



Jihadist Groups and Water's Weaponization: Environmental Terrorism in Lake Chad Basin¹

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Abstract:

Regardless of whether environmental terrorism is considered a tool or a target for vital natural resources, its objective remains to achieve political or ideological ends. This is why jihadist groups have focused their activities on controlling water resources, causing a security dilemma, particularly in the Lake Chad Basin region (LCB). Firstly, this geographical area has been significantly affected by global warming and intensified conflicts, creating an insecure context for water scarcity. Secondly, this is evident in the control of water supplies for military purposes by extremist and jihadist factions, namely groups affiliated with al-Qaeda and Islamic State, particularly Boko Haram, which seize water reserves to limit access for local populations and use them to strengthen their political power. The research was underpinned by case study methodology, providing a comprehensive analysis of the complex issues surrounding environmental terrorism and the militarisation of water resources by extremist groups in the Lake Chad Basin. Consequently, the countries of the Lake Chad Basin Commission (LCBC) must reorient their anti-terrorism cooperation policies in the region towards an integrated approach to water security to be able to tackle the transnationalisation of environmental terrorism employed as a weapon by jihadists and to recognise that peace is achieved through water management, rather than military force.

Keywords:

Water's
Weaponization;
Jihadist Groups;
Environmental
Terrorism; Hydro-
Terrorism; Lake Chad
Basin (LCB); Lake Chad
Basin Commission
(LCBC).

¹ DOI: 10.12700/jceas.2026.6.2.458

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1. Introduction

Environmental terrorism, also known as 'ecological terrorism,'³ has essentially evolved into a complex security dilemma with multiple dimensions. Indeed, from a legal perspective, harming the environment is considered 'terrorism' when it violates national and international environmental protection rules, in times of peace or war, and only if the violent act or terrorist threat has key characteristics linked to clear objectives and targets a symbolically significant target (Schwartz, 1998). With the emergence of undeniable climate change, environmental terrorism is causing unprecedented levels of human, national, and regional insecurity. The use of resources as weapons in armed conflicts, particularly water supplies in vulnerable societies, is triggering global challenges (Kohler, 2019). In line with those concerns, terrorist organisations like the Islamic State (ISIS) and Al-Qaeda, for instance, have already demonstrated their ability to take advantage of environmental degradation by using water resources as instruments to control the populace. Thus, another example of environmental terrorism is the strategies employed by ISIS and Al-Qaeda branches in Africa, where they target the environment to create fear for political, ideological, and religious objectives. The destruction of the environment through terror attacks has been exploited by Islamist terrorist organisations (ITOs) to instil panic and achieve organisational goals (Spadaro, 2020). Contrary to Islamic principles, environmental terrorism has been used by the main jihadist groups active in the Lake Chad region, with the militarisation of water as a weapon of warfare, creating a lasting threat of terror and regional insecurity.

The study is based on answering the following core research question:

How do non-state actors, namely violent extremist movements (VEMs) and jihadist groups, exploit environmental terrorism by using water as a weapon to strengthen their hydro hegemony and consolidate their dominance in the Lake Chad basin?

To address the central question, the study poses a series of sub-questions, formulated as follows:

- What is the causal link between climate change factors, water scarcity, and the rise of transnational terrorism?
- How have climate changes that affected the geography and hydrography of the Lake Chad basin been a catalyst for the emergence of jihadist groups in the region?
- What are the main strategies of jihadist groups affiliated with Al-Qaeda and Islamic State, particularly Boko Haram, concerning the weaponisation of water resources in the Lake Chad Basin region?

³ There is a conceptual difference between environmental terrorism and ecoterrorism. Environmental terrorism is a broader term that encompasses a range of actions carried out by individuals or groups against the environment, including acts of violence or destruction. In contrast, ecoterrorism specifically refers to violent actions by groups or individuals who oppose environmental policies. "Ecoterrorism" was coined in 1983 by writer and libertarian theorist Ron Arnold. Subsequently, the term was adopted by American authorities, particularly the FBI, to refer to the actions of certain radical environmental movements.

- What are the main regional policies implemented by the Lake Chad Basin Commission (LCBC) to combat the militarisation of water resources by jihadist groups, particularly in terms of water management, climate action, and human security?

The analysis will be guided primarily by the following hypotheses: Hegemonic water configurations and power asymmetries in the Lake Chad region have been shaped by the emergence of jihadist groups affiliated with al-Qaeda and the Islamic State, exploiting climate change through the use of environmental terrorism, including the militarisation of water as a strategy of war, creating a transnational threat and regional insecurity. In such an insecure context, regional actors, led by the Lake Chad Basin Commission (LCBC), have implemented a set of strengthened mechanisms for water management, climate action, and human security.

The aim of this article is, on the one hand, to explain how environmental terrorism linked to climate change is exacerbating the water shortage crisis, having a lasting impact on human security and stability, which are already vulnerable in the Lake Chad Basin region, with jihadist groups weaponizing water resources to assert their dominance. On the other hand, the study sought to identify the measures that have been put in place to help curb this phenomenon and address the challenges linked to terrorism and environmental change through efforts to counter the militarisation of water resources by jihadist groups as part of the Lake Chad Basin Commission's (LCBC) regional strategy for water resource management, climate action, peace and human security.

