. https://doi.org/10.1017/S113874160000425X

Cantril, H. (2011). *The Pattern of Human Concern. New Brunswick*. Rutgers University Press.

Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001*). Applied business research: Qualitative and quantitative methods*. John Wiley & Sons Ltd

Chang, J. & Wu, C. H. (2012). Crime, Job Searches, and Economic Growth, *Atlantic Economic Journal, Vol. 40*, pp. 3-19. https://doi.org/10.1007/s11293-012-9302-x

Cheah, J.-H., Ting, H., Ramayah, T., Memon, M.A., Cham, T.-H., Ciavolino, E. (2019). A comparison of five reflective–formative estimation approaches reconsideration and recommendations for tourism research. *Qual. Quant. 53*, 1421–1458. https://doi.org/10.1007/s11135-018-0821-7

Chêne, M., & Hodess, R. (2008). *Organized crime and corruption*. Transparency International and CHR. Michelsen Institute. https://www.u4.no/publications/organized-crime-and-corruption.pdf

Cheng, W. H., Abdulkadir,K., & Bohari, A. (2012).The strategic planning of SMEs in Malaysia: Types of strategies in the aftermath of economic downturn, *Asian Journal of Business and Management Sciences,* 2(8), 51-59.

Cheng, S., & Long, J.S. (2007). Testing for IIA in the multinomial logit model. *Sociological Methods and Research, 35,* 583 – 600. https://doi.org/10.1177/0049124106292361

Chernick, M. R. (2011). *Bootstrap methods: A guide for practitioners and researchers*. John Wiley & Sons.

Chiluwa, I., & Chiluwa, I. M. (2022). 'Deadlier than Boko Haram': Representations of the Nigerian herder–farmer conflict in the local and foreign press. *Media, War & Conflict*, *15*(1), 3-24. https://doi.org/10.1177/1750635220902490

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G.A Marcoulides (Ed.), *Modern methods for business research* (pp. 295-336). Lawrence Erlboum Associates Puublisher.

Chukwuma, I., & Ebai, E. (2012). Promoting the Rule of Law through Evaluation and Performance Measurement in Nigeria: Challenges and Prospects. In J. C. Botero, R. Janse, S. Muller, & C. Pratt (Eds.). *Innovations in Rule of Law* (pp. 16- 21). The World Justice Project.

Cloke, P. J., & Davies, L. (1992), Deprivation and lifestyles in rural Wales - II. Towards a cultural dimension, *Journal of Rural Studies 8*(4): 349-358. https://doi.org/10.1016/0743-0167(92)90049-C

Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American sociological review*, *44(4)*, pp. 588-608. https://doi.org/10.2307/2094589

Cohen, L. & Manion, L. Morrison. K. (2002). *Research methods in education*. Routledg.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.) Hillsdale, NJ: Erlbaum

Collier, P. (2003) *Breaking the conflict trap: Civil war and development policy*. World Bank.

Collier, P., & Hoeffler, A. (2004). Greed and grievance in civil war. *Oxford economic papers*, *56*(4), 563-595. https://doi.org/10.1093/oep/gpf064

Collins H. (2000). *Social Banditry,* (3rd ed.). Harper Collins Publishers.

Contreras, C., & Hipp, J. R. (2020). Drugs, crime, space, and time: A spatiotemporal examination of drug activity and crime rates. *Justice Quarterly*, *37 (2),* 187 – 209. https://doi.org/10.1080/07418825.2018.1515318

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology,* *25*(3), 325-334. https://doi.org/10.1007/s10869-010-9181-6

Cormack D. F. S. (1991). *The Research Process in Nursing* (2nd ed.). Blackwell Scientific, Oxford.

Cornish, D. B., & Clarke, R. V. (2002). Crime as a rational choice. *Criminological theories: Bridging the past to the future*, (pp. 77-96). Springer

Costantini, M., Meco, I., & Paradiso, A. (2018). Do inequality, unemployment and deterrence affect crime over the long run? *Regional Studies*, *52*(4), 558-571. https://doi.org/10.1080/00343404.2017.1341626

Cotte Poveda, A., & Martinez Carvajal, J. (2019). Economic development, political violence, and socio-political instability in Colombia: an econometric analysis using panel data. *European Research Studies Journal XXII, (1)*. 237-253.

Coupland, R. (2007). *Security, Insecurity and Health*. World Health Organization. https://www.scielosp.org/article/bwho/2007.v85n3/181-184/en/

Crenshaw, M. (1987). Theories of terrorism: Instrumental and organizational approaches. *The Journal of strategic studies*, *10*(4), 13-31. https://doi.org/10.1080/01402398708437313

Crenshaw, M. (Ed.). (2010). *Terrorism in context*. Pennsylvania State University Press.

Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research. (*4th ed.). Boston Pearson Education.

Creswell, J. W. (2008). *Educational research: planning, conducting, and evaluating quantitative and qualitative* (3rd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.

Creswell, J. W. (1994). *Research design: qualitative & quantitative approaches*. London: SAGE Publications. 269.

Crisis Group Africa (2020, May 18). *Violence in Nigeria's Northwest: Rolling back the mayhem*. (Report No. 288). International Crisis Group https://www.reddit.com/r/Africa/comments/gm1dut/violence_in_nigerias_north

Dabalen, A. L., & Paul, S. (2014). Effect of conflict on dietary diversity: Evidence from Côte d'Ivoire. *World Development*, *58*, 143-158. https://doi.org/10.1016/j.worlddev.2014.01.010

D'Souza, A., & Jolliffe, D. (2013). Conflict, food price shocks, and food insecurity: The experience of Afghan households. *Food Policy*, *42*, 32-47. http://dx.doi.org/10.1016/j.foodpol.2013.06.007

Dambazau, A. B. (2007). *Criminology and criminal justice. Ibadan, Nigeria*. Spectrum Books limited.

Dami, C. D. (2021). Impacts of Terrorism, Banditry and Kidnapping on Human Security in Nigeria. *Saudi Journal of Humanities and Social Sciences*, 6(8), 299-305.DOI:10.36348/sjhss.2021.v06i08.006

Danlami, A. H., Applanaidu, S. D., & Islam, R. (2017). From biomass cooking fuel source to modern alternative for Bauchi State households: a preliminary analysis. *Biofuels*, *8*(3), 323-331. https://doi.org/10.1080/17597269.2016.1226724

Danlami, A. H. (2017). *An analysis of household energy choice and consumption in Bauchi State, Nigeria* [Doctoral dissertation, Universiti Utara Malaysia]. Universiti Utara Malaysia Theses and Dissertations Archive. https://etd.uum.edu.my/7180/1/s95977_01.pdf

Dansadau S. (2018, July 20). Curbing insecurity in the North. *The Punch newspapers*. https://punchng.com/curbing-insecurity-in-the-north

Daphne E. C. (2022, Feb 28). In Nigeria, terrorism has become a major threat to food security. *FORBES.* https://www.forbes.com/sites/daphneewingchow/2022/02/28/in-nigeria-banditry-has-become-a-major-threat-to-food-security/

David, J. O. (2013). *The root causes of terrorism: an appraisal of the socio-economic determinants of Boko Haram terrorism in Nigeria* [Doctoral dissertation, University of KwaZulu-Natal, Pietermaritzburg]. University of KwaZulu-Natal Theses and Dissertations Archive. https://ukzn-dspace.ukzn.ac.za/bitstream/handle/10413/10628/David_James_Ojochenemi_2013.pdf?sequence=1&isAllowed=y

de Barros, P. H. B., da Silva Baggio, H., & Baggio, I. S. (2020). The Socioeconomic Determinants of Crime in Brazil: the role of spatial spillovers and heterogeneity. *Revista Brasileira de Segurança Pública*, *14*(2), 188-209. https://doi.org/10.31060/rbsp.2020.v14.n2.1091

Degenhardt, L., & Hall, W. (2012). The extent of illicit drug use and dependence, and their contribution to the global burden of disease. *Lancet,* 379 (9810), 55–70. https://doi.org/10.1016/s0140-6736(11)61138-0

De Mesquita, E. B. (2005). The quality of terror. *American journal of political science*, *49* (3), 515-530. https://doi.org/10.1111/j.1540-5907.2005.00139.x

Dell, M., Feigenberg, B., & Teshima, K. (2019). The violent consequences of trade-induced worker displacement in Mexico. *American Economic Review: Insights*, 1(1), 43-58. https://www.aeaweb.org/doi/10.1257/aeri.20180063

Denny, K., Harmon, C., & Lydon, R. (2004). *An econometric analysis of burglary in Ireland* (Working Paper Series No. WP04/16). Institute for the Study of Social Change University College Dublin. http://hdl.handle.net/10419/72417

Denoeux, G., & Carter, L. (2009). *Guide to the drivers of violent extremism and terrorism. Washington, DC* (Report No: M-00-04-00049-A-FY-05-63) USAID. http://pdf.usaid.gov/pdf_docs/pnadt978.pdf

Department for International Development (2005). *Why we need to work more effectively in fragile states*. London: DFID. https://gsdrc.org/document-library/why-we-need-to-work-more-effectively-in-fragile-states/

Detotto, C., & Pulina, M. (2013). Does more crime mean fewer jobs and less economic growth? *European Journal of Law and Economics, 36*(1), 183-207. https://doi.org/10.1007/s10657-012-9334-3

Devereux, S., Roelen, K., Sabates, R., Sabates-Wheeler, R., Stoelinga, D., & Dyevre, A. (2019). Graduating from food insecurity: evidence from graduation projects in Burundi and Rwanda. *Food Security*, *11*(1), 219-232. https://doi.org/10.1007/s12571-019-00887-1

Diamantopoulos, A., Riefler, P. & Roth, K.P., (2008). Advancing formative measurement models. *Journal of business research*, *61*(12), pp. 1203-1218. https://doi.org/10.1016/j.jbusres.2008.01.009

Duffy M. E. (1985). Designing nursing research: the qualitative-quantitative debate. *Journal of advanced nursing*, 10 (3), 225-232. https://doi.org/10.1111/j.1365-2648.1985.tb00516.x

Duffy M. E. (1987). Quantitative and qualitative research antagonistic or complementary' *Nursing and Health Care* 8(6), 356-357. https://europepmc.org/article/med/3648527#similar-articles

Dunamis O. (2021, November 15). Bandits rape women, loot Zamfara community for not paying levy: *daily Post*, online: https://dailypost.ng/2021/11/15/bandits-rape-women-loot-zamfara-community-for-not-paying-levy/

Eager, P. W. (2016). *From freedom fighters to terrorists: Women and political violence.* Ashgate Publishing, Ltd.

Echazu, L., & Garoupa, N. (2010). Corruption and the Distortion of Law Enforcement Effort, *American Law, and Economics Review*, *12* (1), spring, 162–180, https://doi.org/10.1093/aler/ahp020

Edmark, K. (2005). Unemployment and crime: Is there a connection? *Scandinavian Journal of Economics*, *107*(2), 353-373. https://doi.org/10.1111/j.1467-9442.2005.00412.x

Edomwonyı-Otu, O., & Edomwonyı-Otu, L. C. (2020). Is unemployment the root cause of insecurity in Nigeria? *International Journal of Social Inquiry 13(2)*. 487-507. https://doi.org/10.37093/ijsi.837697

Egbuta, U. (2018). Understanding the herder-farmer conflict in Nigeria. *conflict trends*, *2018* (3), 40-48. https://journals.co.za/doi/pdf/10.10520/EJC-140224a66e

Ehrlich, I. (1973). *The deterrent effect of capital punishment: A question of life and death.* (National Bureau of Economic Research Working Paper, No:w0018).. https://www.nber.org/papers/w0018

Eigbiremolen, G. S. O. (2018). Poverty trends and poverty dynamics: analysis of Nigerian's first-ever national panel survey data. *Journal of International Development*, *30*(4), 691-706. https://doi.org/10.1002/jid.3342

Ekhator-Mobayode, U. E., & Abebe Asfaw, A. (2019). The child health effects of terrorism: evidence from the Boko Haram Insurgency in Nigeria, *Applied Economics,* *51*(6), 624-638. https://doi.org/10.1080/00036846.2018.1502871

Ekhomu, O. (2013). *National Security: Intelligence and Community Partnership Approach–Private Security Perspective. National Security: Intelligence and Community Partnership Approach*. Abuja Law Lords Publication.

Goyal, O. P. (2005). *Nomads at the Crossroads*. Gyan Publishing House.

ENACT (2021) Organized Crime Index Africa: A comparative analysis of organised crime in Africa, 2019–2021. www.ocindex.net

Ene, W. R. (2018). Kidnapping and the Nigerian society: A sociological insight. *International Journal of Development and Management Review*, 13(1). https://www.ajol.info/index.php/ijdmr/article/view/172276

Evans, O. & Kelikume, I. (2018). The effects of foreign direct investment, trade, aid, remittances, and tourism on welfare under terrorism and militancy. *International Journal of Management, Economics and Social Sciences, 7(3)*: 206-232. http://dx.doi.org/10.32327/IJMESS.7.3.2018.14

Evans, O., & Kelikume, I. (2019). The impact of poverty, unemployment, inequality, corruption and poor governance on Niger Delta militancy, Boko Haram terrorism and Fulani Herdsmen attacks in Nigeria. *International Journal of Management, Economics and Social Sciences, 8(2)*, 58-80. http://dx.doi.org/10.32327/IJMESS/8.2.2019.5

Ezedike, E. U. (2011). Violent Crimes, Economic Development, and the Morality of Capital Punishment in Nigeria: A Retentionist Perspective. *Journal of Research in National Development*, 9(1), 447-455.

Fajnzylber, P., & Araujo Jr, A. (2001*). Violence and crime. Microeconomics and Society in Brazil,* (Report No. 36525). World Bank

Falk, R. F., & Miller, N. B. (1992). *A primer for soft modeling*. University of Akron Press.

Famine early warning system network. (2018). *Report from Famine early warning system network Nigeria food security outlook October 2016 to May 2017*. FEWS NET NIGERIA. fews.nigeria@fews.net www.fews.net

Famine early warning system network. (2022). *Poor macroeconomic conditions and conflict are expected to drive food insecurity across the North*, February to September 2022. FEWS NET NIGERIA. https://fews.net/west-africa/nigeria/food-security-outlook/february-2022

Famine early warning system network. (2019). *Report from Famine early warning system network Nigeria food security outlook February to September 2019*. FEWS NET NIGERIA fews.nigeria@fews.net www.fews.net

Famine early warning system network. (2018). *Report from Famine early warning systems network Nigeria - Food security outlook: Fri, 2018-06-01 to thur, 2019-01-31* http://fews.net/west-africa/nigeria

FAO, IFAD, & WFP (2015). The State of Food Insecurity in the World 2015: Meeting the 2015 International Hunger Targets: Taking Stock of Uneven Progress. Rome: FAO, 2015, *Advances in Nutrition*, 6 (5), 623–624, https://doi.org/10.3945/an.115.009936

Farouq U., & Chukwu I. (2020, July 18). After Several Attacks, Gov. Matawalle Concede that Bandits Still Operates in Zamfara, *Desert Herald Newspaper*. https://desertherald.com/after-several-attacks-gov-matawalle-concede-that-bandits-still-operates-in-zamfara/

Fazel, S., Yoon, I. A., & Hayes, A. J. (2017). Substance use disorders in prisoners: an updated systematic review and meta-regression analysis in recently incarcerated men and women. *Addiction*, *112*(10), 1725-1739. https://doi.org/10.1111/add.13877

Felson, R. B., & Staff, J. (2017). Committing economic crime for drug money. *Crime & Delinquency, 63(4),* 375–390. https://doi.org/10.1177/0011128715591696

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. sage.

Filmer, D., & Pritchett, L. H. (2001). Estimating Wealth Effects without Expenditure Data-or Tears: An Application to Educational Enrollments in States of India. *Demography*, *38*(1), 115–132. https://doi.org/10.2307/3088292

Fisher, C. (2010). *Researching and writing a dissertation: A guidebook for business students.* Pearson Education Limited.

Fischer, D. G. (1984). Family Size and Delinquency. *Perceptual and Motor Skills*, 58(2), 527–534. https://doi.org/10.2466/pms.1984.58.2.527

Frazer, L., & Lawley, M. (2000). *Questionnaire design & administration: a practical guide*. Wiley.

Freeman, R. B. (1999). The Economics of Crime. In O. Ashenfelter and D. Card (EdS.), *Handbook of Labor Economics* (pp. 3529–3571). Elsevier.

