

Climate change and terrorism: Exploring Boko Haram's recruitment in Nigeria

Joseph Chukwunonso **Akogwu**¹, Freedom Chukwudi **Onuoha**²,
*Kelechukwu Dennis **Ezeh**¹ & Damian Uzochukwu **Attah**³

¹Department of Political Science, Nnamdi Azikiwe University, Awka

²Department of Political Science, University of Nigeria, Nsukka

³Department of Political Science, University of Abuja

*Corresponding Author: ezechkelechukwudennis@gmail.com

Abstract

The typical threats to human security such as terrorism and insurgency as witnessed in Nigeria have attracted global attention. However, the security implications of climate change as they impact terrorism are of increasing relevance to international peace and security. Since the inception of Boko Haram in Nigeria in 2009, more than 40,000 people have been killed by the terrorist group and over two million displaced from their homes. The group has at various points cashed in on the drastic effects of climate change to recruit foot soldiers, male and female alike, and their operations have continued to have devastating impacts on the security of lives and socio-economic development of Nigeria. This study, therefore, examined the impact of climate change on Boko Haram's recruitment drive in Nigeria. It adopted Delanda's account of assemblages and social complexity to draw the connections between climate change, terrorism and Boko Haram's recruitment in Nigeria. The study relied largely on data from secondary sources collected through the documentary method. It examined how climate change-induced environmental stress such as drought, desertification and shrinkage of Lake Chad create conditions that enable the recruitment of terrorists. It argued that climate change has exacerbated the loss or collapse of rural livelihoods in Nigeria's northeast, heightening affected populations' vulnerability to recruitment by Boko Haram.

Keywords: Climate change, Boko Haram's recruitment, Terrorism, Threat multiplier

Introduction

Scientists, political leaders and security experts have increasingly warned that climate change would likely trigger severe disruptions with ever-widening consequences for national, regional, and global peace and security (Harvey, 2022; United Nations, 2021; The White House, 2021). Scholars contend that it will lead to an increase in political violence, amidst growing natural resources scarcity (Sanders, 2016; Rain, 1999). Accordingly, Huntjens and Nachbar (2015) noted that "climate change and its effects are inextricably linked to complex questions of security" (p. 1). An element of such complex questions of security is the ways it contributes to terrorism.

Though climate change does not necessarily create terrorism, its aftermaths have directly impacted the activities of terror groups. A report by the Planetary Security Initiative noted that the high levels of extreme poverty and food crises caused by rapid climate change have created a vacuum that transnationally organised crime networks, terrorist organisations and a variety of other violent non-state actors have capitalised on (OCHA, 2021). Indeed, the depletion of natural resources as a result of climate change-induced global warming, as well as human exploitations

and competition over increasingly scarce resources have amplified recruitment grounds for terrorist groups across the globe. As noted by the United Nations Office on Drugs and Crime (UNODC), the relationship between resource competition and civil conflict is well-established in regions like the Lake Chad Basin (UNODC, 2021). Arcanjo (2019) further observed that climate change adds a complicating layer in a region where underdevelopment, endemic poverty, widespread criminality, and violence already make life so fragile.

According to the United Nations Environmental Programme, Africa, with its hot temperatures and wide zones of semi-arid and arid regions, will be the worst hit by climate change. In fact, the continent, according to the United Nations Intergovernmental Panel on Climate Change (IPCC), is one of the most fragile and least resilient to climate change, due to its low adaptive capacity (IPCC, 2007). In most African countries such as Nigeria where adaptation mechanisms are weak and uncoordinated, citizens are acutely vulnerable to human security challenges such as water scarcity, food insecurity, and natural hazards. An ND-Gain Index report ranks Nigeria the 58th most vulnerable and 10th least ready to the adaptation to

climate variations (ND-GAIN Index, 2018). The northern part of Nigeria appears to be the worst hit by climate change. The region, for instance, loses an estimated 1,350 square miles to desertification every year (Werz & Conley, 2012; FAO, 2010).

