

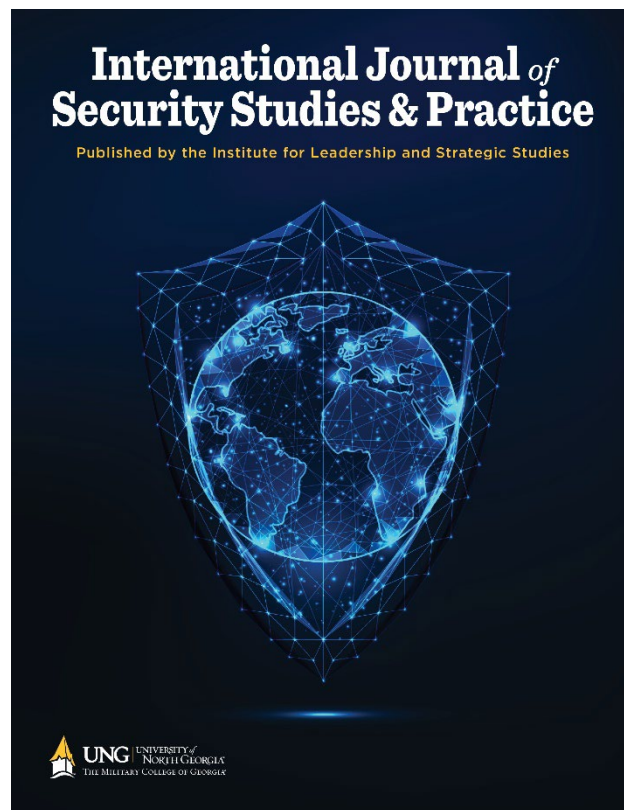
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Geospatial Analysis of Violence, Riot, and Protest in North-Eastern Nigeria

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Abstract

The spate of insecurity challenges has been a great threat to many developing countries in the last two decades, with the increasing rate of violent attacks and the attendant loss of lives and properties. Understanding the spatial pattern of attacks and rate of incidence is a precursor to mapping out strategies for military operations against insurgents. This paper, therefore, analyzed violent attacks, riots, and protests in a purposive sample of six states in northeastern Nigeria. Data for the study were acquired from Armed Conflict Location and Event Data Project (ACLED) portals for a period of twenty years (2001–2020). Data were analyzed using the GIS technique (Nearest Neighborhood Analysis and symbology) on ArcGIS 10.8. The results of analysis show the clustered pattern of violence (at Z-value = - 101.878), Riots (at Z-value of -29.49) and Protest (at Z-value of -18.87) with fatalities of (26, 208); (644); (10) respectively in the area. The study concludes that the insecurity northeast of Nigeria has claimed many lives and is concentrated within a few states. Geospatial technology as applied in this study revealed the pattern of attacks, which is important for strategic operational planning. This study thus identifies geospatial technology application as a required tool to combating insecurity, not only in northeast, but also in the entire country of Nigeria.

Key Words: Violence, Protest, Riot, Fatalities, GIS, Nigeria

Geospatial Analysis of Violence, Riot, and Protest in Northeastern Nigeria

Over the years, various countries of world have been battling challenges of insecurity which have manifested in multiple forms. These include violent attacks from perpetrators like terrorists, bandits, insurgents, herders, and kidnappers; and protests and riots from angry citizens and thugs. Ortiz, Burke, Berrada, and Corte (2013) found there was a steady increase in overall global protests. For instance, from 2006 to mid-2013 a record of 843 protests occurred. Between 2010 and 2013, protests were more dominant in higher-income countries with a record of 304 protests while Latin America and the Caribbean recorded 141 protests, East Asia and the Pacific recorded 83, Sub-Saharan Africa recorded 78, and the Middle East and North Africa region recorded 77 protests. The majority of violent riots (48%) occurred in low-income countries (48% of all riots) as a result of food-price and energy-price spikes in those countries (Ortiz, et al., 2013). Over the past decades, massive public protests and riots in cities of many developing countries have resulted in significant loss of life and widespread destruction of property. Between 1976 and 1992, more than 146 separate incidents of strikes, riots, and demonstrations took place in various developing country cities (Brennan-Galvin, 2002). These, at times, resulted in murder, assault, rape, and sexual abuse (Brennan-Galvin, 2002). The presence of insecurity in any environment leads to the destruction of property, disruption of lives and business activities, and poor economic growth (Edomwonyi-Otu & Edomwonyi-Otu, 2020).