Freeman, J., Parkes, A., Lewis, N., Davey, J. D., Armstrong, K. A., & Truelove, V. (2020). Past behaviours and future intentions: An examination of perceptual deterrence and alcohol consumption upon a range of drink driving events. *Accident Analysis & Prevention*, *137*, 105428. https://doi.org/10.1016/j.aap.2019.105428

Friehe, T., & Miceli, T. J. (2017). On Punishment Severity and Crime Rates, *American Law and Economics Review*, 19 (2), 464–485. https://doi.org/10.1093/aler/ahx017

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50. https://doi.org/10.1177/002224378101800104

Galtung, J. (1969). Violence, peace, and peace research. *Journal of peace research, 6(3)*, 167-191. https://doi.org/10.1177/002234336900600301

Gable, R. K., & Wolf, M. B. (1993). *A Review of the steps for developing an affective instrument. Instrument Development in the Affective Domain,* 237-266. DOI: 10.1007/978-94-011-1400-4_6. Springer, Dordrecht

Gamba, A., Immordino, G., & Piccolo, S. (2018). Corruption, organized crime, and the bright side of subversion of law. *Journal of Public Economics*, *159*, 79-88. https://doi.org/10.1016/j.jpubeco.2018.02.003

Gibbs, J. P. (1968). Crime, Punishment, and Deterrence. *The Southwestern Social Science Quarterly*, *48* (4), 515–530. http://www.jstor.org/stable/42867909

Godfrey C. (2020, December 19). UN chief welcomes release of kidnapped Nigerian school boys. *Newsdiary* online .https://newsdiaryonline.com/un-chief-welcomes-release-of-kidnapped-nigerian-school-boys/

Gorondutse, A.H., & Abdullah, H. H. (2014). Effect of business social responsibility (BSR) on performance of SMEs: Data screening and preliminary analysis. *Asian Social Science, 10(8),* 103-115. http://doi.org/10.5539/ass.v10n8p103

Gorondutse, A. H. (2016). *The moderating effects of environmental munificence on the relationship between business level strategy and performance of hotels in Nigeria* [Doctoral dissertation, Universiti Utara Malaysia]. Universiti Utara Malaysia Theses and Dissertations Archive. https://etd.uum.edu.my/7055/1/s819724_01.pdf

Grasmick, H. G., & Bryjak, G. J. (1980). The deterrent effect of perceived severity of punishment. *Social forces, 59(2),* 471-491. https://doi.org/10.1093/sf/59.2.471

Grasmick, H., & L. Appleton. (1977). *Legal Punishment and Social Stigma: A comparison of two deterrence models*. University of Texas Press.

Greer, C., & McLaughlin, E. (2017). Theorizing institutional scandal and the regulatory state. *Theoretical criminology, 21*(2), 112-132. doi:10.1177/1362480616645648

Guardado, J., & Pennings, S. (2020). *The Seasonality of Conflict*. (Policy Research Working Paper; No. 9373). World Bank, Washington, DC. http://hdl.handle.net/10986/34421

Gujarati, D. N. (2004). *Basic econometrics*. 4 ed. New Delhi, India: Tata McGraw hill Publishing Company

Gümüş, E. (2004). Crime in urban areas: An empirical investigation. *Akdeniz IIBF Dergisi*, *3*(7), 98-109. https://dergipark.org.tr/en/download/article-file/1123248

Gurr, T.R. (2011). *Why Men Rebel* (1st ed.). Routledge.

Habibullah, M. S., Din, B. H., & Hamid, B. A. (2016). Good governance and crime rates in Malaysia", *International Journal of Social Economics*, *43* (3), 308-320. https://doi.org/10.1108/IJSE-05-2014-0096

Habibullah, M. S., Baharom, A. H., & Muhamad, S. (2014). Crime and police personnel in Malaysia: An empirical investigation. *Taylor's Business Review*, *4*(2), 1-17. DOI 10.7603/s40932-014-0004-x

Habibullah M.S., & Law Hook Siong (2008). *Property crime and macroeconomic variables in Malaysia, Some empirical evidence from a vector error-correction model* (‖MPRA Paper No. 12112). Munich Personal RePEc Archive. http://mpra.ub.uni-muenchen.de/12112/

Haddad, G. K., & Moghadam, H. M. (2011). The socioeconomic and demographic determinants of crime in Iran (a regional panel study). *European Journal of Law and Economics, 32(1),* 99-114. https://doi.org/10.1007/s10657-010-9152-4

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26 (2*)*, 106-121. DOI 10.1108/EBR-10-2013-0128

Hair Jr, J. F., Wolfinbarger, M., Money, A. H., Samouel, P., & Page, M. J. (2015). *Essentials of business research methods*. Routledge.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414-433. https://doi.org/10.1007/s11747-011-0261-6

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results, and higher acceptance. *Long range planning*, *46*(1-2), 1-12. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2233795

Hair, J., Black, J. W., Babin, B. J., & Anderson, E. R. (2010). *Multivariate data analysis*. Pearson Prentice Hall.

Hakeem, O. (2016, January 14). 15 politicians linked to $2.1 billion arms deal scandal. *Legit.ng*. https://www.legit.ng/695476-dasukigate-15-top-politicians-linked-2-1-billion-arms-deal-scandal-photos.html

Hales, J., Nevill, C., Pudney, S., & Tipping, S. (2009). *Longitudinal analysis of the offending, crime, and justice survey 2003–06.* (Report No:19). Home office research. https://www.bl.uk/britishlibrary/~/media/bl/global/social-welfare/pdfs/non-secure/l/o/n/longitudinal-analysis-of-the-offending-crime-and-justice-survey-200306-001.pdf

Halicioglu, F., Andrés, A. R., & Yamamura, E. (2012). Modelling crime in Japan. *Economic Modelling*, *29* (5), 1640-1645. https://doi.org/10.1016/j.econmod.2012.05.026.

Hall, A. (2007). *Socio-economic Theories of Crime* (Working Paper No. 15709872), Capella University, pp. 1-18. www.arichall.com/academic/papers/hs8373-paper.pdf

Hamzah, S. Z. N. and Lau, E. (2013). *The Role of Social Factors in Explaining Crime* (MPRA Paper No. 43518). Munich Personal RePEc Archive. https://mpra.ub.uni-muenchen.de/43518/

Haruna, B. A., & Yusuf, A. M. (2017). A conceptual analysis of the rule of law in Nigeria. *Bayero Journal of International Law and Jurisprudence*, 101-126.

Hassan, Y., Hassan, A. A., & Hussain, N. (2018). Occupational politics myths and realities in Nigeria: A case of farmers-pastoralists conflicts. *International*

Journal of Technical Research and Science, 3(10), 329–337. DOI: 10.30780/IJTRS.V3.I10.2018.017

Hazen, J. M. & Horner, J. (2007). *Small arms, armed violence, and insecurity in Nigeria: The Niger Delta in perspective.* Small Arms Survey

Hegghammer, T. (2010). *The failure of jihad in Saudi Arabia* (Repot No. 0704-0188). West Point, NY: Combating Terrorism Center. http://www.jstor.com/stable/resrep05607

Hendrix, S. E. (2016). *Combating terrorism and violent extremism in Nigeria: Defining a new approach to winning modern Jihadist conflict*. American Bar Association.

Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., Ketchen, D. J., Hair, J. F., Hult, G. T. M., & Calantone, R. J. (2014). Common beliefs and reality about partial least squares: comments on Rönkkö & Evermann. *Organizational Research Methods,* 17(2), 182–209. DOI: 10.1177/1094428114526928

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*, 277–320. Emerald Group Publishing Limited. https://doi.org/10.1108/S1474-7979(2009)0000020014

Henseler, J., Ringle, C.M. & Sinkovics, R.R. (2009). The use of partial least squares path modeling in international marketing. In Sinkovics, R.R. & Ghauri, P.N. (Eds.) *New Challenges to International*

Marketing (*Advances in International Marketing, Vol. 20*), (pp. 277-319). Emerald Group Publishing Limited.

Herbert, D.T. (1977). An aerial and ecological analysis of delinquency residence: Cardiff 1966 and 1971. *Tijdschrift voor Economische en Sociale Geographie 68,* 83 – 89. https://doi.org/10.1111/j.1467-9663.1977.tb01398.x

Hilman, H. & Kaliappen, N. (2014). Construct validation on organizational strategies and performance dimensions using confirmatory factor analysis, *Asian Journal of Management Research*, 4(3), 550-560.

Hirschi, T. (2017). *Family structure and crime. In The Craft of Criminology*. (1st ed.). Routledge.

Hobbes, T. (1962). *Leviathan A secular defense of absolutism*. Macmillan

Hogdson, G. M., & Jiang, S. (2007). The economics of corruption and the corruption of economics: an institutionalist perspective. *Journal of Economic Issues, 41(4),* 1043-1061. https://doi.org/10.1080/00213624.2007.11507086

Hsieh, M. L., & Wang, S. Y. K. (2018). Routine activities in a virtual space: A Taiwanese case of an ATM hacking spree. *International Journal of Cyber Criminology*, 12(1), 333-352. doi: 10.5281/zenodo.495776

Hu, L.-t., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*(4), 424–453. https://doi.org/10.1037/1082-989X.3.4.424

Huebert, E. T., & Brown, D. S. (2019). Due process and homicide: A cross-national analysis. *Political Research Quarterly*, *72*(1), 190-204. https://doi.org/10.1177/1065912918785059

Ibáñez, A. M., & Moya, A. (2010a). Do conflicts create poverty traps? Asset losses and recovery for displaced households in Colombia. In Rafael Di Tella R, S. Edwards, & E. Schargrodsky (eds.), *The economics of crime*: *Lessons for and from Latin America* (pp. 137-172). University of Chicago Press**.**

Ibáñez, A. M., & Moya, A. (2010b). Vulnerability of victims of civil conflicts: empirical evidence for the displaced population in Colombia. *World Development*, *38(4)*, 647-663. https://doi.org/10.1016/j.worlddev.2009.11.015

Ibáñez, A. M., & Moya, A. (2006). The impact of intra-state conflict on economic welfare and consumption smoothing: Empirical evidence for the displaced population in Colombia. (HiCN Working Paper 23). Households in Conflict Network. http://dx.doi.org/10.2139/ssrn.1392415

Ibekwe, N., Alabi, M., Adebayo, T.H., & Sanni K. (2021, October 8). More Nigerians live in fear as kidnap-for-ransom worsens (II) *Premium Times*. https://www.vox.com › students-nigeria-profit-kidnappig.

Ibrahim, Y. K., Ahmad, A. A., & Duguri, U. S. (2020). The Causes of Kidnapping and its Implications on Nigeria. *Liberal Arts and Social Sciences International Journal*, *4*(1), 1-9. https://doi.org/10.47264/lassij.4.1.1

Ibrahim, S. S., Ibrahim, A., NaAllah, A., & Saulawa, L. A. (2016). Building of a community cattle ranch and radio frequency identification (RFID) technology as alternative methods of curtailing cattle rustling in Katsina state. *Pastoralism, 6(10*). http://dx.doi.org/10.1186/s13570-016-0055-z

Ibrahim, I. G. (2016, November 27). Insecurity in Northwest: How it all started. *The Guardian*. https://guardian.ng/saturday-magazine/ cover/insecurity-in-north-west-how-it-all-started/

Igbinedion, S. O., & Ebomoyi, I. (2017). Socio-Economic determinants of crime: further evidence from Nigeria. *Annals of the University of Petroşani. Economics*, *17*, 101-114.

Igiebor, G. O. (2019). Political Corruption in Nigeria: Implications for Economic Development in the Fourth Republic. *Journal of Developing Societies, 35(4),* 493–513. https://doi.org/10.1177/0169796X19890745

Ikelegbe, A. (2006). Beyond the threshold of civil struggle: youth militancy and the militiaization of the resource conflicts in the Niger Delta region of Nigeria. *African Study Monographs 27(3)*: 87-122. https://doi.org/10.14989/68251

Institute for Economics & Peace (2020). *Global Terrorism Index: Measuring the Impact of Terrorism*, reliefweb. http://visionofhumanity.org/reports.

Institute for economics and peace (2016). *Global terrorism index: Measuring and understanding the impact of terrorism, institute for economics and peace* *publications.* reliefweb. https://reliefweb.int/report/world/global-terrorism-index-2016

International Federation of Red Cross and Red Crescent Societies. (2021, June 28) Emergency Appeal Northwest and North Central Nigeria Hunger Crisis. *Reliefweb.* https://reliefweb.int/report/nigeria/emergency-appeal-north-west-and-north-central-nigeria-hunger-crisis-2021

Inyang, J.D. (2013). The Social Problem of Kidnapping and its Implications on the Socio-Economic Development of Nigeria: A Study of Uyo Metropolis. *Mediterranean Journal of Social Sciences, 4(6).* DOI:10.5901/mjss.2013.v4n6p531

Integrated Food Security Phase Classification, (2018). *South Sudan: Acute Food Insecurity Situation in September 2018 and Projections for October-December 2018.* IPC. http://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1151633/.

Islam, A., Farooq, M., & Mahmood, B. (2019). Exploring women's involvement in crimes in Pakistan. *Pakistan Journal of Criminology*, *11*(1), 101-111.

Israel, G. D. (2009). *Determining sample size*, *University of Florida IFAS extension* (FactSheetPEOD-6) University of Florida. https://www.gjimt.ac.in/wp-content/uploads/2017/10/2_Glenn-D.-Israel_Determining-Sample-Size.pdf

Iyorah, F. (2021, March 23). Nigeria’s booming kidnap-for-ransom enterprise threatens security. *Aljazeera*.

https://www.aljazeera.com/news/2021/3/23/nigeria-booming-kidnap-for-ransom-enterprise-threatens-security

Jarvis, C., MacKenzie, S., & Podsakoff, P. (2003). Critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research, 30(2),* 199-218. https://doi.org/10.1086/376806

Jaynes, C.M., Loughran, T.A. (2020). How Offender Decision-making Can Inform Policing: A Focus on the Perceived Certainty of Apprehension. In: Fox, B., Reid, J., Masys, A. (eds) *Science Informed Policing. Advanced Sciences and Technologies for Security Applications* (pp. 3-18). Springer

Jeff, W. (2001). *How to Determine a Sample Size: Tipsheet #60*, University Park, PA: Penn State Cooperative Extension.

Jiang, G. (2017). Corruption—Theories and Perspectives. In: *Corruption Control in Post-Reform China*. (pp. 11-29). Springer

Jiang, S., Lambert, E., & Jenkins, M. (2010). East meets West: An empirical comparison of formal and informal crime control among Chinese and the US students. *International Journal of Offender Therapy and Comparative Criminology*, *54*(2), 264-284. SAGE Publications. 10.1177/0306624X0833019.

Jimoh A. & John-Mensah O. (2019, November 25). 2 million Nigerian Girls, Women Raped Annually, As FG Launches Sex Offenders Register. *Daily*

Trust.https://dailytrust.com/2-million-nigerian-girls-women-raped-annually-as-fg-launches-sex-offenders-register

Johnson, B. (2019). *Do Criminal Laws Deter Crime? Deterrence Theory in Criminal Justice Policy:* A Primer. MN House Research.

Justino, P., Brück, T., & Verwimp, P. (Eds.). (2013). *A micro-level perspective on the dynamics of conflict, violence, and development*. Oxford University Press.

Justino, P., & Verwimp, P. (2013). Poverty dynamics, violent conflict, and convergence in Rwanda. *Review of Income and Wealth*, *59*(1), 66-90. https://doi.org/10.1111/j.1475-4991.2012.00528.x

Justino, P. (2009). Poverty and violent conflict: A micro-level perspective on the causes and duration of warfare. *Journal of Peace Research 46 (3*): 315-333. https://doi.org/10.1177/0022343309102655

Justino, P. (2008). *The impact of armed civil conflict on household welfare and policy responses*. Retrieved from http://www.un.org/esa/policy/wess/ wess2008files/ ws08backgroundpapers/justino_2008.pdf.

Justino, P. (2011). The impact of armed civil conflict on household welfare and policy responses: In Kozul-Wright R. Fortunato P. (Eds.), *Securing Peace: State-Building and Economic Development in Post-Conflict Countries*, (pp. 19 -53). Bloomsbury Academic

Kabiru, S. A., & Arshad R. (2018). A Perspective on the Prevalence of Poverty in Katsina State: Implications for Rural Development. *International Journal* *of Advanced Studies in Social Sciences & Innovation* 2(1): 117-125. URL:http://dx.doi.org/10.30690/ijassi.21.09

Kah, H.K. (2017). Boko haram is losing, but so is food production: conflict and food insecurity in Nigeria and Cameroon. *Africa development 42 (3)*: 177–196

Kaila, H. K., & Azad, M. (2019). *Conflict, Household Victimization, and Welfare: Does the Perpetrator Matter?* (Policy Research Working Paper Series No. 9019). The World Bank.