Amidst this harsh environmental condition, Nigeria's northeast zone remains the epicentre of the Boko Haram insurgency which has lasted for over 12 years. A report by the United Nations Development Program (UNDP) states that since 2009 the Boko Haram insurgency has caused the deaths of more than 300,000 people, the displacement of over two million people and an overall loss to the country of around \$27.8 billion (UNDP, 2021a). Consequently, there is growing literature on Boko Haram (see among several others, Adesoji, 2011; Onuoha, 2014a; Kassim, 2015; Akogwu & Uzodigwe, 2020; Ugwueze et al., 2021; Ike, 2022). Much of the extant literature explored the group's historical background, operational tactics, ideological underpinning, regional activities, and counterinsurgency operations of affected states. Very few studies have focused on the group's recruitment strategies (e.g., Ewi & Salifu, 2017; Onuoha, 2016; Mercy Corps, 2016; Zenn & Pearson, 2014). What is missing,

however, is the consideration of the role of climate change in enhancing Boko Haram's recruitment drive. In other words, the intricate linkages between climatic factors and Boko Haram's recruitment of vulnerable people in Nigeria's northeast have been underexplored in the existing studies.

Meanwhile, studies have noted that the impact of climate change around the Lake Chad contributes to resource scarcities (e.g., Mbaye & Signé, 2022; Nduka, 2019; David et al., 2015). For instance, climate-related challenges like erratic rainfalls, droughts, and desert encroachment, among others, in the northeast region negatively affect the sustainability of the livelihoods of the residents who are predominantly dependent on agriculture (Nagarajan, 2018). In addition, climate change has put increased strain on the economic means of livelihoods and food production of the people, resulting in low social outcomes and food insecurity in the Lake Chad region, as well as creating an environment propitious to terrorist recruitment. The result is that groups such as Boko Haram target some vulnerable populations with material or financial inducements (Mercy Corps, 2016).

This paper, therefore, explored how desertification, food insecurity, and drought are exacerbated by climate change in Nigeria in ways that enable the Boko Haram terrorists to recruit from the affected population. The paper is structured under six sub-headings: first, the introduction, second, the methodology, third, conceptual issues, namely clarification and contextualisation of the ideas of climate change, terrorism and recruitment, fourth, the theoretical framework, fifth, the role of climate change in fostering Boko Haram's recruitment in northeast Nigeria, and the last section, conclusion and recommendations.

Methodology

With respect to data collection, the study relied on the documentary method, focusing basically on secondary sources like newspaper articles, journal articles, news outlets, official publications and information from the Managing Exits from Armed Conflict's (MEAC) local research survey of community leaders like Bulamas, Lawans, camp leaders/chairmen, district/ward heads, and women leaders predominantly in the Maiduguri Metropolitan City (MMC) and Konduga areas of Borno State between November 2020 and February 2021.

Conceptual and contextual issues

Climate Change

Climate change has over the years, attracted wide usage from governments, agencies, academia, civil society groups, the media, international organizations and non-governmental organizations. In the simplest sense, climate change refers to a change in the climatic condition over time, as a result of either or both natural variability and anthropogenic factors.

Article 1 of the United Nations Framework Convention on Climate Change (UNFCCC, 1992) defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which in addition to natural climate variability, is observed over comparable periods". Climate change has often been called the single biggest challenge for humanity in the coming centuries (Huntjens & Nachbar, 2015).

Though the evidence of climate change is irrefutable, there are lots of factors responsible for its occurrence. There is a large scientific consensus that human activities such as burning of fossil fuels and constant ways of using the land, are among the leading causes of climate change. In its latest report, the IPCC stated that human activity is the

principal cause of global warming. Climate change is mainly caused by increasing concentrations of greenhouse gas (GHG) in the atmosphere. The GHG includes any gas in the atmosphere that is capable, as a result of its particular molecular structure, of absorbing infrared radiation or heat. They are called GHG because they display effects similar to those in a 'greenhouse'. The glass in a 'greenhouse' allows the sunlight to pass through but traps the heat formed and prevents it from escaping, thereby causing a rise in temperature (Onuoha & Ezirim, 2010).

The gas responsible for the most warming effect is carbon dioxide, also called CO₂. Other important GHG include water vapor (H₂Ov), chlorofluorocarbons, methane, nitrous oxide, ozone, and halocarbons – more commonly associated with the ozone layer and ultraviolet radiation released from landfills, as well as agriculture and the loss of plants that would otherwise store CO₂ (United States Environmental Protection Agency, 2019). According to Climate Watch (2022), developed countries are responsible for nearly 80% of all human-related CO₂ emissions between 1850 and 2011. The climate impacts which confront the world are a result of over-exploitation and abuse of the planet by a small group of

now-rich countries, which together account for only around 14 percent of the current global population. Further, more than half of these historical emissions occurred in the last 30 years. In terms of industrial production, the three largest emitters of CO₂ today – accounting for more than half of the global total – are China, the US, and India. Available data indicate that about 60% of GHG emissions come from just 10 countries, while the 100 least-emitting countries contributed less than 3%. As of 2022, 10% of the richest people on the planet are responsible for nearly half of all carbon emissions (Ghosh, 2022).