In Africa, Raleigh (2015) traced violence to politics, which occurred more in urban areas than rural areas of Africa. Urban violence was ascribed to the lack of capacity and poor governance found in urban areas of African states. Urban violence includes militia attacks, communal contests, riots, and protests. Differences in ethnicities and regions, especially in urban areas, hinder substantial collective action to oppose the urban marginalization and violence in many African

countries (Raleigh, 2015). The determinants of political protest in the developing world can be traced to a decline in the education system, ethnic dominance, and rebellion (Nkinyangi, 1991; Auvinen, 1996). Sawyer and Korotayev (2021) presented formal education as a two-sided coin that can both minimize and escalate the protests, riots, and violence in a particular region. Education can serve simultaneously as a promoter of peaceful protest (anti-government demonstrations) and as a mitigator of more violent forms of protests (riots). The level of education is particularly felt in countries with different levels of economic development (Sawyer & Korotayev, 2021). In his study, Raleigh (2015) inferred that high incidence of poverty and large slum populations contribute to violence. The persistent issue of police brutality can result in protests, riots, and violence as Njokua, Ahmed, and Bolaji (2020) observed, the persistent issue of police brutality against Blacks in the United States. Protests and riots can be triggered by immediate economic circumstances such as rising food prices, food scarcity, currency devaluation, austerity measures, or political upheavals.

Violence not only destroys physical capital but also discourages foreign direct investment thereby threatening already fragile national economies and even potentially destabilizing governments (Brennan-Galvin, 2002). Ortiz, Burke, and Cortes (2013) attributed the cause of protests, riots, and violence to four things. First, abnormality in economic justice and anti-austerity which comprises issues related to the reform of public services, tax/fiscal justice, wage/labor conditions, inequality, poverty/low standards of living, agrarian/land reform, pension reform, high fuel and energy prices, high food prices, and housing. Second, failure of political representation and the political system consists of a lack of democracy, corporate influence, deregulation and privatization, corruption, failure to receive justice from the legal system, transparency and accountability, surveillance of citizens, and anti-war/military-industrial complex. Third, failure in

global justice. Fourth, denial of rights of people such as ethnic/ indigenous/ racial rights, and rights for the common people. For instance, protests in Chile in late 2019 and early 2020, which lasted for more than thirteen weeks, was a result of income inequality and government response to social unrest (Perkis *et al.*, 2021).

Over the decades, Nigeria has had a superfluity of security challenges ranging from protests, riots, abduction, kidnapping, insurgency, violent crimes, and insecurity in general. The issue of insecurity in Nigeria has been attributed to many factors. Unemployment, for instance, is momentum for frustration and anger, and provides individuals with more time to commit a crime, thereby fueling protests, riots, and violence. Maltreatment from people in power (bad leaders) and the brutality of security agencies could cause a massive protest, riot, and violence. A series of protests have been taking place in Nigeria: One of the recent protests that resulted in riots and violence was the EndSARS protest that was organized against the brutal operation of the Special Anti-Robbery Squad (SARS) section of the Nigeria Police Force (Ojedokun, Ogunyele & Aderinto, 2021). Corruption in Nigeria and the enslavement of citizens by leaders have stimulated Nigeria's youth to assume that the only way to address the maltreatment and brutality is through protest. This was why Nigeria's youth, especially those in the southern part of the country, rose with one voice during the EndSARS protests to demand better living conditions for all Nigerians, and an end to brutalities, oppression, and dehumanization of its citizens (Orabueze et al., 2021).

Moreover, in Nigeria, violence is stimulated when election time is approaching due to the thuggery that is sponsored by political leaders during this period (Edomwonyi-Otu, & Edomwonyi-Otu, 2020). Salihu and Yakubu (2021) observed that "in the absence of enduring party-voter relations in Nigeria, political parties and politicians alike, resort to voting buying, mobilization of political thugs and in other times deployment of state coercive apparatus to

intimidate opponents, all of which culminates into electoral irregularities which have the potency to instigate electoral violence” (p. 137). Osah and Jinmi-Ahisu (2021) found that elections are characterized by spates of violence which have a direct link to media framing in Nigeria. Youth violence poses a significant threat to national security, economic survival, and Nigeria’s unity and regional peace stabilization (Bisina, 2021). The majority of the current violence in Nigeria has been traced to terrorists which have been a threat to significant development in Nigeria by interrupting human rights, displacing residents, inhibiting trade and investment—local and foreign, terrorizing livelihood, and intensifying casualties (Akinyetun, 2017; Ozoigbo, 2019).