Karahanna, E., Agarwal, R., & Angst, C. M. (2006). Reconceptualizing compatibility beliefs in technology acceptance research. *MIS quarterly*, 781-804. https://doi.org/10.2307/25148754

Karstedt, S. (2015). Does democracy matter? Comparative perspectives on violence and democratic institutions. *European Journal of Criminology*, *12*(4),457-481. https://doi.org/10.1177/1477370815584499

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2005). *Governance matters IV: governance indicators for 1996-2004. (*Working paper series 3630). World bank policy research. https://ssrn.com/abstract=718081

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The Worldwide Governance Indicators: Methodology and Analytical Issues. *Hague Journal on the Rule of Law*, *3*(2), 220-246. doi:10.1017/S1876404511200046

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2004). Governance matters III: Governance indicators for 1996, 1998, 2000, and 2002. *The World Bank Economic Review*, 18(2), 253-287. https://doi.org/10.1093/wber/lhh041

Kaviani, F., Young, K. L., Robards, B., & Koppel, S. (2020). Understanding the deterrent impact formal and informal sanctions have on illegal smartphone use while driving. *Accident Analysis & Prevention*, *145*, 105706. https://doi.org/10.1016/j.aap.2020.105706

Kayode J, Jeje A., & Faramade, A. (2016). Assessment of the impact of climate change and variability on rural women in sampled communities of Ondo and Ekiti states of Nigeria. *International Journal of Agric* 1(1), 1–9

Kelly, M. (2000). Inequality and crime. *Review of Economics and Statistics,* 82(4), 530–539. https://doi.org/10.1162/003465300559028

Kennedy K. C. (2016). A Critical Appraisal of Criminal Deterrence Theory. *Dickinson Law Review* 88 (1), 1983-1984.

Khan, N., Ahmed, J., Nawaz, M., & Zaman, K. (2015). The socio-economic determinants of crime in Pakistan: New evidence on an old debate. *Arab Economic and Business Journal*, *10*(2), 73-81. https://doi.org/10.1016/j.aebj.2015.01.001

Kizilgol, O., & Selim, S. (2017). Socio-economic and demographic determinants of crime by panel count data analysis: the case of EU 28 and Turkey. *Journal of Business Economics and Finance, 6*(1), 31-41.

Knoema (2019a). *World data atlas Nigeria* [Data set]. Knoema. https://knoema.com/atlas/Nigeria/datasets

Knoema (2019b). Total types of violence to crew-kidnapping [Data set]. https://knoema.com/PARS2018/piracy-and-armed-robbery-against-ships?tsId=1007370

Knoema (2021). *Nigeria - Total food supply* [Data set]. https://knoema.com/atlas/Nigeria/topics/Agriculture/Food-Supply-Total-Energy-kcalcapitaday/Total-food-supply#:~:text=In%202020%2C%20total%20food%20supply,capita%20per%20day%20in%202020.

Kralovec, S. (2020). *Food insecurity in Nigeria-An analysis of the impact of climate change, economic development, and conflict on food security* (Master Thesis, Malmö University Sweden). Malmö University e Theses Repository.https://urn.kb.se/resolve?urn=urn%3Anbn%3Ase%3Amau%3Adiva-22940

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610. https://doi.org/10.1177/001316447003000308

Krieger, N., Williams, D. R., & Moss, N. E. (1997). Measuring social class in US public health research: concepts, methodologies, and guidelines. *Annual review of public health*, *18*(1), 341-378. https://doi.org/10.1146/annurev.publhealth.18.1.341

Krueger, A. B. (2007). *Introduction to What Makes a Terrorist: Economics and the Roots of Terrorism. Introductory Chapters*. Princeton University Press. 2008. https://ideas.repec.org/h/pup/chapts/8465-1.html

Kuhe, D. A. (2016). An Econometric Analysis of Crime Determinants in Nigeria. *Journal of the Nigerian Statistical Association Vol. 28*, 1– 15..

Kumar, B. (2012). T*heory of Planned Behaviour Approach to Understand the Purchasing Behaviour for Environmentally Sustainable Products* (IIMA Working Papers WP2012-12-08). Indian Institute of Management Ahmedabad, Research and Publication Department. https://www.iima.ac.in/sites/default/files/rnpfiles/10260621182012-12-08.pdf

Kume, L. (2004). *An estimate of the determinants of the Brazilian crime rate: a dynamic panel application*. National Economics Meeting. http://www.anpec.org.br/encontro2004/artigos/A04A148.pdf

Ladan, S. I. (2019). Analysis of contemporary insecurity in Katsina State, Nigeria. *Journal of scientific and industrial research*. 6(7), 95-102. https://doi.org/10.5281/zenodo.3382915

Ladan, S. I., & Matawalli, B. U. (2021). Impacts of Banditry on Food Security in Katsina State Nigeria: A Recent Study. *Emerging Challenges in Agriculture and Food Science,1(1)*, 16-27. https://doi.org/10.26765/DRJAFS278190136.

Lambert, E. G., Elechi, O. O., & Jiang, S. (2010). Formal and informal crime control views in Nigeria and the United States: An exploratory study among college students. *Journal of Ethnicity in Criminal Justice, 8*(2), 104-126. https://doi.org/10.1080/15377931003761037

Lancaster, G. A., Dodd, S., & Williamson, P. R. (2004). Design and analysis of pilot studies: recommendations for good practice. *Journal of evaluation in clinical practice*, 10(2), 307-312. https://doi.org/10.1111/j..2002.384.doc.x

Lancher, L. (2007). Education and crimes: A review of literature, University of Western Ontario, *International Encyclopedia of Education.* 239–244. http://dx.doi.org/10.1016/B978-0-08-044894-7.01229-X

Lauritsen, J. L., Heimer, K., & Lynch J. P (2009). Trends in the gender gap in violence: Re-evaluating NCVS and other evidence. *Criminology, 47(2):* 361–400.

Lee, J. M., Hong, J. S., Yoon, J., Peguero, A. A., & Seok, H. J. (2018). Correlates of adolescent cyberbullying in South Korea in multiple contexts: A review of the literature and implications for research and school practice. *Deviant Behavior, 39*, 293–308. https://doi.org/10.1080/01639625.2016.1269568

Lenshie, N. E., Okengwu, K., Ogbonna, C. N., & Ezeibe, C. (2021). Desertification, migration, and herder-farmer conflicts in Nigeria: rethinking the ungoverned spaces thesis. *Small Wars & Insurgencies*, *32*(8), 1221-1251.https://doi.org/10.1080/09592318.2020.1811602

Levine, S. (2016). Livelihood recovery in post-conflict northern Uganda. *Feinstein International Institute*: 29.https://securelivelihoods.org/publication/livelihood-recovery-in-post-conflict-northern-uganda/

Li, S. D., Zhao, R., & Zhang, H. (2021). Examining the link between drug use disorders and crime among Chinese drug users receiving mandatory detoxification and treatment. *Crime & Delinquency*, *67*(10), 1561-1581. https://doi.org/10.1177/0011128720939511

Liman, A. N., & Anka, A. S. (2019). Failure of conventional security measures in management of Zamfara un-ending conflict: The need for review of state socio-economic policies. *International journal of recent innovations in academic research, 3(3)*,196-209. https://www.ijriar.com/index.php/ijriar/article/view/203/196

Lin, M. J. (2008). Does unemployment increase crime? Evidence from US data 1974–2000. *Journal of Human resources*, *43*(2), 413-436. https://www.jstor.org/stable/40057352

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of applied psychology*, *86*(1), 114-121. https://psycnet.apa.org/doi/10.1037/0021-9010.86.1.114

Lindström, P. (2015). Police and crime in rural and small Swedish municipalities. *Journal of rural studies*, *39*, 271-277. https://doi.org/10.1016/j.jrurstud.2014.12.004

Lobonţ, O. R., Nicolescu, A. C., Moldovan, N. C., & Kuloğlu, A. (2017). The effect of socioeconomic factors on crime rates in Romania: a macro-level analysis. *Economic research-Ekonomska istraživanja*, *30*(1), 91-111. http://dx.doi.org/10.1080/1331677X.2017.1305790

Loughran, T. A., Paternoster, R., & Piquero, A. R. (2018). Individual difference and deterrence. In *Deterrence, choice, and crime* (pp. 211-236). Routledge

Loureiro, A.O.F., & Carvalho Júnior, J.R.D.A. (2007). Impact of public spending on crime in Brazil. In: Hermanns K, Ronaldo A. Fortaleza A (Eds.), *Inequalities and regional policies/organizers,: Konrad Adenauer Foundation*, (pp. 165-193). Princeton University Press

Louw, A., & Shaw, M. (1997). *Stolen opportunities: The impact of crime on South Africa's poor* (No. 14). Halfway House: Institute for Security Studies. http://issafrica.s3.amazonaws.com/site/uploads/Mono14.pdf

Louw, A., & Shaw, M. (1997). *Stolen opportunities: The impact of crime on South Africa's poor*. Halfway House: Institute for Security Studies.

Loya, R. M. (2015). Rape as an economic crime: The impact of sexual violence on survivors' employment and economic well-being. *Journal of interpersonal violence, 30*(16), 2793-2813. https://doi.org/10.1177/0886260514554291

Loya, R. M. (2012). *Economic consequences of sexual violence for survivors: Implications for social policy and social change* [Doctoral dissertation, Brandeis University Waltham]. Brandeis University Waltham

Dissertations and Theses Archive https://search.proquest.com/openview/7443e22fcf63a77a9a636356925987e0/1?pq-origsite=gscholar&cbl=18750

MacKenzie, S. B., & Podsakoff, P. M. (2012). Common method bias in marketing: Causes, mechanisms, and procedural remedies. *Journal of retailing*, *88*(4), 542-555. https://doi.org/10.1016/j.jretai.2012.08.001

Macmillan, R. (2000). Adolescent victimization and income deficits in adulthood: Rethinking the costs of criminal violence from a life-course perspective. *Criminology*, 38, 553-587. https://doi.org/10.1111/j.1745-9125.2000.tb00899.x

Madu, I. A., & Nwankwo, C. F. (2021). Spatial pattern of climate change and farmer–herder conflict vulnerabilities in Nigeria. *Geo Journal 86,* 2691–2707. https://doi.org/10.1007/s10708-020-10223-2

Mahasuweerachai, P., & SrungBoonmee, T. (2021). The relative effectiveness of punishment severity and risk of apprehension in deterring dishonest behavior: Experimental results from a developing country. *Kasetsart Journal of Social Sciences, 42(2),* 245-248. https://doi.org/10.34044/j.kjss.2021.42.2.04

Malumfashi S, Maina, H. K, (2021, February 28). Inside a Nigerian Bandit Camp. *Voice of America*. https://www.voanews.com/africa/inside-nigerian-bandit-camp

Maradun S (2019, March 7). Insecurity: At least 113 reportedly killed in Zamfara in one week. *The Premium times*. www.premiumtimesng.com /news/top-news/318051-insecurity-at-least-113-reportedly-killed-in-zamfara-in-one-week.html

Marselli, R., & Vannini, M. (1997). Estimating a crime equation in the presence of organized crime: evidence from Italy. *International Review of law and Economics, 17(1),* 89-113. https://doi.org/10.1016/S0144-8188(96)00060-9

Martin-Shields, C., & Stojetz, W. (2019). Food security and conflict: Empirical challenges and future opportunities for research and policy making on food security and conflict, *World Development,* 119, 150-164, https://doi.org/10.1016/j.worlddev.2018.07.011.

Mashi, B. H. (2017). *The impact of cattle rustling and banditry on livelihoods of pastoral communities in Katsina state, Nigeria*. [Master's Thesis, Nigerian Defence Academy]. Nigerian Defence Academy eTheses Repository.

Maxfield, M. G. (1987). Household composition, routine activity, and victimization: A comparative analysis. *Journal of Quantitative Criminology, 3(4),* 301-320. https://doi.org/10.1007/BF01066833

Mazurana, D., Marshak, A., Opio, J. H., Gordon, R., & Atim, T. (2014, May). *Surveying livelihoods, service delivery and governance: baseline evidence from Uganda* .(Working Paper 12) *London: Secure Livelihoods Research*

Consortium.https://assets.publishing.service.gov.uk/media/57a089ac40f0b649740001f0/WP12_service_delivery_and_governance_Uganda.pdf

McDonald, J.H. (2009). Handbook of biological statistics, (2nd ed.). Sparky house publishing, Baltimore, Maryland.

McFadden, D. (1974). Conditional logit analysis of qualitative choice behaviour. In P. Zarembka (Ed.), *Frontiers of Econometrics* (pp. 105 – 142). Academic Press.

McLeod, S. A. (2019). *What does effect size tell you*? Simply psychology.

.

Messer, E., Cohen, M. J., & d'Costa, J. (1998). *Food from peace: Breaking the links between conflict and hunger* (discussion papers 24), International Food Policy Research Institute.

Messner, J. J., Haken, N., Taft, P., Blyth, H., Lawrence, K., Graham, S. P., & Umana, F. (2015*). Fragile states index 2015. Washington.* The Fund for Peace. https://fundforpeace.org/2015/06/17/fragile-states-index-2015-the-book/

Messner, S. F., & Sampson, R. J. (1991). The sex ratio, family disruption, and rates of violent crime: The paradox of demographic structure. *Social Forces, 69*(3), 693-713. https://doi.org/10.1093/sf/69.3.693

Mesters, G., van der Geest, V., & Bijleveld, C. (2016). Crime, employment, and social welfare: An individual-level study on disadvantaged males. *Journal* *of quantitative criminology*, *32(2)*, 159-190. https://doi.org/10.1007/s10940-015-9258-5

Mercier, M., Ngenzebuke, R. L., & Verwimp, P. (2020). Violence exposure and poverty: Evidence from the Burundi civil war. *Journal of Comparative Economics*, *48*(4), 822-840. https://doi.org/10.1016/j.jce.2020.04.005

Mercier, M., Ngenzebuke, R. L., & Verwimp, P. (2016). *The Long-Term Effects of Conflict on Welfare: Evidence from Burundi* (HiCN Working Paper No. 198). https://www.hicn.org/wp-content/uploads/sites/10/2012/06/HiCN-WP-1981.pdf

Mesoy, A. (2013). *Poverty and Radicalisation into Violent Extremism: a causal link* (NOREF Expert Analysis). Norwegian Peacebuilding Resource centre.https://www.files.ethz.ch/isn/158431/e60a8a679f48427d592a1906daf569d4.pdf

Minoiu, C., & Shemyakina, O. N. (2014). Armed conflict, household victimization, and child health in Côte d'Ivoire. *Journal of Development Economics*, *108*, 237-255. https://doi.org/10.1016/j.jdeveco.2014.03.003

Mohammed, A., & Abdullahi, M. (2021). Armed banditry and socio-economic development in zamfara state: the assessment. EPRA *International Journal of Research and Development*, *6(12).* https://doi.org/10.36713/epra2016

Mohammed, U. (2021, November 18). Zamfara Women Block Road Over Banditry, Rape *Leadership* online: https://leadership.ng/zamfara-women-block-road-over-banditry-rape/

Mohammed, J. K., & Ibrahim, J. (2015). *Rural Banditry and Conflicts in Northern Nigeria*. Centre for Democracy and Development, Abuja, Nigeria. https://searchworks.stanford.edu/view/11998240

Mohr-Jensen, C., Bisgaard, C. M., Boldsen, S. K., & Steinhausen, H. C. (2019). Attention-deficit/hyperactivity disorder in childhood and adolescence and the risk of crime in young adulthood in a Danish nationwide study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *58*(4), 443-452. https://doi.org/10.5167/uzh-171400

Morales, P., & Finke, J. (2015). Small-world networks of corruption. *Revista CIFE: Lecturas de Economía Social*, *17*(26), 19-35. https://dialnet.unirioja.es/servlet/articulo?codigo=5586865

Morris, D. (1979). *Measuring the Conditions of the World's Poor: The Physical Quality of Life Index*. (PAHO | ID: pah-8842). New York: Pergamon. https://pesquisa.bvsalud.org/portal/resource/pt/pah-8842 .