Due to these emissions, as well as changes in agriculture, land use, and socioeconomic/industrial activities, atmospheric GHG concentrations have risen sharply. These GHGs trap the heat in the atmosphere by preventing terrestrial radiation from escaping into space; thereby continuously warming the atmosphere. As more GHGs are trapped in the atmosphere, it leads to the increasing warming of the globe, thereby resulting in different climate events in different places, such as higher average surface and ocean temperatures, more rapid evaporation and rainfall, more variability and severity in floods and droughts, rising sea levels, an increased frequency and

intensity of extreme weather events, and an extended range of tropical diseases (Melinda, 2005).

African nations continue to hold the unenviable position of being disproportionately vulnerable to climate change. Although the continent accounts for the smallest share of GHG emissions – only 3.8%, it is already heating faster than the rest of the world (Kadiri, 2022). The temperature rise is placing huge burdens on agriculture and biodiversity and leading to more extreme events such as frequent and more severe droughts, erratic rainfall, heatwaves and flooding of coastal cities. For instance, climate change has fuelled massive environmental and humanitarian crises around the Lake Chad which straddles Nigeria, Niger, Chad and Cameroon. Consequently, Climate change is being repeatedly addressed as a threat multiplier for peace and security given the way it generates or aggravates human security risks (Werrell & Femia, 2015). Hence, the United Nations Secretary General as quoted by Oudraat and Brown (2022) argued that “climate change has a multiplier effect and is an aggravating factor for instability, conflict and terrorism” (Oudraat & Brown, 2022, para. 25).

Terrorism

Over the years, terrorism has been variously defined by scholars, regional organisations and national authorities amongst others. As of 1994, Simon Jeffrey identified no fewer than 212 different definitions of terrorism in use, with 90 of them used by governments and other institutions. A few examples of these definitions would suffice at this point. Onuoha (2017) defined terrorism as “the premeditated use or threat of use of violence by any of the actors in an asymmetric conflict to cause fear, destruction or death, especially against unarmed targets, property or infrastructure in a state, intended to compel those in authority to respond to the demands and expectations of the individual or group behind such violent acts” (p. 3). For Ganor (2002), terrorism is “the deliberate use or threat to use violence against civilians to attain political, ideological, or religious aims” (p. 288). It is also seen as the premeditated, threatened or actual use of force or violence to attain a political goal through fear, coercion, or intimidation (Sandler et al., 1983).

Literature on terrorism is surfeited with various classifications of the term. However, the commonest classification refers to two main varieties of terrorism:

domestic terrorism and international/transnational terrorism. Domestic terrorism refers to terrorist attack(s) that is home-grown and home-directed, with consequences for just the affected state, its institutions, citizens, property, and policies. For domestic terrorism, the perpetrators, victims, and audience are all from the host country. International terrorism comprises acts – instigated by a third party – that have clear consequences that go beyond the boundaries of the state that the actual attack took place (Okumu & Botha, 2009).

Going by their geo-operational reach, some terrorist groups can be classified as *global*, *regional* and *local*. Renowned terrorist organisations such as Al Qaeda Network (AQN) and Islamic State in Iraq and Syria (ISIS) or Daesh are perfect examples of global terrorist organisations. The second category are those that have a stronghold in a particular state but with a proven capacity to plan and launch transnational attacks within a geographic region. Examples will include the Al Shabaab, Al Qaeda in the Land of Islamic Maghreb (AQIM) Al Qaeda in the Arabian Peninsula (AQAP), and Boko Haram with its splinter faction the Islamic State in West Africa Province (ISWAP). The last category are those that

are largely domestic in operational focus and reach. A good example is the Ansar Beit al-Maqdis (ABM's) which was founded in 2011 (Onuoha, 2017).

Irrespective of whether the group is classified as global, regional or local in focus, or described as domestic terrorism or international terrorism, one commonality is the use of violence as a weapon for expressing grievances or discontent over the status quo. The motive behind it could be politically, religiously, culturally, psychologically, economically, ideologically or racially motivated. Studies however have shown that for terrorist organisations to stay relevant and operate effectively, they need a regular supply of recruits (Ranstorp, 2006; Onuoha, 2014a; Onuoha, 2014b; Mentan, 2017; Rufai, 2017).