Finding a lasting solution to the issues of insecurity, especially protests, riots, and violence, has been of concern to Nigeria. This has made scholars suggest different remedies, and the government to adopt different approaches to curb the insecurity by empowering unemployed youth and dissolving the anti-robbery squad of the Nigeria Police. Temporary employment, unlike permanent, could not solve the issue of insecurity in Nigeria (Edomwonyi-Otu & Edomwonyi-Otu, 2022). Osah and Jinmi-Ahisu (2020) insinuated that the enlightenment of Nigerian voters could stop the electoral violence in Nigeria. Ojedokun, Ogunyele, and Aderinto (2020) proffered that the Nigeria Police Force should develop the protest policing skills of its personnel so that protests could be handled without escalating into riots and violence.

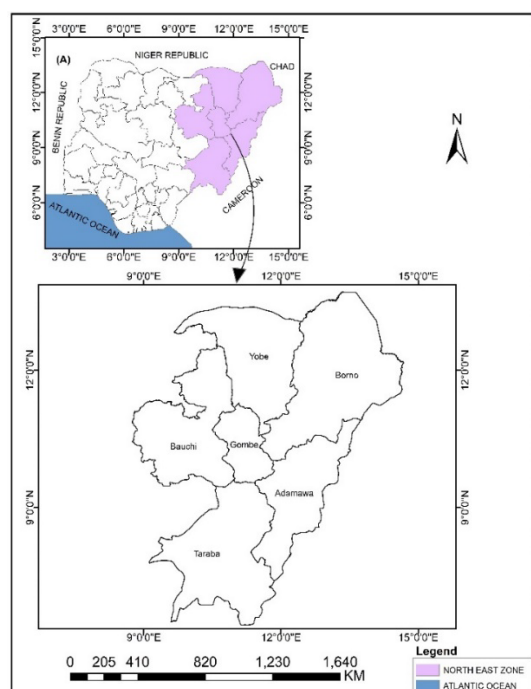
Geospatial technology is therefore a modern tool that is available to give necessary support to military and police operations. Understanding the spatial pattern of protests, riots, and violence is a precursor to mapping out strategies for military operations against insecurity in Nigeria. This paper, therefore, analyzed violent attacks, riots, and protests in northeastern Nigeria comprised of six states where violent attacks have been persistent, and overstretched the capacity and capability of the military and police.

Study Area

The study area covered the six states in the Northeast Geopolitical Zone of Nigeria. These states are Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe. Northeast Geopolitical Zone of Nigeria is located between Latitude $6^{\circ} 25' \text{ N}$ and $13^{\circ} 43' \text{ N}$ of the Equator, and Longitude $3^{\circ} 44' \text{ E}$ and $14^{\circ} 41' \text{ E}$ of the Greenwich Meridian. It shares a boundary with the Republic of Niger in the north; Chad in the northeast, northwest and Northcentral Geopolitical Zone in the west; and Cameroon in the east and south (Figure 1). The Northeast Geopolitical Zone covers an area of $280,419 \text{ km}^2$. The Zone is mainly dominated by the Hausa/Fulani ethnic group with population of 18,984,299 (Adamawa-3,178,950; Bauchi-4,653,066; Borno-4,171,104; Gombe-2,365,040; Taraba-2,294,800; and Yobe-2,321,339) as of 2006 (National Bureau of Statistics, 2010). With an annual population growth of 2.6% (World Bank, 2019), the 2020 estimated population of the geopolitical zone was 27,193,030.

Figure 1

Map of Nigeria Northeast Geopolitical Zone



Method

Data used in this study were sourced from the database of Armed Conflict Location and Event Data Project (ACLED) and Geo-Referenced Infrastructure and Demographic Data for Development (GRID³). Data on violence, riots, and protests in the Northeast Geopolitical Zone of Nigeria from 2001 to 2020 were sourced on March 11, 2021 from the ACLED. These were the complete years with recorded activities of violence, riots, and protests in the Northeast Geopolitical Zone. Shapefiles of the states were downloaded from the database of GRID³. Microsoft Excel and ArcGIS 10.8 were used for data analysis, and Microsoft Excel was used for data sorting and calculation. Shapefiles and data on violence, riots and protests in the Northeast Geopolitical Zone were loaded to ArcGIS 10.8 Platform (ESRI, 2022) for spatial analysis. The nearest neighborhood analysis in ArcGIS 10.8 Platform was adopted to determine the pattern of the attacks by violence, riots, and protests in the Northeast Geopolitical Zone of Nigeria during the periods under review.