Morris, S.D. (2019). Linking Crime and Corruption: The Case of Mexico. In: Rotberg, R.I. (eds) *Corruption in Latin America*. (pp. 207-233). Springer, Cham. https://doi.org/10.1007/978-3-319-94057-1_9

Morrison, G. B., & Brown, M. P. (2006). Persistence to Graduation among At-Risk Criminal Justice and Criminology Students: Experiences in

Intervening with a Sophomore Cohort, *Journal of Criminal Justice Education*, 17(2), 358-376. https://doi.org/10.1080/10511250600866224

Mu'azu A.S (2019, June 17) Insurgency, kidnapping and banditry- of governance and economic opportunity. *The Guardian.* https://guardian.ng/opinion/insurgency-kidnapping-and-banditry-of-governance-and-economic-opportunity/

Muhammad K. (2021, February 18). Jigawa lawmakers approve death penalty for kidnappers, rapists. *Daily post news*. https://www.bbc.com/pidgin/tori-56198011

Muhammed B. (2015, October 14). How to Solve the Fulani Herdsmen Versus Farmers Clashes in Nigeria by MIYETTI Allah, *Premium Times Online Newspaper*, http://www.premium-times-ng.com.html

Mukhtar, M. (2019). *Effects of government interventions and conflicts on households in Kano, Nigeria*. (Doctoral Dissertation, Universiti Utara Malaysia). Universiti Utara Malaysia Dissertations and Theses Archive. https://etd.uum.edu.my/10303/2/s901583_01.pdf

Muller, E. N., & Weede, E. (1990). Cross-national variation in political violence: A rational action approach. *Journal of conflict resolution,* 34(4), 624-651. https://doi.org/10.1177/0022002790034004003

Munir, S., Asghar, N., & Rehman, H., (2017). An Analysis of the Interrelationship Among Crime, Misery Index, and Institutional Quality: A Case Study of Pakistan. *Journal of Political Studies, 24(1)*, 383–406.

Munoz-Mora, J. C. (2016). *Essays on the micro-level impact of civil war and illegal activities in developing countries*. ULB--Universite Libre de Bruxelles.https://econpapers.repec.org/paper/ulbulbeco/2013_2f230735.htm

Nagarajan, C. (2020). *Analysis of Violence and Insecurity in Zamfara*. Save the Children.https://www.academia.edu/download/63321012/Zamfara_Analysis_of_Violence_and_Insecurity20200515-40072-r9dmso.pdf

Nagin, D. S. (Ed.). (2018). *Deterrent effects of the certainty and severity of punishment. In Deterrence, choice, and crime* (pp. 157-185). Routledge.

Nagpal, R. (2002, September). *Cyber terrorism in the context of globalization. In II World Congress on informatics and Law* [Paper presentation]. II World Congress on Informatics and Law, Madrid, Spain

Nasser-Eddine, M., Garnham, B., Agostino, K., & Caluya, G. (2011*). Countering violent extremism (CVE) literature review* (No. DSTO-TR-2522). Defence science and technology organization Edinburgh, Australia. https://apps.dtic.mil/sti/citations/ADA543686

National Bureau of Statistics. (2021). National Unemployment Rates. Retrieved from www.nigerianstat. gov.ng

National Bureau of Statistics. (2019). *Poverty and Inequality in Nigeria* (Executive Summary). NBS. *2019 Poverty and Inequality in Nigeria* - National Bureau of statistics .https://nigerianstat.gov.ng › download.

National bureau of statistics. (2017). *National survey, 2017, Abuja:* National bureau of statistics, NBS. https://www.nigerianstat.gov.ng

National Express (2016, February 4). Cattle Rustling Could Be More Dangerous than Boko Haram. *National Express*. www.nationalexpress.com.ng/cattle-rustling-could-be-more-dangerous-than-boko-haram

National Population Commission (NPC) (2006) Nigeria National Census: Population Distribution by Sex, State, LGAs and Senatorial District: 2006 Census Priority Tables (Vol. 3). http://www.population.gov.ng/index.php/publication/140-popn-distri-by-sex-state-jgas-and-senatorial-distr-2006

National Population Commission (2014). *Nigeria demographic and health survey 2013, Abuja*: National population commission

National Population Commission (NPC) [Nigeria] and ICF International. 2014. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria, and Rockville, Maryland, USA. https://dhsprogram.com/pubs/pdf/fr293/fr293.pdf

Neapolitan, J. L. (1999). A comparative analysis of nations with low and high levels of violent crime. *Journal of Criminal Justice*, *27*(3), 259-274. https://doi.org/10.1016/S0047-2352(98)00064-6

Newman, E. (2006). Exploring the “root causes” of terrorism. *Studies in Conflict &Terrorism,29(8),*749- 772. https://doi.org/10.1080/10576100600704069

Nigerian Watch (2011). *Third report on violence in Nigeria* (Report 2006-2011). Nigerian Watch. http://www.nigeriawatch.org/

Nigerian correctional service (2021). The statistics of the Nigerian correctional service. https://www.corrections.gov.ng/statistics_summary

Nikolaos, D., & Alexandros, G. (2009). The Effect of Socio-economic Determinants on Crime Rates: An Empirical Research in the case of Greece with Cointegration Analysis. *International Journal of Economic Science and Applied Research*,.2(2), 51-64.

Nkwede, J. O., Moliki, A. O., & Dauda, K. O. (2017). Corruption, insurgency, and Nigeria's developmental challenges. *African Journal of Politics and Administrative Studies*, 10(1).

Nunally, J.C., & Bernstein, I.H. (1994). *Psychometric theory.* (3rd ed.). New York: McGraw Hills.

Nurudeen, A., & Waldemar-Staniewski, M. (2019). Determinants of corruption in Nigeria: Evidence from various estimation techniques. *Economic research-Ekonomska istraživanja*, *32*(1), 3052-3076. https://doi.org/10.1080/1331677X.2019.1655467

Nwaechefu, H., & Kalama, S. (2020). Current wave of kidnapping in Nigeria: a breach of rights of the victims? *International journal of comparative law and legal philosophy* ,1(133)

Nwankwo, U. V., & James, O. O. (2016). Prevalence of lethal and non-lethal crimes in Nigeria. *Journal of Advanced Research in Humanities and Social Science*, *3*(1), 10-25.

Nwankwo, E. (2016, January 12). YNaija presents the 9 principal characters of #dasukigate- the $2.1bn arms funds diversion scandal. *YNaija.* https://ynaija.com/dasukigate-the-2-1bn-arms-diversion-scandal/

Obarisiagbon, E. I., & Aderinto, A. A. (2018). Kidnapping and the challenges confronting the administration of criminal justice in selected states of Nigeria. *African Journal of Criminology and Justice Studies,* 11(1), 41-54.

O'brien, R. M. (1990). Estimating the reliability of aggregate-level variables based on individual-level characteristics. *Sociological Methods & Research,* 18(4), 473-504. https://doi.org/10.1177/0049124190018004004

Odebode, N., Ameh, J., Adepegba, A., Nnodim, O., & Isenyo, G. (2019, May 10). Bandits tax us before allowing us access to our farms – Northwest farmers *Punch newspapers*. https://punchng.com/bandits-tax-us-before-allowing-us-access-to-our-farms-nwest-farmers/

Odozi, J. C., & Oyelere, R. U. (2021). Does violent conflict affect the labor supply of farm households? The Nigerian experience. *Agricultural and Resource Economics Review*, 1(35), 401–435. https://doi.org/10.1017/age.2021.14

Odozi, J. C., & Oyelere, R. U. (2019*). Conflict Exposure and Economic Welfare in Nigeria* (GLO Discussion Paper No. 334). Global Labor Organization. http://hdl.handle.net/10419/193887

Ofo, N. (2010). Effectiveness of Capital Punishment as Deterrence to Kidnapping in Nigeria. https://dx.doi.org/10.2139/ssrn.1646867

Ogbozor, E. (2016). *Resilience to Violent Extremism: The Rural Livelihood Coping Strategies in the Lake Chad Basin* (HiCN Working Papers 237), Households in Conflict Network.

Ogiri, I. A., Sidique, S. F., Talib, M. A., Abdul-Rahim, A. S., & Radam, A. (2019). Encouraging recycling among households in Malaysia: Does deterrence matter? *Waste Management & Research*, *37*(7), 755-762. https://doi.org/10.1177%2F0734242X19842328

United Nation Office of the High Commissioner for Human Rights & Uganda Human Rights Commission. (2011). *The dust has not yet settled. Victims Views on the right to remedy and reparation a report from the greater north of Uganda.Kampala*. OHCHR and UHRC. https://www.ohchr.org/Documents/Press/WebStories/DustHasNotYetSettled.pdf

Ojedokun, U. A. (2014). Contributing factors to police homicide in Nigeria. *The Police Journal*, *87*(1), 41-48. https://doi.org/10.1350/pojo.2014.87.1.651

Ojo, J. S. (2020). Governing “Ungoverned Spaces” in the Foliage of Conspiracy: Toward (Re)ordering Terrorism, from Boko Haram Insurgency, Fulani Militancy to Banditry in Northern Nigeria. *African Security, 13:1*, 77-110. https://doi.org/10.1080/19392206.2020.1731109

Okafor T. (2021, Sep 27). Insecurity costs Nigeria $40.6bn worth of investments in 1 year. *BusinessDay.* https://businessday.ng/business-economy/article/insecurity-costs-nigeria-40-6bn-worth-of-investments-in-1-year/

Okoli C. (2019, May 21) Kidnapping for ransom has become Nigeria's latest security problem. *Quartz. https://qz.com/africa/1624376/kidnapping-for-ransom-is-nigerias-latest-security-problem*

Okoli A.C. & Ugwu A. C., (2019). Of marauders and brigands: scoping the threat of rural banditry in Nigeria's Northwest *Brazilian Journal of African Studies Porto Alegre 4(8)*. 201-222.

Okoli, A.C. & Okpaleke, F.N. (2014). Cattle rustling and dialectics of security in Northern Nigeria. *International journal of liberal arts and social science,* 2(3), 109-117.

Okoli A, Ochim F. I (2016). Forestlands and National Security in Nigeria: A Threat Import Analysis IIARD *International Journal of Political and Administrative Studies* 2(2) 43-53.

Okoli, A. C. & Nachanaa, D. A. (2016). Militancy and the dilemma of petro-rentier criminality in the Niger Delta. *Online Journal of Arts, Management & Social Sciences, 1(1): 219-237.*

Oladipo, S. B. (2013). Conflict, global peace & security: The role of civil defense. *Asian Journal of Management Sciences and Education, 2*(1).

Olaniyan, A., & Yahaya, A. (2016). Cows, bandits, and violent conflicts: Understanding cattle rustling in Northern Nigeria. *Africa Spectrum, 51(3)*, 93-105. https://doi.org/10.1177/000203971605100305

Olawale, I. (2003, September 6-7). Youth, Culture, State Collapse and Nation-building in West Africa: The Nexus Revisited. In *Council for the Development of Social Science Research in Africa* (CODESRIA). West African Sub-regional Conference, Cotonou, Benin.

Oli, N. P., Ibekwe, C. C., & Nwankwo, I. U. (2018). Prevalence of herdsmen and farmers conflict in Nigeria. *International Journal of Innovative Studies in Sociology and Humanities*, *3*(1), 30-39.

Olu-Adeyemi, L. (2017). Deprivation, Frustration and Aggression: An interrogation of Fulani Herdsmen Terror in Nigeria. *Advances in Social Sciences Research Journal*. 4. 10.14738/assrj.415.3501.

Olutola, A. A. (2020). Punishment of Crime in Nigeria and South Africa: Some Perspectives on Capital Punishment. *The Oriental Anthropologist*, 20(2), 276–291. https://doi.org/10.1177/0972558X20952658

Ojewale, O. (2021). Exploring the precipitators of violent conflict in Central Nigeria: a mixed methodology approach. *Journal of Aggression, Conflict and Peace Research*, 13(4), 189-201. https://doi.org/10.1108/JACPR-11-2020-0554

Omoregbe, J. I. (2007). *Socio-Political Philosophy and International Relations: A Systematic and Historical Study*. Joja Educational Research and Publishers Limited.

Onapajo, H., & Uzodike, U. O. (2012). Boko Haram terrorism in Nigeria: Man, the state, and the international system. *African Security Review*, *21*(3), 24-39. https://doi.org/10.1080/10246029.2012.687693

Onuoha, F. C. (2014). *Why Do Youth Join Boko Haram?* (Special Report No 348). United States Institute for Peace Washington, DC https://www.jstor.org/stable/pdf/resrep12548.pdf

Onwanibe, R. C. (1989). The Rule of Law and the Rule of Man, In O. C. Eze (Ed.). *Society and the Rule of Law*. (pp. 171-189). Totan Publishers.

Orhero, A. E. (2015). The economic and security implications of boko haram terrorism. *International journal of African and Asian studies, 10*, 6-11.

Osagie, J., Fred, A. & Samuel, E. (2010). Causes of conflicts in the Niger Delta region of Nigeria as expressed by the youth in Delta State. *Procedia-Social and Behavioural Sciences, 5, 82-89.* https://doi.org/10.1016/j.sbspro.2010.07.055

Osaghae, E. E. (2007). Fragile states. *Development in Practice, 17 (4),* 691 - 699. https://doi.org/10.1080/09614520701470060

Osodi G. (2022, September 27) Catastrophic malnutrition crisis in northwest Nigeria demands international response. *Doctors without borders.*

https://www.doctorswithoutborders.org/latest/catastrophic-malnutrition-crisis-northwest-nigeria-demands-international-response

Oyelade, A. O. (2019). Determinants of crime in Nigeria from economic and socioeconomic perspectives: a macro-level analysis. *International Journal of Health Economics and Policy*, *4(1)*, 20-28. doi: 10.11648/j.hep.20190401.13

Ozoigbo, B. I. (2019). Insecurity in Nigeria: genesis, consequences, and panacea. *European Journal of Social Sciences Studies*. http://dx.doi.org/10.46827/ejsss.v0i0.646

Page, M. T. (2018). *A new taxonomy for corruption in Nigeria*. Carnegie Endowment for International Peace.

Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows* (4th ed). McGraw Hill open University Press.

Parker, T., & Sitter, N. (2016). The Four Horsemen of Terrorism: It's Not Waves, It's Strains. *Terrorism and Political Violence, 28(2),* 197-216. https://doi.org/10.1080/09546553.2015.1112277

Patchin, J. W., & Hinduja, S. (2018). Deterring teen bullying: Assessing the impact of perceived punishment from police, schools, and parents. *Youth Violence and Juvenile Justice*, *16*(2), 190-207.https://doi.org/10.1177%2F1541204016681057

Paternoster, R., & Piquero, A. (1995). Reconceptualizing deterrence: An empirical test of personal and vicarious experiences. *Journal of Research in Crime* *and Delinquency*, *32*(3), 251- 286. https://doi.org/10.1177/0022427895032003001

Paternoster, R. (1987). The deterrent effect of the perceived certainty and severity of punishment: A review of the evidence and issues. *Justice Quarterly*, *4*(2), 173-217.https://doi.org/10.1080/07418828700089271

Paternoster, R., Saltzman, L. E., Waldo, G. P., & Chiricos, T. G. (1982). Perceived risk and social control: Do sanctions really deter? *Law and Society Review*, 457-479.

Paternoster, R., Saltzman, L. E., Waldo, G. P., & Chiricos, T. G. (1983). Estimating perceptual stability and deterrent effects: The role of perceived legal punishment in the inhibition of criminal involvement. *Journal of Criminal Law and Criminology*, 74 (1), 270.

Paternoster R. (2010). How Much Do We Really Know About Criminal Deterrence. *Journal of Criminal Law and Criminology* 100 (3).765-770.

Pelfrey Jr, W. V., Keener, S., & Perkins, M. (2018). Examining the role of demographics in campus crime alerts: Implications and recommendations. *Race and Justice*, *8*(3), 244-269. https://doi.org/10.1177/2153368716675475

Peres, M. F. T., & Nivette, A. (2017). Social disorganization and homicide mortality rate trajectories in Brazil between 1991 and 2010. *Social Science & Medicine*, *190 (1),* 92-100. https://doi.org/10.1016/j.socscimed.2017.08.013

Perry, S., & Hasisi, B. (2015). Rational choice rewards and the jihadist suicide bomber. *Terrorism and Political Violence, 27(1*), 53-80. https://doi.org/10.1080/09546553.2014.962991

Petee, T. A., & Kowalski, G. S. (1993). Modeling rural violent crime rates: A test of social disorganization theory. *Sociological Focus*, *26*(1), 87-89. https://doi.org/10.1080/00380237.1993.10570998

Piazza, J. A. (2006). Rooted in Poverty? Terrorism, Poor Economic Development, and Social Cleavages , *Terrorism and Political Violence, 18:1*, 159-177. https://doi.org/10.1080/095465590944578

Piquero, A., & Tibbetts, S. (1996). Specifying the direct and indirect effects of low self-control and situational factors in offenders' decision making: Toward a more complete model of rational offending. *Justice quarterly*, *13*(3), 481-510. https://doi.org/10.1080/07418829600093061

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioural research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, *88*(5), 879 -903. https://psycnet.apa.org/doi/10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology*, *63*, 539-569. https://doi.org/10.1146/annurev-psych-120710-100452

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of management*, *12*(4), 531-544. https://doi.org/10.1177%2F014920638601200408

Polinsky, A., & Shavell, S., (Ed.). (2007). *The theory of public enforcement of law. Handbook of Law and Economics*. Elsevier.