Recruitment

There are fundamentally two pathways terrorist organisations or Violent Extremist Organisations (VEOs) gain membership, namely enlistment and recruitment. However, debate exists among scholars about the nature and extent of terrorist recruitment, particularly militant jihadism (Borum, 2011). Experts like Sageman posit that there is no recruitment per se to militant

jihadism, arguing instead that "enlistment" (because people want to join) is the mechanism by which new militants emerge. Thus, he advocates using the terms "joining" the jihad or "mobilization," as opposed to recruitment. Sageman maintains that nearly 90% of jihadists "join the jihad" through friendship and kinship (Sageman, 2004, p.115).

One is persuaded to disagree with the point about enlistment as the only pathway to membership of jihadist organisations. That terrorist organisations have members who joined out of their own volition does not foreclose the fact that such groups take deliberate or coercive efforts to get people to join them. Direct coercion into joining terrorist organisations generally occurs through abductions or forced conscription and has been well documented (Onuoha, 2020). For example, on 11 May 2015, ISIS militants in charge of recruitment entered various high schools in the Hay al-Tamin region of eastern Mosul, Iraq, and imposed compulsory recruitment of the children, refusing them the right to decline (Benotman & Malik, 2016). Also, "Boko Haram terrorists in Nigeria are known to forcefully recruit from some detainees freed during jail breaks staged by them"

(Onuoha, 2016, p. 192).

Cognisant of these realities, enlistment is defined here as the act by a person or group of persons to wilfully seek out and join the membership of an organisation or by subscription indicating membership and incorporation in the group.

Recruitment on the other hand entails "the process by which an individual is identified, chosen and subsequently integrated into a group to assist the group in carrying out tasks necessary for its survival, operations or accomplishment of some objectives" (Onuoha, 2020, p. 17). What makes enlistment unique is that it is generally voluntary; the individual in question sought and chose to be part of the group. The reason for enlistment could differ from one individual to the other. Concerning terrorist organisations, an individual could enlist into a group because of his or her belief in the group's ideology or willingly join to avenge a grievance – such as the killing of family members or loved ones; or to eke a living and escape poverty, amongst others. The step and actions to connect with the group originated from the individual. But in recruitment, the step and actions are taken by a member of the group to lure the targeted individual to join the group (Onuoha, 2020).

The imperatives of survival and expansion demand that terrorist groups seek new members, by taking actions that influence or compel targets to join them. The findings of a survey in Nigeria's North Central states of Benue and Kogi point to the pathways individuals take to join terrorist groups – enlistment and recruitment. More than half of the respondents (56%) mentioned that youth usually are thought to voluntarily join (or enlist into) extremist groups, indicating that the move to join the group was initiated by the said individual. Fewer respondents (44%) reported that "youths are recruited into extremist groups", suggesting that the act of joining the group was initiated by someone else who is most likely the group's member (Onuoha, 2018).

People join terrorist organisations for quite a number of reasons. Some join for socio-economic reasons, while others join due to personal grievances or frustration. Yet others could enlist due to religious beliefs, and others could be forced to join. Often, the socio-economic, cultural, religious, and political environment of a local community provides the broader context of recruitment or enlistment. Findings of a survey by the African Centre for the Study and Research on Terrorism (ACSRT) corroborate this argument. The

findings demonstrate that the majority of the respondents (69%) representing 222 out of a total of 321 participants believed that poverty, marginalisation and exclusion are predicative conditions for violent extremism and terrorism in Africa. The survey further noted that although political factors such as governance deficit, state failure, lack of trust between the government and the citizenry and other grievances play a significant role in the escalation and development of violent extremism, social and psychological factors concerning the group and individual identity have also emerged as driving factors (ACSRT, 2018).

The implication of the above scenarios is that terrorist recruitment requires an alignment of situational and individual factors. The range of individuals who get enlisted into terrorist organisations could be as diverse as the motivational factors or the strategies involved in the recruitment process. Climate change contributes to shaping the situational (socio-economic and environmental) factors that enable terrorist recruitment (Onuoha, 2020, p. 21). By exacerbating poverty, climate change heightens the vulnerability of the affected population to extremist recruitment, especially when such groups adopt the enticement method in getting people to join them.