Discussion

The results of the analysis are discussed in three sections. These are violence and its various forms, riots, and protest of northeastern Nigeria.

Violence and its Various Forms in the Northeastern Nigeria

Violence has been a persistent threat to security in Nigeria. This has been perpetrated by different groups in different states. Data obtained from ACLED reveals that the major perpetrators of violence in Adamawa are civilians, Fulani pastoralists, Bachama Ethnic Militia, police force, Islamic State Bali Ethnic Militia, Longuda Ethnic Militia, Ukele Ethnic Militia, Waja Ethnic Militia, Boko Haram, Military Force of Nigeria, and unidentified armed groups. In Bauchi, the major actors of violence are Ansaru, Boko Haram, civilians, Fulani Patrolists, Islamic State, Kalo-Kato Militia, Military Forces of Nigeria, Police Force of Nigeria, and unidentified armed groups.

In Borno, the actors are Al-sunna Waj Jamma Militia, All Nigeria People Party, Arab Ethnic Militia, Boko Haram, civilians, Fulani ethnic, Islamic State (West Africa), Military Force, Police Force of Nigeria, and unidentified armed groups.

In Gombe State, the perpetrators of violence are Boko Haram, All Nigeria People Party, civilians, Fulani Ethnic, Islamic State, Military Force of Nigeria, Peoples Democratic Party, and unidentified armed groups. In Taraba State, the major actors are Bachama Ethnic Militia, Boko Haram, Christian Militia, Civilians, Fulani pastoralists, Islamic State (West Africa), Islamic Militia, Jukun Ethnic Militia, Kuteb Ethnic Militia, Mambilla Ethnic Militia, Ndoro Ethnic Militia, Peoples Democratic Party, Shumo Ethnic Militia, Tarok Ethnic Militia, Tiv Ethnic Militia, and Wurkum Ethnic Militia. In Yobe State, the actors of violence are Boko Haram, civilians, Islamic State (West Africa), Military Force, Muslim Militia, and unidentified armed groups. This is an indication that terrorists like Boko Haram are not only perpetrators of violence, even the military and police force at times directly or indirectly engage in violence when both forces are trying to maintain order in the country. Recent EndSARS protests in most parts of Nigeria are a good example. Orabueze et al. (2021) observed that Nigeria's youth rose with one voice during the EndSARS protests to demand better living conditions for all Nigerians, and an end to brutalities, oppression, and dehumanization of its citizens.

This study reveals the spatial pattern of violence in northeast Nigeria. Borno State accounts for the largest number of violence incidents, with 1,588 recorded cases between 2001 and 2020. The other states in the northeast Nigeria recorded violent incidents as follows: 460 in Taraba State, 446 in Adamawa State, 188 in Yobe State, 102 in Bauchi State, and 52 in Gombe State. Note that only three states (Gombe, Bauchi, and Yobe) recorded less than 200 incidents; while two states (Adamawa and Taraba) recorded between 200 and 500 incidences. Borno State, on the other hand,

recorded more than 1,000 incidents. This might be because Borno State is the hotspot of Boko Haram attacks. The results of the nearest neighborhood analysis performed in ArcGIS 10.8 show the clustered pattern of violence (at Z-value = - 101.878) in northeastern Nigeria.

Violence occurs in various forms, but the three major forms of identified in this study were attacks, abductions, and sexual violence. Attacks composed the majority of violent incidents compared to abduction or sexual assault as Adamawa recorded 402 attacks, 42 abductions, and two sexual violence; Bauchi recorded 92 attacks and 10 abductions; Borno recorded 1,488 attacks, 90 abductions, and 10 sexual violence; Gombe recorded 48 attacks and 4 abductions; Taraba recorded 442 attacks and 18 abductions, and Yobe recorded 178 attacks and 10 abductions between 2001 and 2020. This was a revelation that violence in northeast Nigeria consisted of killings more than anything else, as more than 50% of the violence in each of the six states involved fatalities. Fatalities due to violence was as follows: Borno (19,394), Taraba (2,474), Adamawa (2,560), Yobe (1,238), Bauchi (392), and Gombe (150). The most fatalities occurred in those states (Borno, Taraba, and Adamawa) that share boundaries with neighboring countries in the eastern part of Nigeria between 2001 and 2020. Two of those states (Adamawa and Borno) recorded the highest sexual violence incidents. There is little evidence of external influence of violence in Northeastern Nigeria.