Polinsky, A. M., & Shavell. S. (1999). On the Disutility and Discounting of Imprisonment and the Theory of Deterrence. *Journal of Legal Studies* 28 (1): 1–16. https://www.journals.uchicago.edu/doi/abs/10.1086/468044

Powell, E. D., Gay, P. C., Ojile, J. M., Litinski, M., & Malhotra, A. (2012). A pilot study assessing adherence to auto-bilevel following a poor initial encounter with CPAP. *Journal of Clinical Sleep Medicine*, *8*(1), 43-47. https://dx.doi.org/10.5664%2Fjcsm.1658

Pratt, T. C. (2008). Rational choice theory, crime control policy, and criminological relevance. *Criminology & Public Policy*. 7 (1), 43–52.

Prasad, K. (2012). Economic liberalization and violent crime. *The Journal of Law and Economics,* 55(4), 925-948 https://www.jstor.org/stable/10.1086/666487

Pyle, D., & Deadman, D. (1994). Crime and unemployment in Scotland: some further results. *Scottish Journal of Political Economy*, *41*(3), 314-324. https://ideas.repec.org/a/bla/scotjp/v41y1994i3p314-24.html

Rapheal (2019, May 2) Banditry and Nigeria's rising insecurity. *The Sun.* https://www.msn.com/en-xl/africa/nigeria/banditry-and-nigerias-rising-insecurity/ar-AAAMZRV

Reality check team (2019, April 14*).* Zamfara: Are banditry killings in Nigeria getting worse? *BBC news*. https://www.bbc.com/news/world-africa-47883308

Reuters (2021, March 1). Zamfara state govt in talks with kidnappers of 317 Nigerian schoolgirls, *Reuters.* https://www.reuters.com/article/us-nigeria-security-kidnapping-idUSKCN2AT367

Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2020). Partial least squares structural equation modeling in HRM research. *The International Journal of Human Resource Management*, *31*(12), 1617-1643. https://doi.org/10.1080/09585192.2017.1416655

Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's comments: a critical look at the use of PLS-SEM in" MIS Quarterly". *MIS quarterly*, iii-xiv. https://doi.org/10.2307/41410402

Roche, S. P., Wilson, T., & Pickett, J. T. (2020). Perceived control, severity, certainty, and emotional fear: Testing an expanded model of deterrence. *Journal of research in crime and delinquency*, *57*(4), 493-531. https://doi.org/10.1177%2F0022427819888249

Rockmore, M. (2020). Conflict-Risk and agricultural portfolios: Evidence from northern Uganda. *The Journal of Development Studies*, *56*(10), 1856-1876. https://doi.org/10.1080/00220388.2019.1703953

Rockmore, M. (2017). The cost of fear: the welfare effect of the risk of violence in northern Uganda. *The World Bank Economic Review*, *31*(3), 650-669. https://doi.org/10.1093/wber/lhw025

Roscoe, J. T. (1975). *Fundamental research statistics for the behavioural sciences* (2nd ed.). Holt, Rinehart, and Winston: New York.

Rotberg, R. I. (2003). *Failed states, collapsed states, weak states: Causes and indicators. State failure and state weakness in a time of terror*. World Peace Foundation and Harvard University.

Rotberg, R. I. (2010). *Mass atrocity crimes: Preventing future outrages*. brookings institution press.

Rufa'I, M. A. (2017). Shadow actors behind cattle rustling and rural banditry in Zamfara state. *Journal of humanities and social science.23 (*4), 66-73

Saafan, G. (2021, June 3). Zamfara state gripped by humanitarian crisis as violence escalates Press Release *Médecins Sans Frontières*. https://www.msf.org/northwest-nigeria-gripped-humanitarian-crisis-violence-escalates

Sahn, D. E., & Stifel, D. (2003). Exploring alternative measures of welfare in the absence of expenditure data. *Review of income and wealth*, *49*(4), 463-489. https://doi.org/10.1111/j.0034-6586.2003.00100.x

Saidu, A. A., Din, B., & Kling, Z. (2016). Empirical evidence on good governance in public tertiary institutions of Nigeria: The effects on entrepreneurship and performance. *International Journal of Management Research & Review*, *6*(2), 241-255. https://repo.uum.edu.my/21839/

Saikia, K. (2016). *Economics of crime: Analysis of trend, pattern, and determinants of criminal behaviour in the districts of Assam* (Doctoral Dissertation, Indian Institute of Technology Guwahati). Indian Institute of Technology Guwahati Theses and Dissertations Archive. http://14.139.196.25/handle/123456789/1000

Salas-Wright, C. P., Gonzalez, J. M. R., Vaughn, M. G., Schwartz, S. J., & Jetelina, K. K. (2016). Age-related changes in the relationship between alcohol use and violence from early adolescence to young adulthood. *Addictive behaviors reports*, *4*, 13-17. https://doi.org/10.1016/j.abrep.2016.05.004

Saleem K. (2020, December 12). Decade long denial: will Nigeria's Farmers ever be safe? *Humanitarian Aid Relief Trust.*https://www.hart-uk.org/blog/a-decade-long-denial-will-nigerias-farmers-ever-be-safe/.

Sampson, R. J., & Groves, W. B. (1989). Community structure and crime: Testing social-disorganization theory. *American journal of sociology*, *94*(4), 774-802.https://doi.org/10.1086/229068

Sampson, R. J. (1987). Urban black violence: The effect of male joblessness and family disruption. *American Journal of Sociology*, *93*(2), 348-382.https://doi.org/10.1086/228748

Sandole, D. J. (2010) *Peacebuilding: Preventing Violent Conflict in a Complex World. War and Conflict in the Modern World*. Cambridge ; Malden, MA: Polity.

Sani I. S., Ozdeser, H., Cavusoglu, B., & Abdullahi Shagali, A. (2021). Rural Migration and Relative Deprivation in Agro-Pastoral Communities Under the Threat of Cattle Rustling in Nigeria. *SAGE* *11*(1). https://doi.org/10.1177/2158244020988856

Santos, J.R. (1991). Cronbach's Alpha: A tool for assessing the reliability of scales. *Journal of Extension, 37(2),* 2TOT3

Sariaslan, A., Mikkonen, J., Aaltonen, M., Hiilamo, H., Martikainen, P., & Fazel, S. (2021). No causal associations between childhood family income and subsequent psychiatric disorders, substance misuse and violent crime arrests: a nationwide Finnish study of> 650 000 individuals and their siblings. *International journal of epidemiology*, *50* (5), 1628-1638. https://doi.org/10.1093/ije/dyab099

Sarstedt, M., Ringle, C. M., Cheah, J. H., Ting, H., Moisescu, O. I., & Radomir, L. (2020). Structural model robustness checks in PLS-SEM. *Tourism Economics*, *26*(4), 531-554. https://doi.org/10.1177%2F1354816618823921

Sarstedt, M., Hair Jr, J.F., Cheah, J.H., Becker, J.M., & Ringle, C.M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal (AMJ)*, *27*(3), pp.197-211. https://doi.org/10.1016/j.ausmj.2019.05.003

Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research methods for business students*. India: Pearson Education

Savolainen, J., Eisman, A., Mason, W. A., Schwartz, J. A., Miettunen, J., & Järvelin, M. R. (2018). Socioeconomic disadvantage and psychological deficits: Pathways from early cumulative risk to late-adolescent criminal conviction. *Journal of Adolescence*, *65*, 16-24. https://doi.org/10.1016/j.adolescence.2018.02.010

Scorzafave, L. G., & Soares, M. K. (2009). Income inequality and pecuniary crimes. *Economics Letters*, *104*(1), 40-42. https://doi.org/10.1016/j.econlet.2009.03.021

Scott Long, J. (1997). *Regression models for categorical and limited dependent variables. Advanced quantitative techniques in the social sciences.* Sage.

Searle, S.R. (1971). *Linear models*. John Wiley, New York

Seddon, D., & Hussein, K. (2002). T*he consequences of conflict: Livelihoods and development in Nepal* (Working Paper 185). Overseas Development Institute.https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.509.2760&rep=rep1&type=pdf

Sedgwick, P. (2015). Multistage sampling. *Bmj*, *351*. https://doi.org/10.1136/bmj.h4155

Segovia, A. (2017a). *The relationships between food security and violent conflicts: The case of Colombia* (Report No. 288959). Food and Agriculture Organization of the United Nations, Agricultural Development Economics Division (ESA). https://econpapers.repec.org/RePEc:ags:faoaes:288959

Segovia, A. (2017b). *The relationships between food security and violent conflicts: the case of El Salvador* (Working Paper 17-07). FAO Agricultural Development Economics. Rome. https://ageconsearch.umn.edu/record/288958/

Sekaran, U. & Bougie, R. (2019). *Research methods for business: A skill building approach*. John Wiley & Sons.

Sekaran, U., & Bougie, R. (2014). *Research methods for business: a skill-building approach (6th ed.)*. Haddington: John Wiley & Sons.

Sekaran, U., & Bougie, R. (2013). *Research Methods for Business: A skill Building Approach,* (6th ed.). John Wiley & Sons Ltd

Sekaran, U. (2003). Towards a guide for novice research on research methodology: Review and proposed methods. *Journal of cases of information technology*, *8(4)*, 24-35.

Sempill, J. (2020). The Rule of Law and the Rule of Men: History, Legacy, Obscurity. *Hague Journal on the Rule of Law*, *12*(3), 511-540. https://doi.org/10.1007/s40803-020-00149-9

Senyefia, B. A., Francis, E. B., & Prince, K. A. (2020). Statistical Study of Crime in Ghana. *Journal of Engineering Research and Reports* 15(3): 6-16, DOI: 10.9734/JERR/2020/v15i317145

Serneels, P., & Verpoorten, M. (2015). The impact of armed conflict on economic performance: Evidence from Rwanda. *Journal of Conflict Resolution*, *59*(4), 555-592. https://doi.org/10.1177/0022002713515409

Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency and urban areas.* University of Chicago Press.

Shehu, S. A., Victor, E., & Binta, M. (2017). The menace of cattle rustling and banditry in North-west Nigeria: A Case Study of Katsina State. *Journal of Research & Method in Education*, *7*(6), 40-48. DOI: 10.9790/7388-0706084047

Silberman, M. (1976). Toward a theory of criminal deterrence. *American Sociological Review*, 442-461. https://doi.org/10.2307/2094253

Silva, V. H. M. C., Suliano, D. C., & Oliveira, J. L. D. (2013). What factors are determinant to reduce inequality in an environment of economic growth and less poverty? Nexos Econômico Magazine, Salvador, 7, 149-178. http://www.repositorio.ufc.br/handle/riufc/33341

Singh, I., Squire, L., & Strauss, J. (1986*). Agricultural household models: Extensions, applications, and policy*. Baltimore, Johns Hopkins Univ. Press.

Smith, D. J. (1999). Less crime without more punishment. *Edinburgh Law Review*, *3*(3), 294-316. https://doi/abs/10.3366/elr.1999.3.3.294

Smith, R. G., Oberman, T., & Fuller, G. (2020). *Corruption of public officials by organized crime: understanding the risks and exploring the solutions. In Handbook on Corruption, Ethics, and Integrity in Public Administration*. Edward Elgar Publishing.

Soh, M. B. C. (2012). Crime and urbanization: Revisited Malaysian case. *Procedia Social and Behavioral Sciences, 42, 291*–299. https://doi.org/10.1016/j.sbspro.2012.04.193

Solomon, O. A., & Chinwe, O. O. (2015). Climate change and pastoral conflicts in the middle belt and South-East Nigeria: Implication on human resource of the regions. *Global Journal of Human Resource Management*, *3*(5), 44–51.

Song, J., Spicer, V., Brantingham, P., & Frank, R. (2013). Crime ridges: Exploring the relationship between crime attractors and offender movement. *European intelligence and security informatics conference*. 75-82, doi: 10.1109/EISIC.2013.18.

Spamann, H. (2016). The US crime puzzle: A comparative perspective on US crime and punishment. *American Law and Economics Review*, 18(1), 33-87. https://doi.org/10.1093/aler/ahv015

Speziale, N. (2014). Does unemployment increase crime? Evidence from Italian provinces. *Applied Economics Letters, 21*(15), 1083-1089. https://doi.org/10.1080/13504851.2014.909568.

Statista. (2022). Agriculture in Nigeria - statistics and facts. Statista. https://www.statista.com/topics/6729/agriculture-in-nigeria/

Stamatel, J. P. (2016). Democratic cultural values as predictors of cross-national homicide variation in Europe. *Homicide Studies*, *20*(3), 239-256. https://doi.org/10.1177/1088767915611178

Sudan, F. K. (2019). Social and Economic Consequences of Violent Armed Conflicts: Evidence from Displaced Camps in Jammu and Kashmir, India. In *Examining the Social and Economic Impacts of Conflict-Induced Migration* (pp. 12-54). IGI Global.

Suleiman S. (2019, June 13). Rural banditry in Zamfara state, Northwest Nigeria. *Kujenga-Amani*. https://kujenga-amani.ssrc.org/ 2019/06/13/rural-banditry-in-zamfara-state-northwest-nigeria/

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European journal of social psychology, 1(2*), 149-178. https://doi.org/10.1002/ejsp.2420010202

Tauna A. (2016, January 30). We have tamed cattle rustling, we will tame kidnapping – Northern governors. *daily Post.* http://dailypost.ng/2016/01/30/we-have-tamed-cattle-rustling-wewill-tackle-kidnapping-northern-governors.

Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of personality and social psychology, 101(2),* 354-356. https://psycnet.apa.org/doi/10.1037/a0023779

Tenibiaje, D. J. (2010). Personality and development of crime in Nigeria. Current Research. *Journal of Social Sciences, 2(4)*, 214–219.

Teodorescu, K., Plonsky, O., Ayal, S., & Barkan, R. (2021). Enforcement policies: Frequency of inspection is more important than the severity of punishment. In Enforcement Policies: Inspection Frequency vs. Punishment Severity. https://psyarxiv.com/pbvzr/download?format=pdf

The Economist Intelligence Unit (2018) Global food security index 2018. EIU. www.eiu.com

The United Nations Conference on Trade and Development. (2021), *Trade and Development Report.* UNCTAD. https://unctad.org/Nigeria%27s+annual+foreign+direct+investment

Thisday (2019, January 23) Insecurity in the north-west. *Thisday*. https://www.thisdaylive.com/index.php/2019/01/23/insecurity-in-the-north-west/

Tittle, C. R. (1969). Crime rates and legal sanctions. *Social problems, 16(4),* 409-423. https://doi.org/10.2307/799950

Tolles, J., & Meurer, W. J. (2016). Logistic regression: relating patient characteristics to outcomes. *Jama, 316*(5), 533-534. doi:10.1001/jama.2016.7653. ISSN 0098-7484.

Tomlinson, K. D. (2016). An examination of deterrence theory: Where do we stand. *Federal Probation, 80,* 33.

Transparency International Nigeria. (2017, May 18). Corruption in Nigeria defence sector benefitting Boko Haram. *AllAfrica Global Media*. https://allafrica.com/stories/201705180541.html

Transparency International. (2016). *Corruption perceptions index 2015*. Berlin: Transparency International. http://tranparency.org/cpi/

Tretter, E. (2013). Sustainability and neoliberal urban development: The environment, crime and the remaking of Austin's downtown. *Urban Studies journal,* 50(11), 2222-2237. https://doi.org/10.1177/0042098013478234

Tabachnick, B.G., & Fidell, L. S. (2014). *Using multivariate statistics (6th ed.).* Boston: Pearson Education Inc.

Tabachnick, B.G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.).* Boston: Pearson Education Inc.