Theoretical framework

In establishing the linkage between climate change and terrorism in relation to Boko Haram recruitment in Nigeria, this study is anchored on Manuel Delanda's Assemblage and Social Complexity Theory. Assemblage Theory as propounded by Delanda (2006) argues that an assemblage is made up of the specific interaction of components and the combination of these components is how the agency is expressed. According to McArthur (2016), the components that make up an assemblage can recombine with other components to form a new or different assemblage; thus, change continues to occur. Some of the major assumptions of this theory is that assemblages should be viewed as a multiscale; the micro is just as significant as the macro and they occur at every level (Delanda, 2011).

With respect to this study, the assemblages identified are the effects of climate change which include food scarcity, desertification, and recession of water in Nigeria and the Lake Chad region. These climatic challenges trigger or aggravate resource competition in the northeast region. In addition, these climate change effects have contributed to a decline in the living standard, productivity and earnings of the affected

population. As a result, people are readily available for recruitment by terrorist groups as they seek alternative means of survival (Khalid, 2021). This provides an opportunity that terrorist groups exploit to recruit members, including child soldiers, with false promises of providing them with a better livelihood.

Climate change, rural livelihoods and Boko Haram recruitment in Nigeria

Boko Haram, formerly known as the Jama'atuAhlis Sunna Lidda'awatiwal-Jihad [JAS], has wreaked havoc in Nigeria since 2009 when its campaign of violence began in earnest (Warner & Matfess, 2017). Since 2013, however, the group has expanded its regional violent footprint, attacking all four riparian states of Lake Chad – Cameroon, Chad, Niger and Nigeria. The group was designated a terrorist organisation by the US in 2013 (BBC NEWS, 2016). In 2015, Boko Haram became the deadliest terrorist group in the world, outstripping the Islamic State, al-Qaida, al-Shabaab, and the Fuerzas Armadas Revolutionaries de Colombia (FARC) in terms of the total number of people killed within a calendar year (Global Terrorism index, 2015). According to Mohanty et al. (2021), more than 37,500 people have been killed in the Boko Haram conflict between May 2011 and July 2020.

The group splintered in 2016, with the Islamic State recognising the breakaway faction, which became the ISWAP led by Abu Musab al-Barnawi. This split was due largely to differences between other Boko Haram leaders and Abubakar Shekau, who was subsequently killed during a clash between his faction and ISWAP in May 2021 (Hoinathy & Tayo, 2022). However, ISWAP's leadership has frequently changed in the intervening years due to an internal feud that has ended in bloody revolts, and successful decapitation operations by the Nigerian military targeting its leadership more recently. But Boko Haram (both JAS and ISWAP) has adapted its strategy in response to national and regional military interventions. For more than a decade, the group's two factions have wreaked havoc, depriving communities of goods and productive opportunities, and driving millions from their homes (Hoinathy & Tayo, 2022). Since 2009, more than 49 million people have been deprived of attaining their livelihoods in fishing, livestock rearing and agriculture in the Lake Chad area (Mohanty et al., 2021).

The resilience of the group in the face of sustained military operations has raised serious concerns within policy, academic and security circles. Despite repeated killing and arrest of hundreds of its

members by security forces, the group continues to boast of a large number of fighters. It is important to note that as an organisation with over 6000 active fighters and transnational reach, Boko Haram has recruited individuals from Cameroun, Chad, Niger, Mali, and Libya (Maza, Koldas & Aksit, 2020). This situation has underpinned concerns about how the group has been able to replenish its membership. While few studies have revealed the diverse methods and tactics the group deploys in recruiting new members (e.g., Maza, Koldas & Aksit, 2020; Onuoha 2016, Mercy Corps 2016), very little analysis has focused on the role of climate change in the overall context of Boko Haram recruitment. Yet, challenges stemming from climate change have been noted to invariably contribute to the prevalence and persistence of global terrorism (Ruttinger, 2016; Africa Climate Change Environment and Security [ACCES], 2018; Swedish International Development Agency [SIDA], 2018; Lytle, 2017; Kholer et al., 2019; Craig, 2019).

In 2007, for instance, the United Nations Security Council held its first debate on the potential impact of climate change on global security. In September 2009, the United Nations Secretary-General presented the first major UN report on

Climate Change and its Possible Security Implications (A/64/350) to the General Assembly. Ten years later, the Security Council Resolution 2349 of March 2017 observed that the predations of the Boko Haram terrorist group in the Lake Chad area are connected to the adverse effects of climate change and ecological changes which have impacted the region's stability, through water scarcity, drought, desertification, land degradation, and food insecurity (United Nations, 2007).