Riots in the Northeastern Nigeria

Another common kind of insecurity in northeastern Nigeria was riots. The number of riots in the was 78 in Borno State, 70 in Bauchi State, 59 in Taraba State, 45 in Adamawa State, 24 in Gombe State, and 13 in Yobe State between 2001 and 2020. The results of nearest neighborhood analysis showed the clustered pattern of riots at a Z-value of -29.49 indicating that the riots occurred within limited areas. But not all riots occurred with fatalities as more than 50% of riots

in Bauchi, Borno, Taraba, and Yobe occurred without loss of life. In each of the six states within the years under consideration, fewer riots occurred from 2001 to 2010 than from 2011 to 2020. The increase might have been due to agitation and amalgamation of political parties and the thirst for change in power that was rampant in 2015 (years of general elections that involved more clamoring for change in power in Nigeria). This was similarly observed by Salihu and Yakubu (2021) that

in the absence of enduring party-voter relations in Nigeria, political parties and politicians alike, resort to voting buying, mobilization of political thugs and in other times deployment of state coercive apparatus to intimidate opponents all of which culminates into electoral irregularities which have the potency to instigate electoral violence. (p. 137)

Fatalities in riots were high in Borno State, which accounted for 300 fatalities, a number that was very close to the total fatalities of the other five states: 344 fatalities (Adamawa-116, Bauchi-98, Taraba-76, Gombe-50, and Yobe-4). The implication is that more attention should be concentrated in Borno State if the challenge of insecurity of rioting is to be kept at bay.

Protests in Northeastern Nigeria

Protests as means by which citizens make their feelings and requests known to leaders and government have become a threat to security in Nigeria. At times, protests were hijacked by thugs and security forces, which lead to the loss of life: ACLED recorded the loss of two lives each in Adamawa and Gombe between 2001 and 2020. The protest-related loss of life in Nigeria was not only limited to the northeast part of Nigeria as Lagos State in the southern part of Nigeria recorded a loss of many lives during EndSARS protests. From 2001 to 2020, one hundred and eighty-four protests were recorded in the northeast part of Nigeria in which Adamawa State accounted for the highest figure (49 protests), followed by Bauchi State (42 protests), Borno State (36 protests),

Taraba State (26 protests), and Yobe State (16 protests). As in the case of riots, the year 2001 to 2010 recorded fewer protests than 2011 to 2020. As explained above, 2011 to 2020 contained two giant national elections, and this might be the reason why Adamawa—the state with the major opponent presidential candidate in the 2019 election—had the highest protest incidents in which 48 out of 49 protests occurred from 2011 to 2020. Likewise, in the other five states, more protests ensued from 2011 to 2020 than from 2001 to 2010. The results of nearest neighborhood analysis showed the clustered pattern of Protest at a Z-value of -18.87. This connotes the protests occurred within close areas in northeast Nigeria.

Conclusion

This paper deduced that violence, riots, and protests have been the threats to insecurity in Nigeria, especially the Northeast Geopolitical Zone where (26,208), (644), and (10) lives have been lost to violence, riots and protests, respectively. It has been revealed in this study that the spatial pattern of violence, riots, and protests were clustered especially towards the northeast, and primarily in the Borno State of the Geopolitical Zone. This has overstretched the capacity and capability of the military and police, which at times unintentionally caused other problems while attempting to curb violence, riots, and protests. This could be traced to the application of conventional method in curbing insecurity. Ojedokun, Ogunyele, and Aderinto (2020) proffered that Nigeria Police Forces should develop protest policing skills of its personnel so that protests could be handled without causing riots and violence. Combating the violence, riots, and protests requires a multifaceted approach beyond the traditional analog system that lacks application of

advanced technology. Geospatial technology is therefore a modern tool that is available to give necessary support to military and police operations in this regard. This study helps demonstrate that the application of geospatial technology is a valuable tool to help combat insecurity, not only in northeastern Nigeria, but also in the entire country.

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