Taneja, S. S., Taneja, P. K., & Gupta, R. K. (2011). Researches in corporate social responsibility: A review of shifting focus, paradigms, and methodologies. *Journal of Business Ethics, 101*(3), 343-364. https://doi.org/10.1007/s10551-010-0732-6

Torgler, B., Schaffner, M., & Macintyre, A. (2007). *Tax Compliance, Tax Morale and Governance Quality* (No. 2007-17). Centre for Research in

Economics, Management, and the Arts. https://ideas.repec.org/p/cra/wpaper/2007-17.html

Torgler, B., & Schneider, F. (2009). The impact of tax morale and institutional quality on the shadow economy. *Journal of Economic Psychology*, *30*(2), 228-245. https://doi.org/10.1016/j.joep.2008.08.004

Truelove, V., Freeman, J., Watson, B., Kaye, S. A., & Davey, J. (2020). Are perceptions of penalties stable across time? The problem of causal ordering in deterrence applied to road safety. *Accident Analysis & Prevention*, *146*, 105746. https://doi.org/10.1016/j.aap.2020.105746

Truelove, V., Freeman, J., Kaye, S. A., Watson, B., Mills, L., & Davey, J. (2021). A unified deterrence-based model of legal and non-legal factors that influence young driver speeding behaviour. *Accident Analysis & Prevention*, *160*, 106327. https://doi.org/10.1016/j.aap.2021.106327

Tyndall, J. A., Ndiaye, K., Weli, C., Dejene, E., Ume, N., Inyang, Okere, C., Sandberg J., & Waldman, R. J. (2020). The relationship between armed conflict and reproductive, maternal, newborn and child health and nutrition status and services in northeastern Nigeria: a mixed-methods case study. *Conflict and health*, *14*, 1-15. https://doi.org/10.1186/s13031-020-00318-5

Udemezue, J. C., & Kanu, N. A. (2019). Challenges of Nigerian agricultural sector in the twenty first century: The case of nomadic insurgence and terrorist sects. *Universal Journal of Agricultural Research*, *7*(2), 117–124. DOI: 10.13189/ujar.2019.070204

UNICEF (2021). *Nigeria Humanitarian Situation Quarter 3 SitRep* (Report No 37). UNICEF.

Ugal, G. A; Nwagbara, E. N; & Uyang, F. A. (2011). Youth unemployment and its consequences in Calabar Metropolis: need for government intervention. *Global Journal of Social Sciences, 1 & 2 (10*), 75 – 82.

Umar, S. U., & Shittu, O. T. (2017). The Nigerian Police Force and the task of crime control, prevention and security: Matters arising. In *Book of Proceedings 2nd International Conference on Social and Management Sciences Research,* Faculty of Social Sciences, Yusuf Maitama Sule University, Kano.

UN High Commissioner for Refugees & National Commission for Refugees, Migrants and IDPs, (2019). *Joint Protection Assessment Mission to Northwest Nigeria,* Reliefweb .https://reliefweb.int/report/nigeria/joint-protection-assessment-mission-northwest-nigeria-25-july-4-august-2019

UNHCR. (2021). *Surging violence in Nigeria drives displacement to Niger*. UNHCR. https://www.unhcr.org/en-my/news/briefing/2021/3/603dfeaa4/surging-violence-nigeria-drives-displacement-niger.html.

UNICEF (2006, September). *The State of Youth and Youth Protection in Northern Uganda*. UNICEF and AVSI Uganda. https://archive.crin.org/en/docs/uni_avi_nuganda.pdf

United Nations Office for West Africa and the Sahel (2018). *Pastoralism and security in West Africa and the Sahel: towards peaceful coexistence*, UNOWAS. https://unowas.unmissions.org/pastoralism-and-security-west-africa-and-sahel

United Nation. (2021). *What is the Rule of Law. The United nation and the rule of law* UN. https://www.un.org/ruleoflaw/what-is-the-rule-of-law/

United Nations. (2021). *Report on Sexual Violence in Conflict in Nigeria. Office of the Special Representative of the Secretary-General on Sexual Violence in Conflict* (Report No. S/2021/312). United Nation. https://www.un.org/sexualviolenceinconflict/countries/nigeria/

Uslaner, E. M. (2007). Inequality and corruption. In *Advancing Development* (pp. 100-122). Palgrave Macmillan, London.

Uyang, F. A., Nkpoyen, F., & Bassey, G. E. (2016). Socio-economic status of youth and involvement in criminal activities in Calabar metropolis of Cross River State, Nigeria. *International Journal of Humanities, Social Sciences and Education, 3(1)*, 79-83.

Van Dijk, J., Nieuwbeerta, P., & Larsen, J. J. (2021). Global Crime Patterns: An Analysis of Survey Data from 166 Countries Around the World, 2006–

2019. *Journal of Quantitative Criminology*, 1-36. https://doi.org/10.1007/s10940-021-09501-0

Van Dijk, J. (2007). *The world of crime: Breaking the silence on problems of security, justice and development across the world*. Sage Publications.

Velásquez, A. (2020). The economic burden of crime: Evidence from Mexico. *The* Journal of Human Resources, 55(4), 1287–1318. https://doi.org/10.3368/jhr.55.4.0716-8072R2

Veltman, C. J., Nee, S., & Crawley, M. J. (1996). Correlates of introduction success in exotic New Zealand birds. *The American Naturalist*, *147*(4), 542-557.

Veenstra, G. (2000). Social capital, SES and health: an individual-level analysis. *Social science & medicine*, 50(5), 619-629. https://doi.org/10.1016/S0277-9536(99)00307-X

Verwimp, P., Justino, P., & Brück, T. (2019). The microeconomics of violent conflict. Journal of Development Economics, 141, 102297. https://doi.org/10.1016/j.jdeveco.2018.10.005

Verwimp, P., & Muñoz-Mora, J. C. (2013). *Returning home after civil war: Food security, nutrition and poverty among Burundian households* (Ecore Discussion Paper FP7/2007-2013). European Center of Advanced Research in Economics and Statistics

Visher, C. A., Knight, C. R., Chalfin, A., & Roman, J. K. (2009). *The impact of marital and relationship status on social outcomes for returning* *prisoners*. Washington, DC: Urban Institute. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.508.8327&rep=rep1&type=pdf

Von Hippel, K. (2009). The Role of Poverty in Radicalization and Terrorism. Debating Terrorism and Counterterrorism: In Gottlieb S. (Ed.). *Conflicting Perspectives on Causes, Contexts, and Responses*. Washington, DC: CQ Press.

Von Hippel, K. (2004). *Improving the international response to the transnational terrorist threat*. Terrorism and the UN: Before and After September 11, 102-19.

Waldo, G. P., & Chiricos, T. G. (1972). Perceived penal sanction and self-reported criminality: A neglected approach to deterrence research. *Social Problems*, 19(4), 522-540. https://doi.org/10.2307/799929

Wallace, M., Wisener, M., & Collins, K. (2006). *Neighbourhood characteristics and the distribution of crime in Regina*. *Ottawa*, ON, Canada: Statistics Canada.https://www.publicsafety.gc.ca/lbrr/archives/cnmcs-plcng/statcan-cjrps-no8-eng.pdf

Wang, L., Lee, G., & Williams, I. (2019). The spatial and social patterning of property and violent crime in toronto neighbourhoods: a spatial-quantitative approach. *ISPRS International Journal of Geo-Information*, *8*(1), 51. http://dx.doi.org/10.3390/ijgi8010051

Watson, J. (2013). *How to Determine Sample Size: Tip sheet# 60*, University Park, University Cooperative Extension, Pennsylvania State University

Webmaster (2015, July 1). Why incoming FCT Minister must act fast on cattle rustling. *Daily trust*. <www.dailytrust. com.ng/daily/index.php/ city-

Wetzels, M., Odekerken-Schröder, G., Van Oppen, C. (2009). Using PLS path modelling for assessing hierarchical construct models: guidelines and empirical illustration. *MIS Quarterly*. 33, 177–195. https://doi.org/10.2307/20650284

Williams, K. R., & Flewelling, R. L. (1988). The social production of criminal homicide: A comparative study of disaggregated rates in American cities. *American Sociological Review*, 421-431. https://doi.org/10.2307/2095649

Wiles, P., & Costello, A. (2000). *The'road to nowhere': the evidence for travelling criminals* (1st ed). Routledge.

Willness, C. R., Steel, P., & Lee, K. (2007). A meta-analysis of the antecedents and consequences of workplace sexual harassment. *Personnel psychology*, *60*(1), 127-162. https://doi.org/10.1111/j.1744-6570.2007.00067.x

Wong, S. K. (2017). The effects of single-mother and single-father families on youth crime: Examining five gender-related hypotheses. *International journal of law, crime and justice*, *50*, 46-60. https://doi.org/10.1016/j.ijlcj.2017.04.001

Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data* MIT press. Cambridge.

World Bank. (2006). *Crime, Violence and Economic Development in Brazil: Elements for Effective Public Policy*. (Report No. 36525). World Bank, Washington, DC. https://pdba.georgetown.edu/Security/citizensecurity/brazil/documents/docworldbank.pdf

World Bank (2018). *Food insecurity in conflict affected regions in Nigeria: Results from the North East, North Central, and South South zones* (No. 130199). The World Bank.

World Poverty Clock (n.d.) World Poverty Clock: electronic dataset, World Data Lab. http://worldpoverty.io

World Economic Forum (2020). *Executive opinion survey, 2020*. World Economic Forum, Geneva

Wu, D., & Wu, Z. (2012). Crime, inequality and unemployment in England and Wales. *Applied economics.*, 44 (29), 3765 - 3775. https://doi.org/10.1080/00036846.2011.581217

Yahaya N. A. (2019, May 14). How Nigeria and its president are being held to ransom. *BBC news*. https://www.bbc.com/news/world-africa-48435964.

Yu, S., Brackbill, R. M., Stellman, S. D., Ghuman, S., & Farfel, M. R. (2015). Evaluation of non-response bias in a cohort study of World Trade Center terrorist attack survivors. *BMC research notes*, *8*(1), 1-11. https://doi.org/10.1186/s13104-015-0994-2

Yamane, T. (1973). *Statistics an Introduction Analysis* (2nd ed.). Harper & Row.

Yusuf, V. (2015, May 16), Deadly persistence of cattle rustling. *Daily trust*. www.dailytrust.com.ng/weekly/index.php/fe

Zahra, S. A., Priem, R. L., & Rasheed, A. A. (2005). The antecedents and consequences of top management fraud. *Journal of Management, 31(6),* 803-828. https://doi.org/10.1177/0149206305279598

Zartman, I. W. (Ed.). (1995). *Collapsed states: the disintegration and restoration of legitimate authority*. Lynne Rienner Publishers.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods*. Oxford University Press.

Zumve, S., Ingyoroko, M., & Akuva, I. I. (2013). Terrorism in contemporary Nigeria: a latent function of official corruption and state neglect. *European Scientific Journal, 9 (8)*, 122 -140.

APPENDIX 1

TEL: +604 928 7130/7113/7120/7121 FAX: +604 928 7160 EMAIL: oyagsb@uum.edu.my/armanurah

QUESTIONNAIRE FOR INMATES

The economics of violent crimes in Northwest Nigeria

Dear participant

As part of my Ph.D research, I am conducting a study to obtain information on the root course of the violent crimes and the consequences. The main objective of the study is to investigate the antecedents of violent crime and its consequences on Household economic welfare in Northwest Nigeria. The research amongst other reasons would provide the extent of violent crime destruction in the region as well designing effective policies and strategies overcome the problem.

Kindly respond to the questionnaire as truthfully as you can, your genuine opinion is important for an objective exploration of information of the violence in your area and the consequences. The information provided will be treated with utmost confidentiality and data only use for academic purposes. The questionnaire should take 10-20 minutes to complete. Your participation in this study is entirely voluntary.

Don Allah, muna fata za a daure a amsatambayoyin da kebiyecikinminti 10-20 batare da tilastiba, tare da ƙoƙarinba da sahihanbayanai. Ra'ayin da aka bayarna gaskiya dangane da tambayoyinshizaiba da damarcimmamuradunganobayanaidangane da ta'addanci da kumaillolin da yakehaifarwa a yankunan Arewa masoYammacinNijeriya. Za ai ƙoƙariwajenbawabayanan da za kubayarkulawa, kuma za ai amfani da su ne kawai a harkarilimi.

Nagode.

Bashir Babangida Kurfi.

For any enquiry, please contact the following: Domintanbaya ko Karin bayaniza'aiyatuntubarwadannan:

Bashir Babangida Kurfi (Ph.D. Candidate in Development Economics)

08035962967 (bbkurfi@yahoo.com)

Supervisors

Prof. Dr.Roslan B Abdul Hakim (ahroslan@uu..edu.my)

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Othman Yeop Abdullah Graduate School of Business (OYAGSB)

Universiti Utara Malaysia 06010 UUM Sintok, Kedah. Darul Aman. Malaysia

INSTRUCTION: The Questionnaire is for Inmates (Wannan tambayoyin na yangidan yaari ne)
Please tick the appropriate box and fill the dotted lines with appropriate answer where applicable.
Bisa ƙa'ida, ana a so ne, a taimaka a sahannu a akwatin da ya dace, sannan a cikeguraren da aka jalayukamasuɗigo-xigo, yayinamsatambayoyin da suka dace da vangaren da akebuƙatarhakan

SECTION A: DEMOGRAPHIC AND SOCIO-ECONOMIC INFORMATION

1. Nationality (Qasarka): ……………………………….........
2. Your state: (Jiharka) ……………………………………...
3. Age (Shekarunka) ....

4. Gender (Jinsi): [ ] Male (Namiji) [ ] Female (Mace)
5. Marital status:(MatsayiDangane da Aure) [ ] Married(Mai aure) [ ] Unmarried (Mararaure)[ ]
6. Number of people in your family (Adadinmutanengidanku) [ ] 1 -5 [ ] 6-10 [ ] 11 - 15 [ ] 16 – 20 [ ] 20 and above

7. What is the location where you live? (Yanayingarinku) [ ] Rural (Karkara) [ ] Urban (Maraya)
8. Educational attainment(MatakinIlimi): [ ] Formal education (KaratunBoko)[ ] Non formal education (Karatun Zaure/allo) [ ] None (Bako daya)
9. Employment status: (Matakinaikinka) [ ] Employed (Ina da aikinyi) [ ] Unemployed (Zaunagaribanza)
10. Your father employment status: (Matakinaikinkababanka) [ ] Employed (yana da aikinyi) [ ] Unemployed (Zaunagaribanza)
11.Are there other working members in the family?(Akwai waɗanda suke aiki a gidanku bayan kai?) [ ] Yes (Eh) [ ] No (A'a)

12. Is your mother living with your father? (Mahaifiyarka tana tare da mahaifinku) [ ] Yes (Eh) [ ] No (A'a)
13. Monthly income before arrest (Kuxin Shiga a Watakafin a kamaka)
[ ] Less than (Kasa da) 0 - N 10, 000 ($25)
[ ] N 10, 000 – N 50, 000 ($125)
[ ] N 50, 001 – N 100, 000($250)
[ ] N 100, 001 – Above (Sama da haka)(>$250)
14. Do you consume any hard drug (Kana ta ammali da miyagunkwayoyi) [ ] Yes (Eh) [ ] No (A'a)

PART TWO (SASHE NA BIYU)

Probability of detection (Tabbacin kama Mai Laifi)

	Please tick the appropriate answer Kasa hannu akan ansa da tadace	Likely Tana yiwuwa	Not likely Bata yiwuwa
1	Before committing the crime, what do you think were your chances of getting caught by the police? Kafin aikata laifin, ya kake ganin yiyuwar 'yansanda sukama ka?		
2	Before committing the crimes, what do you think were your chances of getting convicted in court? Kafin aikata laifin, ya kake ganin yiyuwar kotu ta kama ka da laifi?		

Severity of Punishment (Official & Unofficial)
Tsaurin Hukunci na hukuma da ba na hukuma ba

	Official (Na hukuma)		
	Please tick the appropriate answer Kasa hannu akan ansa da tadace	Release by the police 'Yan sanda za su sake ni in tafi kawai	Conviction and prison sentence Yanke hukunci da xauri a gidan yari
1	Before committing the crime, what do you think would happen to you if the police caught you? Kafin ka aikata laifin, me kake tunanin zai faru gare ka idan 'yan sanda suka kama ka?		

	Un-official (wanda bana hukuma ba)		
	Please tick the appropriate answer Kasa hannu akan ansa da tadace	Pleased Za su ji dadî	Displeased Ba za su ji dadî ba
2	If your parents (guardian) found out that you had committed a crime, how do you think they would feel about you? Idan mahaifanka (ko masukuladakai) suka gano cewa ka aikata laifi, ya kake tunanin za su nuna damuwarsu game da kai?		
3	If your close friends found out that you had committed the crime, how do you think they would feel about you? Idan abokanka/aminnanka suka gano cewa ka aikata laifi, ya ya kake tunanin za su nuna damuwarsu game da kai?		