West Africa, for instance, is a known climate-change hotspot, with climate change likely to lessen crop yields and production. For instance, the West African Sahel climate profile report (2018) observed that Nigeria was ranked 145 index, 58th most vulnerable and 22nd least ready for climate change adaptation and mitigation. This implies that inadequate attention and non-implementation of previous recommendations of some climate policy reports like that of the United Nations Environment Program Report/Global Environment Facility (UNEP/GEF, 1997) reveal Nigeria's limited preparedness to tackle the adverse effects posed by climate change.

It is not surprising that the Northern region of Nigeria, especially the northeast zone, has been severely impacted by climate change. This is very well evident in the rate of desertification, desert encroachment and continued diminution of the Lake Chad region. As an example, 50% and 75% of the landmass in 11 Northern Nigerian states that account for about 35% of the country's total land area, are affected by desertification (Azare et al., 2020). The states in the northeast, particularly Adamawa, Borno, and Yobe, which are predominantly agrarian states have suffered both the impact of the climate challenges and the threat of Boko Haram. The worst-hit states by the Boko Haram insurgency – Adamawa, Borno and Yobe – are equally among the severely (Borno and Yobe) or moderately (Adamawa) affected areas by desertification. The Data in table 1 reveal that other affected areas include Bauchi, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, and Zamfara states. These states affected have a population of over 40 million people and are home to over 95% of the livestock population in Nigeria, playing a major role in the production of food for domestic consumption and export crops (Erunke, 2021).

Table 1:

Desertification frontline areas in Northern Nigeria

Areas	Land area		Population		Desertification
	(Km ²)	% of Nigeria	Number	Density (km ²)	
Sokoto	27,825	3.06	3,702,676	133	Severe
Zamfara	37,931	4.17	3,278,873	86	Severe
Katsina	23,561	2.59	5,801,584	246	Severe
Jigawa	23,287	2.56	4,361,002	187	Severe
Kano	20,280	2.23	9,401,286	464	Moderate
Kebbi	36,985	4.06	3,256,541	88	Severe
Kaduna	42,481	4.67	6,113,503	144	Moderate
Borno	72,609	7.98	4,171,104	57	Severe
Yobe	46,609	5.12	2,321,339	50	Severe
Bauchi	41,119	4.52	4,653,066	113	Moderate
Gombe	17,100	1.88	2,365,040	138	Moderate
Adamawa	38,700	4.25	3,178,950	82	Moderate
Taraba	56,282	6.19	2,294,800	41	Moderate
Niger	68,925	7.58	3,954,772	57	Moderate
Plateau	27,147	2.98	3,206,531	118	Moderate
Total	580,841	63.83	62,061,067	107	

Reprinted from Olagunju (2015)

Desertification and drought exacerbated by climate change have posed enormous challenges to livelihood sustainability whilst raising the risks of terrorist recruitment. The natural consequences of desertification are dwindling farmlands, scorching heat, drought and general water

scarcity. Along the border with the Niger Republic, Nigerian farmers complain that crop yields have been reduced by as much as 80%. Farmlands that used to produce over ten bundles of millet now can barely produce two due to ravaging desertification that leaves a trail of poverty in its path.

Consequently, most of the farmers in these areas who are predominantly youths are despondent and frustrated. As a result, most of them abandon farming for alternative activities (Nett & Ruttinger, 2016).

Besides desertification, the progressive diminution of the Lake Chad adds to productivity losses and livelihood collapse in the northeast region. Lake Chad was once Africa's largest water reservoir in the Sahel region, covering an area of about 26,000 square kilometres. However, the lake has shrunk by 90% since the 1960s, due to climate change, increase in population and unplanned irrigation. The lake's

water resources have diminished by 70% within the past 50 years. However, the population depending on the lake for their livelihoods has increased from 3.5 million in 1960 to over 45 million inhabitants in 2020 (United Nations Secretary-General, 2021). Climate change further exacerbates the challenges faced by the predominantly rural population around Lake Chad, most of whom rely on farming, fishing, and raising livestock. Between 80 and 90% of the livelihoods of the Lake Chad population depend on agriculture, particularly, livestock and fisheries. Fishing has been severely constrained by the loss of productive assets and the decline in the water level in the lake. The result is that many affected families have become poorer, and disillusioned youths have become increasingly vulnerable to recruitment by Boko Haram. Conceivably, the revelation in 2019 that Boko Haram pays as much as \$3000 daily to its fighters further attracts and motivates individuals, driven by the desire for better economic welfare, to join the organisation (Maza, Koldas & Aksit, 2020).

The diminution of the Lake Chad attracted the attention of Governments of the Lake Chad Basin Countries in

February 2018 following the Abuja Declaration of global awareness on the dramatic shrinkage of the Lake Chad, which highlighted the expected impact of the shrinkage on the sustainability of livelihoods, security, and development efforts in the region. The declaration essentially summarised the potentialities of climate change in exacerbating conflicts and terrorism in the Lake Chad region, especially in Nigeria. President Muhammadu Buhari in the declaration, as quoted by the United Nations Office on Drugs and Crime (UNODC), noted that "the 'oasis in the desert is just a desert now. Farmers and herdsmen struggle over the little water left; Herdsmen migrate in search of greener pastures resulting in conflicts; and youths are joining terrorist groups because of lack of jobs and difficult economic conditions"(UNODC, 2018, para. 11).

As noted by Nagarajan et al. (2018), irregular rainfall patterns in the Lake Chad Basin partly due to climate change have created some negative socio-economic shifts that have consequently enhanced Boko Haram's recruitment in Nigeria. This is because poor agricultural yields enable Boko Haram to recruit young men from poverty-stricken

families. Studies have shown that when natural and human activities drastically alter the climate, different livelihoods such as farming, pastoralism and fishery are affected by the resultant severe climatic conditions, making their practitioners vulnerable to terrorist recruitment (Prager & Samson, 2019; Olukoya, 2019). Faced with the bare imperatives of survival, communities and families impacted by the decline or loss of livelihoods resulting from climate change have become susceptible to Boko Haram recruitment antics. According to the United Nations Development Program (UNDP), some family members in Nigeria's northeast whose incomes, farms livestock and other livelihoods have been severely threatened and disrupted by climate change, have ended up getting recruited, indoctrinated and radicalised by Boko Haram, heightening instability and insecurity in the region (UNDP, 2021b).

Furthermore, severe drought as a result of climatic weather shifts raises the tendency of water systems such as reservoirs to continue to dry up. As global freshwater supplies become increasingly scarce, extremist groups are stepping up attacks and

manipulating water supply as a strategic tactic of coercion (Somers, 2019). Also, irregular rain and flooding from heavy rainfalls have led to massive food insecurity in northeast Nigeria. Since the 1970s, the number of rainy days in Northeast Nigeria has decreased by 53% while the southward desertification of the Sahara by 1-10km per year is reducing the availability of arable land in the region (Akpodiogaga & Odjugo, 2010). Food insecurity is a huge threat multiplier that has a severe consequence on peace and security in the northeast region of Nigeria. Other climate factors like excessive sun and climate-induced crop diseases are common in the region. The UN refugee agency as noted by Darby (2017) estimates that seven million people in northeast Nigeria face food insecurity. According to Prager and Samson:

Mohammed Haruna, a firewood seller, testifies about the changes in the region. He is from the Kare-Kare tribe, traditionally engaged in agriculture, especially the cultivation of millet, maize, and groundnuts, as well as stockbreeding. However, the yields are reducing from year to year. In Haruna's

own words, “Many of us have moved to other regions that are more fertile, while many of us have also given up.” These drastic effects of climate in the region multiply threats especially as they pertain to the recruitment of Boko Haram fighters in Nigeria (Prager & Samson, 2019, para. 19).

Regarding the threat of climate change to food security in the northeast, Nwokeoma and Amadi (2017) observed that within the last nine years, farmers in the agrarian communities in Biu, Konduga, Askari/Uba, and Imburu of Adamawa have experienced constant irregularity of the weather, namely drought and shortage of rainfall, desert encroachment/desertification/loss of farmlands, dry/scorching hotness and increased temperature and the progressive shrinking of the Lake Chad resulting to food insecurity in the region. Due to the loss of farmlands to desertification, crops to flooding, and other climate-induced displacements, most of the youths have abandoned farming and migrated to other regions in search of better livelihoods. Some other youths who stayed behind see Boko Haram as attractive because they give or entice them with money or food.

In communities they control, the terrorist group has equally enticed young people to join by giving them lands to cultivate. Corroborating this, Sigelmann (2019) stated that while the decision to join a terrorist organisation is personal and complex, the deteriorating conditions in the Lake Chad basin and the effects of climate change worsen people’s core vulnerability. Without livelihood alternatives, individuals may turn towards negative coping mechanisms

like Boko Haram membership. The group has enticed vulnerable children with money to serve as spies and informants for them. In 2013, for instance, some children arrested by security agents revealed how Boko Haram operatives paid each of them ₦5,000 to set schools ablaze in Yobe and Borno States, and to spy on soldiers (Onuoha, 2014).