Rule of Law (Tabbatar da doka)

	Please tick the appropriate answer Kasa hannu akan ansa da tadace	Agree Na yarda	Not agree. Ban yarda ba
1	The citizens are confident in the law guiding the society. 'Yan ƙasa sun natsu da dokokin da suke Kula da al'amuran ƙasar nan		
2	The citizens are abiding by the rule of law. 'Yan ƙasa suna biyayyaga dokokin ƙasarnan.		
3	The judiciary is independent from political influence of government. Ɓangaren Sharia na ƙasa yana da 'yancin kansa ba ya samun katsalandan daga 'yan siyasa ko gwamnati		
4	Property (Land) rights is guaranteed in Nigeria. Ana kiyaye haƙƙin mallakar ƙaddara ta fili aNijeriya		
5	The police forces are effective in enforcing laws in Nigeria. Hukumar 'Yan sanda na ƙoƙari ƙwarai da gaske wajen tabbatar da doka a Nijeriya		
6	There is likelihood of crime and violence in Nigeria. Akwai yiwuwar aukuwar miyagun laifuka da rikici a Nijeriya		

	Corruption (Cin hanci da rashawa)		
	Please tick the appropriate answer Kasa hannu akan ansa da tadace	Agree Na yarda	Not agree. Ban yarda ba
1	The level of trust in financial honesty of Government officials is low. Akwaiƙarancin gaskiya ga yadda ma'aikata ke sarrafakuɗaɗengwamnati a Nijeriya		
2	The diversion of public fund is common due to corruption. Akwai yawan karkatar da dukiyar al'umma saboda cin hanci da rashawa		
3	There are petty and grand forms of corruption in Nigeria. Akwai nau'o'in cin hanci ƙanana da manya a Nijeriya		
4	Private interest controls the affairs of the state. Akwai son rai a yanda ake tafiyar da harkokin ƙasar nan		

PART THREE (SASHE NA UKU)
VIOLENT CRIMES (MANYAN LAIFUKA)

	Violent crimes (manyan laifuka)		
	Please did you involve in the following crimes over the last 12 months? Wace rawa kataka wajen aiwatar da waɗaannan manyan laifuffuka	Yes (Eh)	No (A'a)
1	Destruction and looting of properties including farms, food items cattle, Sheep and Goats Ɓarnatar da sater kayayyakin gona, kayan abinci, dabbobi (shanu da tumaki da awaki)		
2	Engage in sexual abuse/rape. Cin zarafin mata (fyaɗe da sauransu).		
3	Abduction/Kidnapping for ramson Sace mutundayin garkuwa da su don kuɗin fansa		
4	Engage in Armed robbery. Yin fashi da makami		
5	Engage in gruesome group killing (massacre) Aiwatar da munanan ayyukairinnakisangilla.		

APPENDIX 2

Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
Transforming Leaders for Sustainable Business and Society

TEL: +604 928 7130/7113/7120/7121 FAX: +604 928 7160 EMAIL: oyagsb@uum.edu.my/armanura

QUESTIONNAIRE FOR HOUSEHOLD

The economics of violent crimes in Northwest Nigeria

As part of my Ph.D. research, I am conducting a study to obtain information on the root course of the violent crimes and the consequences. The main objective of the study is to investigate the antecedents of violent crime and its consequences on Household economic welfare in Northwest Nigeria. The research amongst other reasons would provide the extent of violent crime destruction in the region as well designing effective policies and strategies overcome the problem.
Kindly respond to the questionnaire as truthfully as you can, your genuine opinion is important for an objective exploration of information of the violence in your area and the consequences. The information provided will be treated with utmost confidentiality and data only use for academic purposes. The questionnaire should take 10-20 minutes to complete. Your participation in this study is entirely voluntary.
Don Allah, muna fata za a daure a amsa tambayoyin da kebiye cikinminti 10-20 batare da tilastiba, tare da ƙoƙarinba da sahihanbayanai. Ra'ayin da aka bayarna gaskiya dangane da tambayoyinshizaiba da damarcimmamuradunganobayanaidangane da ta'addanci da kumaillolin da yakehaifarwa a yankunan Arewa masoYammacinNijeriya. Za ai ƙoƙariwajenbawabayanan da za kubayarkulawa, kuma za ai amfani da su ne kawai a harkarilimi.
Nagode.

Bashir Babangida Kurfi

For any enquiry, please contact the following:
Domintanbaya ko Karin bayaniza'aiyatuntubarwadannan:

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08035962967 (bbkurfi@yahoo.com)
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Assoc. Prof. Dr.Hussin Bin Abdullah (hussin2141@uum.edu.my)
Universiti Utara Malaysia 06010 UUM Sintok, Kedah.Darul Aman.
Malaysia

INSTRUCTION:The Questionnaire is for Household (Wannan tambayoyin naMasugidane)

Please tick the appropriate box and fill the dotted lines with appropriate answer where applicable.

BisaQA'IDA, ana a so ne, a taimaka a sahannuaakwatin da ya dace, sannan a cikeguraren da aka jalayukamasuɗigo-xigo, yayinamsatambayoyin da suka dace da vangaren da akebuƙatarhakan

SECTION A: DEMOGRAPHIC DATA

1. Local government area (Qaramar Hukuma): …………………………………..........
2. Your state: (Jiharka) ……………………………………..
3. Age (Shekarunka) ....

4. Gender (Jinsi): [ ] Male (Namiji) [ ] Female (Mace)
5. Marital status: (MatsayiDangane da Aure) [ ] Married(Mai aure) [] Unmarried (Mararaure)[ ]

6. Number of people in your family(Adadinmutanengidanku) [ ] 1 -5 [ ] 6-10 [ ] 11 - 15[ ] 16 – 20 [ ] 20 and above
7. What is the location where you live?(Yanayin girman garinku)
[ ] Rural (Karkara) [ ] Urban (Maraya)
8. Are there other working members in the family? [ ]Yes (Eh) [ ] No (A'a)
(Akwai waɗanda suke aiki a gidanku bayan kai?)

9. Educational attainment: (MatakinIlimi) [ ] Qur'anic Education (KaratunZaure[ ] Primary education (Firamare)
[ ] Secondary education (Sakandire) [ ] Tertiary education (Gaba da sakandire) [ ] None (Bako daya)
10. Occupation (Sana'a) [ ] Farming (Noma) [ ] Own business (Sana'ar Kai) [ ] Civil servant(Aikin Gwamnati) [ ] Hunting (Farauta) [ ] Pastoralist/Animal Husbandry (Kiwo) [ ] others (Waniabudaban) …………… [ ] None (Bako xaya)
11. Monthly income (Kuxin Shiga a Wata) Less than (Kasada) - N 10, 000 ($25)
[ ] N 10, 000 – N 50, 000 ($125)
[ ] N 50, 001 – N 100, 000 ($250)
[ ] N 100, 001 – Above (Sama da haka) (> $250)

PART TWO (SASHE NA BIYU)

EXPOSURE TO VIOLENT CRIME (BAYYANAR MANYAN LAIFUKA)

	Violent crimes (manyan laifuka)		
	In the past 12 months, have you or any of the household member been exposed to the following violent crimes A cikin watanni shabiyu da suka gabata, wadannan taaddacin sun taba rutsuwa da kai ko wani dan gidanku	Yes (Eh)	No (A'a)
1	Destruction and looting of properties including farms, food items cattle, Sheep and Goats Ɓarnatar da sater kayayyakin gona, kayan abinci, dabbobi (shanu da tumaki da awaki)		
2	Sexual abuse/rape Cin zarafin mata (fyaɗe da sauransu).		
3	Abduction/Kidnapping for ramson Sace mutun dayin garkuwa da su don kuɗin fansa		
4	Armed robbery Fashi da makami		
5	Gruesome group killing (massacre) Munanan ayyuka irin na kisan gilla.		

Economic Welfare shock (RikicewarTattalinArziki)

	Declining Food consumption (Raguwar samun cinAbinci/yunwa)	Yes (Eh)	No (A'a)
1.	Destruction of crops Ɓarnatar da amfanin gona,		
2.	Destruction of livestock Ɓarnatar dadabbobin kiwo.		
3.	Scarcity of food items in our markets Rashin kayan masarufi a kasuwannin mu		
4.	Too dangerous to get to market due to fear of attacks by bandits/criminals. Akwai matukar hadari zuwa cin kasuwanni saboda tsoron farmakin 'yan ta'adda		
5..	Transport to market is impossible. Sufurin ababawan hawa zuwa kasuwanni baya yiyuwa sakammakon ayyukan 'yanta'adda		
6.	Inflation/volatility of prices Hauhawar kayan masarufi da kuma tsadar farashin kayan more rayuwa.		
7.	Lack of available money to buy food. Karancin kuxin sayan abinci		
8.	It is difficult to get Food aid. Samun tallafin abinci yayi wuya a sakammakon ayyukan ta'addanci		
9.	Theft of crops/livestock/food items. Sace kayan gona da dabbobi da rumbunan abincin		
10.	Poor harvest Hana girbaramfaningona yadda yakamatasabodamanoman suna tsoronzuwagonakinsu		

Economic Welfare Shocks (Rikicewar Tattalin Arzik)

	Loss of Income (Asarar Kuxaxen Shiga)	Yes (Eh)	No (A'a)
1.	Violent crimes cause the closing down of businesses. Ta'addancin da 'yanta'addakeyiyahaifar da rufegurarensana'a. da sauran ayyuka.		
2.	Violent crimes have resulted to loss of assets, inventories, machinery, stocks and dwellings. Ayyukanta'addanciyanajanyomana asarardukiyoyi da kayyayakinamfani da na'urori da kayansiyarwa da ma muhallai.		
3.	Access to the input markets is not possible due to the activities of criminals. babu hanyar zuwa samo kayan sarrafawa na kasuwanni saboda ayyukan 'yan ta'adda		
4.	Access to the product markets is not possible due to the activities of criminals. Babu hanyar zuwa kai kayan da aka sarrafa a kasuwanni saboda ayyukan 'yan ta'adda		
5.	The violent crimes have made it difficult to access credit. Samunbashiyayiwuyasakammaklonayyukan 'yanta'adda		
6.	Violent crimes prevent workers from going to their work. Ayyukan 'yan ta'adda yahana wasu ma'aikata zuwa wuraren aikinsu		
7.	Violent crimes are limiting access to market. Ayyukan 'yan ta'addana taqaita hanyoyin zuwa kasuwanni		
8.	Violent crimes lead to serious Infrastructural destruction. ayyukan 'yanta'addayanahaifar da lalatakayyayakin more rayuwaral'umma		
9.	Normal activities are Interrupted due to security operations. Sintirinjami'antsaroyakanhaifar da tsaikoga al'amuran yau da kullum		
10.	Violent crimes make people to voluntary, forcefully form a vigilante group. Ayyukan 'yanta'addayasa mutane sukafaqungiyoyinakare kai don dole ko don sa kai.		
11.	Criminals tax us to pay money to them. 'Yan ta'adda suna aza mana haraji na biyan kuxaxe gare su		
12	Productivity is reduced due to injury because of criminal activities. Raunukan da 'yanta'adda suka yiwa mutane yajanyoraguwarsamar da kayayyakin rayuwa		
13	Productivity is reduced due to psychological distress as a result of criminal activities. Damuwa da 'yanta'adda suka sa mutane a cikiyajanyoraguwarsamar da kayayyakin rayuwa		

APPENDIX 3. Stata output multinomial logistic regression model.

```
Multinomial logistic regression                         Number of obs =    558
                                                        LR chi2(64)   = 152.31
                                                        Prob > chi2   = 0.0000
Log likelihood = -816.21215                             Pseudo R2     = 0.0853
```

VCrime	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
0	(base outcome)					
1						
Age	-.0243892	.0146091	-1.67	0.095	-.0530226	.0042442
Mrtl	-.2910405	.1988785	-1.46	0.143	-.6808353	.0987542
Educ	-.3929363	.3574787	-1.10	0.272	-1.093582	.3077092
Loc	.4533998	.3494832	1.30	0.195	-.2315746	1.138374
Fsize	.4929438	.3250948	1.52	0.129	-.1442303	1.130118
Emp	-.8332365	.345095	-2.41	0.016	-1.50961	-.1568627
Income	-.8769764	.2272492	-3.86	0.000	-1.322377	-.4315763
Femp	.6284548	.3325243	1.89	0.059	-.0232809	1.28019
Fwkg	-.4398127	.3521278	-1.25	0.212	-1.129971	.250345
Fdisrup	-1.221146	.3299854	-3.70	0.000	-1.867906	-.5743868
Drugs	.3120233	.3511668	0.89	0.374	-.3762509	1.000298
Probability_of_detection	-.4135861	.2154635	-1.92	0.055	-.8358867	.0087145
Officialpsp	-1.218473	.3985741	-3.06	0.002	-1.999663	-.4372817
Upsp	.5853558	.2274439	2.57	0.010	.1395739	1.031138
Rolw	-.1472256	.1036057	-1.42	0.155	-.350289	.0558378
Crp4	-.144207	.1118735	-1.29	0.197	-.363475	.075061
_cons	7.45351	1.979198	3.77	0.000	3.574353	11.33267
2						
Age	-.0431549	.0148572	-2.90	0.004	-.0722744	-.0140354
Mrtl	.2425864	.1813025	1.34	0.181	-.1127599	.5979326
Educ	-.6941555	.3405034	-2.04	0.041	-1.36153	-.0267812
Loc	.4721129	.3311704	1.43	0.154	-.1769692	1.121195
Fsize	.4400114	.3071222	1.43	0.152	-.161937	1.04196
Emp	.2964307	.3302626	0.90	0.369	-.3508721	.9437335
Income	-.5575539	.1985664	-2.81	0.005	-.9467368	-.168371
Femp	.0270818	.3173177	0.09	0.932	-.5948494	.649013
Fwkg	-.4049922	.3265082	-1.24	0.215	-1.044936	.2349521
Fdisrup	-.3744665	.2909858	-1.29	0.198	-.9447882	.1958552
Drugs	.267662	.3363981	0.80	0.426	-.3916662	.9269903
Probability_of_detection	-.8041456	.2018615	-3.98	0.000	-1.199787	-.4085043
Officialpsp	-1.381609	.372811	-3.71	0.000	-2.112305	-.6509127
Upsp	.3947721	.2038295	1.94	0.053	-.0047264	.7942705
Rolw	-.1681411	.0965235	-1.74	0.082	-.3573236	.0210415
Crp4	-.129615	.105563	-1.23	0.220	-.3365147	.0772846
_cons	6.851756	1.842329	3.72	0.000	3.240857	10.46265
3						
Age	-.0228726	.0150425	-1.52	0.128	-.0523553	.0066101
Mrtl	.0459835	.2016005	0.23	0.820	-.3491461	.4411132
Educ	-.3929341	.3660673	-1.07	0.283	-1.110413	.3245447
Loc	.2713411	.3617008	0.75	0.453	-.4375795	.9802617
Fsize	.5464397	.3294489	1.66	0.097	-.0992682	1.192148
Emp	-.5021057	.3587962	-1.40	0.162	-1.205333	.201122
Income	-.5323995	.2121376	-2.51	0.012	-.9481815	-.1166174
Femp	.4730639	.3449343	1.37	0.170	-.2029948	1.149123
Fwkg	.1725087	.3421829	0.50	0.614	-.4981575	.8431749
Fdisrup	-.9224591	.3280791	-2.81	0.005	-1.565482	-.2794358
Drugs	.6042106	.3561612	1.70	0.090	-.0938525	1.302274
Probability_of_detection	-.6747458	.2235198	-3.02	0.003	-1.112837	-.236655
Officialpsp	-1.266606	.4203986	-3.01	0.003	-2.090572	-.4426395
Upsp	.1252634	.231248	0.54	0.588	-.3279743	.5785012
Rolw	-.212144	.108948	-1.95	0.052	-.4256781	.0013901
Crp4	-.2769657	.1157748	-2.39	0.017	-.5038801	-.0500512
_cons	6.981439	2.054419	3.40	0.001	2.954852	11.00803
4						
Age	-.0161029	.0136754	-1.18	0.239	-.0429061	.0107004
Mrtl	.0088928	.1815103	0.05	0.961	-.3468609	.3646465
Educ	-.5311288	.3362503	-1.58	0.114	-1.190167	.1279097
Loc	.160385	.3296436	0.49	0.627	-.4857047	.8064746
Fsize	.4831821	.2988258	1.62	0.106	-.1025057	1.06887
Emp	.0332045	.3278347	0.10	0.919	-.6093398	.6757487
Income	-.3112299	.1834001	-1.70	0.090	-.6706875	.0482277
Femp	.036339	.314346	0.12	0.908	-.5797678	.6524458
Fwkg	-.2825917	.3227347	-0.88	0.381	-.9151401	.3499567
Fdisrup	-.8593039	.2971946	-2.89	0.004	-1.441795	-.2768132
Drugs	.7022302	.3246803	2.16	0.031	.0658685	1.338592
Probability_of_detection	-.3731188	.2003495	-1.86	0.063	-.7657965	.0195589
Officialpsp	-1.129947	.3753376	-3.01	0.003	-1.865595	-.3942984
Upsp	.2074107	.2061167	1.01	0.314	-.1965705	.611392
Rolw	-.2432444	.097261	-2.50	0.012	-.4338724	-.0526164
Crp4	-.2563971	.1057648	-2.42	0.015	-.4636924	-.0491018
_cons	5.974492	1.837377	3.25	0.001	2.373299	9.575685

Stata output Multinomial logistic Marginal effects.