Both male and female residents of northeast Nigeria are vulnerable to recruitment into Boko Haram. Olukoya (2019) noted that “more than 50% of the female population of northeast Nigeria are farmers and when either them or their husbands lose their livelihoods following increasing aridity

caused by climate change, scores become vulnerable to Boko Haram recruitment and radicalization” (p. 1). Also, Akogwu and Uzodigwe (2020) posited that “the consequences of climate change are so devastating on women and girls in northeast Nigeria, female farmers fight against harvest shortages and loss of means of livelihoods” (p. 23). When mothers and daughters in the northeast lose farmlands and agricultural produce to climate change-related factors like desert encroachment, excessive heat, irregular rainfalls, drought, etc, they are rendered redundant and can be recruited by the Boko Haram terrorist.

Although Boko Haram has its stronghold in the northeastern part of Nigeria, its operational reach, in terms of attack and recruitment, cut across Nigeria, Niger, Chad and Cameroon. Cameroon is an extremely impoverished country, with a poverty rate of 71% as of 2014. More than half of Cameroon’s impoverished population live in the northern region where the country is most susceptible to Boko Haram attacks (Idika-Kalu, 2020). It has been noted that “Boko Haram takes advantage of Northern Cameroon’s poverty, convincing the youth to join the group

using religious and financial incentives” (Ding, 2021, para.3). In 2015, the group was reportedly promising young people in the far north of Cameroon between 300,000 and 400,000 CFA (US\$600 – US\$800) each month to join their cause (Nfor, 2015). From the above explanations, one can infer that the adverse effect of climate change has affected livelihoods such as farm produce, water and migration. Climate change has exacerbated livelihood and productivity losses in the Lake Chad area, heightening the affected population's vulnerability to recruitment by Boko Haram, partly through enticement and in some other cases, coercion.

Conclusion and Recommendations

The severe impacts of climate change in Nigeria, predominantly experienced in the northeast region of the country, have greatly aided the Boko Haram Islamic sect in their recruitment of new members and their eventual deployment as bombers, suicide bombers and facilitators. Since the inception of the sect’s violence and criminal activities in Nigeria, most especially in the Northeast, climate change-induced factors have greatly been implicated in the sect’s successful

recruitment and eventual radicalisation of members. Males and females alike have been lured into the group to escape the economic hardship precipitated by climate change in the region.

To adequately mitigate the challenge of Boko Haram's recruitment as enhanced by climate change-induced factors in northeast Nigeria, this study recommends that the Federal Government of Nigeria and the state governments in the northeastern region should intensify efforts at safeguarding the available environmental resources in the northeast region, namely protecting available forests, promoting healthy agricultural practices and investing hugely in the conservation of the Lake Chad. This is critical to curbing violent extremism in the region and will help in rehabilitating the region which for years has been increasingly ravaged by the Boko Haram insurgents. There is also the need for the respective governments and authorities to develop and invest in renewable energy sources, which will not only help in preserving the environment, but in mitigating the challenges stemming from climate change in northeast Nigeria and the entire nation. Renewable energy

sources have been greatly utilised by advanced capitalist countries to safeguard their natural environment. The Nigerian government should prioritise investment in renewable energy sources as well as enlighten its citizens on the benefits of using renewable energy sources for their household needs.

In addition, the government should make loans and grants available to farmers whose farmlands have been destroyed as a result of climate change. This will make them less vulnerable to recruitment by criminal and extremist groups such as Boko Haram. Also, rural dwellers, especially farmers and pastoralists in northeastern Nigeria should be properly educated on conventional farming practices such as climate-friendly agricultural activities and avoiding the use of harmful fertilisers/chemicals on farmlands and crops. This will ensure that natural resources in the region are not depleted or destroyed through farmers' activities. Finally, poverty alleviation programs and schemes should be implemented across the country and the government should ensure that all persons affected and displaced by climate change benefit from these programs and schemes.

ORCID

Joseph Chukwunonso **Akogwu**: <https://orcid.org/0009-0004-9531-2863>

Freedom Chukwudi **Onuoha**: <https://orcid.org/0000-0002-4321-1065>

Kelechukwu Dennis **Ezeh**: <https://orcid.org/0000-0002-6940-4738>

Damian Uzochukwu **Attah**: <https://orcid.org/0009-0004-8689-2368>

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