Model mlogit_mfx (*Marginal effects after mlogit*)

VCrime	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
0						
Age	.0039101	.0016477	2.37	0.018	.0006808	.0071395
Mrtl	-.0032123	.0215608	-0.15	0.882	-.0454706	.039046
Educ	.0759382	.0415403	1.83	0.068	-.0054792	.1573556
Loc	-.0483	.0399706	-1.21	0.227	-.126641	.030041
Fsize	-.0701209	.0362554	-1.93	0.053	-.1411802	.0009385
Emp	.0256897	.0398022	0.65	0.519	-.0523211	.1037006
Income	.0787232	.0223201	3.53	0.000	.0349766	.1224698
Femp	-.0353299	.0379252	-0.93	0.352	-.1096619	.0390021
Fwkg	.0374211	.0380806	0.98	0.326	-.0372155	.1120577
Fdisrup	.1164177	.0344862	3.38	0.001	.0488261	.1840094
Drugs	-.0686108	.0405958	-1.69	0.091	-.148177	.0109554
Probability_of_detection	.0820418	.023604	3.48	0.001	.0357788	.1283049
Officialpsp	.1804591	.0431115	4.19	0.000	.0959621	.2649561
Upsp	-.046777	.0244053	-1.92	0.055	-.0946106	.0010565
Rolw	.0281958	.0114024	2.47	0.013	.0058476	.0505441
Crp4	.0289427	.0126706	2.28	0.022	.0041087	.0537766
1						
Age	-.0003529	.0016606	-0.21	0.832	-.0036077	.0029019
Mrtl	-.0529312	.0226312	-2.34	0.019	-.0972877	-.0085748
Educ	.0061569	.0384869	0.16	0.873	-.069276	.0815898
Loc	.0303867	.0379705	0.80	0.424	-.044034	.1048075
Fsize	.0158355	.036187	0.44	0.662	-.0550898	.0867608
Emp	-.1174595	.0364496	-3.22	0.001	-.1888995	-.0460196
Income	-.0731348	.0266835	-2.74	0.006	-.1254335	-.0208361
Femp	.0730067	.0360708	2.02	0.043	.0023092	.1437042
Fwkg	-.0386897	.040403	-0.96	0.338	-.1178781	.0404987
Fdisrup	-.0951942	.0377948	-2.52	0.012	-.1692706	-.0211177
Drugs	-.0136424	.0370088	-0.37	0.712	-.0861784	.0588936
Probability_of_detection	.009387	.0247432	0.38	0.704	-.0391088	.0578829
Officialpsp	-.0321752	.0463568	-0.69	0.488	-.1230329	.0586825
Upsp	.0544504	.0257402	2.12	0.034	.0040005	.1049003
Rolw	.002356	.0118422	0.20	0.842	-.0208542	.0255662
Crp4	.003602	.0124038	0.29	0.772	-.020709	.027913
2						
Age	-.0050043	.0021542	-2.32	0.020	-.0092265	-.0007821
Mrtl	.0538784	.025564	2.11	0.035	.0037738	.103983
Educ	-.063088	.0453869	-1.39	0.165	-.1520448	.0258687
Loc	.0471699	.0450007	1.05	0.295	-.0410298	.1353696
Fsize	.0095208	.0426489	0.22	0.823	-.0740695	.0931112
Emp	.1064662	.0443701	2.40	0.016	.0195024	.19343
Income	-.0259607	.0293389	-0.88	0.376	-.083464	.0315425
Femp	-.0419625	.0437886	-0.96	0.338	-.1277866	.0438617
Fwkg	-.0459678	.0469497	-0.98	0.328	-.1379876	.0460519
Fdisrup	.0697423	.0414814	1.68	0.093	-.0115596	.1510443
Drugs	-.0298173	.0437828	-0.68	0.496	-.1156301	.0559955
Probability_of_detection	-.0806556	.0283339	-2.85	0.004	-.1361891	-.0251222
Officialpsp	-.0843816	.0547077	-1.54	0.123	-.1916068	.0228436
Upsp	.0306769	.028746	1.07	0.286	-.0256643	.087018
Rolw	-.0017167	.0138393	-0.12	0.901	-.0288412	.0254079
Crp4	.0085644	.0145756	0.59	0.557	-.0200033	.0371322
3						
Age	-.0000908	.0016826	-0.05	0.957	-.0033886	.0032069
Mrtl	.0046	.0225511	0.20	0.838	-.0395995	.0487994
Educ	.0059892	.0388432	0.15	0.877	-.0701421	.0821204
Loc	-.0007403	.0390688	-0.02	0.985	-.0773137	.0758331
Fsize	.0243057	.035897	0.68	0.498	-.0460511	.0946624
Emp	-.0591472	.0381611	-1.55	0.121	-.1339414	.0156471
Income	-.013795	.0245271	-0.56	0.574	-.0618674	.0342773
Femp	.0451539	.0373288	1.21	0.226	-.0280093	.118317
Fwkg	.0642663	.0374724	1.72	0.086	-.0091782	.1377109
Fdisrup	-.0428888	.0369606	-1.16	0.246	-.1153302	.0295525
Drugs	.0353545	.0365041	0.97	0.333	-.0361922	.1069013
Probability_of_detection	-.0343302	.024977	-1.37	0.169	-.0832843	.0146239
Officialpsp	-.0393067	.0486403	-0.81	0.419	-.1346401	.0560266
Upsp	-.0236027	.0262652	-0.90	0.369	-.0750816	.0278762
Rolw	-.0085118	.0123828	-0.69	0.492	-.0327816	.0157581
Crp4	-.0185894	.0124483	-1.49	0.135	-.0429877	.0058089
4						
Age	.0015379	.0019965	0.77	0.441	-.0023752	.005451
Mrtl	-.0023349	.0261405	-0.09	0.929	-.0535693	.0488995
Educ	-.0249963	.0453719	-0.55	0.582	-.1139236	.0639311
Loc	-.0285163	.0457597	-0.62	0.533	-.1182038	.0611712
Fsize	.0204589	.0415835	0.49	0.623	-.0610433	.1019611
Emp	.0444507	.0445626	1.00	0.319	-.0428905	.1317919
Income	.0341673	.0275307	1.24	0.215	-.0197919	.0881265
Femp	-.0408682	.0441231	-0.93	0.354	-.1273479	.0456116
Fwkg	-.0170299	.0469115	-0.36	0.717	-.1089747	.0749149
Fdisrup	-.0480771	.0433871	-1.11	0.268	-.1331141	.03696
Drugs	.0767159	.0419193	1.83	0.067	-.0054444	.1588762
Probability_of_detection	.023557	.0292001	0.81	0.420	-.0336742	.0807881
Officialpsp	-.0245956	.0562808	-0.44	0.662	-.1349039	.0857127
Upsp	-.0147475	.0298254	-0.49	0.621	-.0732041	.0437091
Rolw	-.0203234	.0141646	-1.43	0.151	-.0480855	.0074388
Crp4	-.0225197	.0146171	-1.54	0.123	-.0511686	.0061292

APPENDIX 4

```
Logistic regression                                     Number of obs =    492
                                                        LR chi2(9)    = 231.50
                                                        Prob > chi2   = 0.0000
Log likelihood = -115.32302                             Pseudo R2     = 0.5009
```

LI	Odds ratio	Std. err.	z	P>|z|	[95% conf.	interval]
EDU	.7601894	.0921435	-2.26	0.024	.5994412	.9640444
HHS	.9440114	.0272757	-1.99	0.046	.8920375	.9990136
LOC	.7665079	.2540472	-0.80	0.422	.4003124	1.46769
AGE	1.035961	.0150722	2.43	0.015	1.006837	1.065927
MSSCR	7.134072	3.318455	4.22	0.000	2.866791	17.75329
KDNP	8.533669	4.900873	3.73	0.000	2.768803	26.30144
RAPE	5.7008	3.743922	2.65	0.008	1.573696	20.65146
DSTLP	9.198814	4.669353	4.37	0.000	3.401408	24.8774
ROBBR	6.157033	2.902786	3.86	0.000	2.443798	15.51235
_cons	.3973716	.2978537	-1.23	0.218	.0914472	1.726725

Note: **_cons** estimates baseline odds.

```
Logistic regression                                     Number of obs =    492
                                                        LR chi2(10)   = 172.45
                                                        Prob > chi2   = 0.0000
Log likelihood = -178.90299                             Pseudo R2     = 0.3252
```

FOOD	Odds ratio	Std. err.	z	P>|z|	[95% conf.	interval]
INC	.9979819	.0018993	-1.06	0.288	.9942663	1.001711
EDU	1.085706	.1151082	0.78	0.438	.8819959	1.336466
HHS	.9510052	.0224935	-2.12	0.034	.907925	.9961296
LOC	1.354268	.3746467	1.10	0.273	.7874574	2.329069
AGE	1.028545	.011765	2.46	0.014	1.005742	1.051864
MSSCR	3.20001	.9957654	3.74	0.000	1.738914	5.88877
KDNP	8.764412	3.609666	5.27	0.000	3.909771	19.64691
RAPE	2.557757	.9686972	2.48	0.013	1.217543	5.373214
DSTLP	2.78306	.8917289	3.19	0.001	1.485205	5.215053
ROBBR	2.101274	.6485016	2.41	0.016	1.147578	3.84754
_cons	.2579387	.1553625	-2.25	0.024	.0792169	.8398757

Note: **_cons** estimates baseline odds.

```
Marginal effects after logistic
      y  = Pr(LI) (predict)
         =  .98056016
```

variable	dy/dx	Std. err.	z	P>|z|	[95% C.I.	]	X
EDU	-.0052265	.00299	-1.75	0.080	-.011084	.000631	1.98984
HHS	-.0010983	.00068	-1.61	0.107	-.002434	.000237	9.89431
LOC	-.0050688	.00652	-0.78	0.437	-.017852	.007715	.384146
AGE	.0006734	.00034	1.97	0.049	2.3e-06	.001345	40.5691
MSSCR*	.0462688	.01886	2.45	0.014	.009314	.083224	.54065
KDNP*	.0424399	.0164	2.59	0.010	.010293	.074587	.439024
RAPE*	.0288994	.01303	2.22	0.027	.003361	.054438	.351626
DSTLP*	.0506505	.0198	2.56	0.011	.011838	.089463	.504065
ROBBR*	.0384196	.01615	2.38	0.017	.006767	.070072	.49187

(*) dy/dx is for discrete change of dummy variable from 0 to 1

```
Average marginal effects                                Number of obs = 492
Model VCE: Robust

Expression: Pr(FOOD), predict()
dy/dx wrt:  INC EDU HHS LOC AGE MSSCR KDNP RAPE DSTLP ROBBR
```

	dy/dx	Delta-method std. err.	z	P>|z|	[95% conf.	interval]
INC	-.0002371	.0002227	-1.06	0.287	-.0006736	.0001993
EDU	.009652	.0119826	0.81	0.421	-.0138335	.0331375
HHS	-.0058965	.0027664	-2.13	0.033	-.0113186	-.0004744
LOC	.035596	.0303284	1.17	0.241	-.0238466	.0950386
AGE	.0033036	.001245	2.65	0.008	.0008634	.0057437
MSSCR	.1365279	.0327386	4.17	0.000	.0723614	.2006945
KDNP	.2547909	.0420532	6.06	0.000	.1723681	.3372138
RAPE	.1102327	.0447286	2.46	0.014	.0225662	.1978991
DSTLP	.1201417	.0342711	3.51	0.000	.0529716	.1873118
ROBBR	.0871578	.034275	2.54	0.011	.0199801	.1543355

APPENDIX 5

LIST OF THE EXPERT AND THEIR AREA OS SPECIALTY

S.N	NAME	SPECIALITY
1.	Prof. Ahmad Muhammad Tsauni ahmadutsauni@gmail.com Department of Economics, Bayero University Kano	His research interests include Development Economics, Research Methodology, Project Evaluation.
2.	Prof. Y. A. Zakari Department of Economics, Federal University Gusau, Zamfara State, Nigeria	Development Economics
3.	Prof. Abdullateef Usman, FNERC School of Postgraduate Studies, Fountain University Osogbo, Osun State	His research interests include Labour & Industrial Economic, Research Method and Econometrics
4.	Prof. Shehu Usman Rano Aliyu, suarano.eco@buk.edu.ng Department of Economics, Bayero University Kano,	Financial Economics and Islamic Finance
5.	Prof. Suleman Khalid sulkhalid@yahoo.com Department of Sociology, Usumanu Danfodio University, Sokoto	Rural sociology
6.	Prof. I.M Zango ismailazango@yahoo.com Department of Sociology, Bayero University Kano,	His research interests include Survey Technique, Group Dynamic.
7.	Prof. S.I Radda iraddasadiq@yahoo.com Department of Sociology, Bayero University Kano	Area of Interest: Criminology & Studies in Human Right
8.	Prof. M. Sani Umar abulfawaz@gmail.com Ahmadu Bello University, Zaria	**Northwest, Nigeria** His research interests include Islam and Modernity, Violence and Peacebuilding, Countering Violent Extremism, Islamic Education in Nigeria. Islamic Civilization
9.	Dr. Aliyu Mukhtar Katsina Umaru Musa Yar'adua University, Katsina State	**Northwest, Nigeria** His research interests include Party politics in developing democracies, Media, political behaviour, and Research methodology
10.	Dr. Anas Sani Anka Federal University Gusau, Zamfara State, Nigeria	**Northwest, Nigeria** Political Economy, Conflict Processes, International Security and Arms Control.
11.	Dr Anas Sa'idu Muhammad Centre for Nigerian Languages, Bayero University, Kano	**Northwest, Nigeria** Applied Linguistics
12.	Dr. Shuaibu Mustapha Umaru Musa Yar'adua University, Katsina State	**Northwest, Nigeria** Area of Interest: Hausa literature and Translation. Department of Nigerian languages

APPENDIX 6

NIGERIAN CORRECTIONAL SERVICE
NATIONAL HEADQUARTERS
Bill Clinton Drive, Airport Road, (P.M.B. 16, Garki - Abuja

Phone:..
Your Ref:..

Our Ref: NPS 65/TII/123
Date: 6th July, 2020

Controller of Corrections
State Headquarters
Katsina
Katsina State

RE: LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

I am directed to introduce Mr Bashir Babangida Kurfi to you for assistance.

Mr Bashir sought and obtained the approval of the Controller General of Corrections to conduct a PhD research work in your Command, specifically, Medium Security Custodial Centre, Katsina.

You are to kindly afford the researcher the necessary assistance needed while ensuring that security is not compromised in the custodial centre of his research.

Thank you

Dr Amos D. Kupan
DCC (PRS)
For Controller General of Corrections

APPENDIX 7

NIGERIAN CORRECTIONAL SERVICE
NATIONAL HEADQUARTERS
Bill Clinton Drive, Airport Road, (P.M.B. 16, Garki - Abuja

Phone:..
Your Ref:..

Our Ref: NPS 65/TII/122
Date: 6th July, 2020

Controller of Corrections
State Headquarters
Gusau
Zamfara State

RE: LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

I am directed to introduce Mr Bashir Babangida Kurfi to you for assistance.

Mr Bashir sought and obtained the approval of the Controller General of Corrections to conduct a PhD research work in your Command, specifically, Medium Security Custodial Centre, Gusau.

You are to kindly afford the researcher the necessary assistance needed while ensuring that security is not compromised in the custodial centre of his research.

Thank you

Dr Amos D. Kupan
DCC (PRS)
For Controller General of Corrections