The research paper is structured as follows. After the introduction, which includes the problem, the main issue, and sub-questions, as well as the hypotheses and research objectives, along with the methodology, the literature review provides an overview of the interrelationships, highlighting the causal link between the variables of climate change, water scarcity, and terrorism. The analysis was supported by a relevant narrative that explained the geography and hydrography of the Lake Chad Basin region (LCB), alongside mapping the main jihadist groups affiliated with Al-Qaeda and the Islamic State in the Lake Chad region, particularly Boko Haram, on the one hand, by examining their use of water militarisation in areas under their control. On the other hand, the study highlighted regional strategies and the various policies of the Lake Chad Basin Commission (LCBC) in the areas of water management, climate action, and human security. The Conclusion provides a summary of the findings and outlines the main policy recommendations.

2. Methodology:

The methodology employed in this research is the case study approach, which enables the exploration of complex issues from a wide range of perspectives within their real-world context. It is a research framework that focuses on the in-depth examination of a system within a specific context, using multiple data sources over time. A case study is considered a qualitative methodology; this nature makes it unique insofar as it allows for a more open exploration of the research topic, highlighting contemporary

phenomena in real contexts with unique or typical characteristics (Range, 2024). The study focuses on a triangular process mainly based on the description, explanation, and analysis of Jihadist groups affiliated with al-Qaeda and Islamic State, particularly Boko Haram, under the strategy of water weaponization in the Lake Chad Basin (LCB). Especially since the case study adopts a methodological pattern that combines descriptive, explanatory, and exploratory understanding to explain why and how certain sequences of events occur under specific conditions. The methodological framework of the case study is entirely appropriate for environmental terrorism (Harley, 2025), which is considered a strategic warfare employed by jihadist groups in response to climate change and dwindling water resources. It is used as a weapon of war to serve their political and ideological objectives, thereby transforming the Lake Chad Basin (LCB) into a regional insecurity complex.

The study uses a qualitative methodological approach, focusing primarily on process dynamics, context, and change to identify, interpret, and analyze the interactions between environmental risks and terrorist insurgency in the Lake Chad basin. Qualitative research techniques aim to answer the questions 'why' and 'how' and are therefore perfectly suited to this research project (Makateng, 2025). In fact, the study used various types of sources and documents (primary, secondary and tertiary) to illustrate the direct links between variables on the subject, as well as to provide a better understanding of the methodological process that analyses, interprets and evaluates (Ajayi, 2023) the use of water resources as a weapon by African jihadist groups affiliated with Al-Qaeda and Islamic State in the Lake Chad region. The research was deepened through the examination of official reports, periodicals, essays, and academic writings.

3. Literature Review: Water Security, Terrorism, and Climate Change

Open-source information is an effective methodology that uses publicly available sources to examine fundamental evidence linking climate change and terrorism. Data is collected from freely accessible information sources, public databases, social media, blogs, and specialised news sites (Le Deuff, 2021). Meanwhile, the literature review was compiled primarily through a selective process of mining and exploiting secondary data, with in-depth analysis using key terms in scientific publications and online databases, mainly Google Scholar. The literature review aims to provide an overview of the existing scientific literature on the causal links between climate change, water scarcity (i.e. water security) and terrorism in correlation with the variables that cause terrorism, proposing various explanatory factors to understand the processes that lead to terrorist acts in such circumstances in a framework where certain initial causes (the variables) transmit their causal force and produce their concrete effects "final effects" (Maillet, 2018). Consequently, the literature review corpus is organised and classified by theme, including climate change, water scarcity, and terrorism.

In the postmodern context following the end of the Cold War, the fundamental concepts of international relations have been completely overturned, especially with

the emergence of human security, which prioritizes individuals and communities over traditional militaristic and state-centric approaches. Environmental security has thus become a pivotal concept, with environmental resources, particularly water resources and rivers, being essential to national security (Kaldor, 2006). At the same time, terrorist acts are not limited to the use of military instruments but also target the environment, water resources, oil and energy infrastructure, and even ecosystems, which have become prime targets for non-state armed groups (NSAGs). Thus, environmental resources serve simultaneously as tools and targets of terrorism (Chalecki, 2024).

Both climate change and terrorism significantly threaten contemporary global security. A majority of security studies experts, however, tend to evaluate these critical issues as distinct and unrelated. Nonetheless, the connection and reciprocal influence between these two topics has gained considerable recognition and attention, especially in the last twenty years. Academic research analysing the relationship between climate and security has demonstrated that climate change is a hybrid phenomenon that plays the role of an actor intensifier of threats on the international agenda, amplifying pre-existing challenges and increasing susceptibility to harm (Asaka, 2021). While the analysis of the potential link between climate change and terrorism has not yet been fully recognised at the global policy-making level. In fact, the environmental changes and the exacerbation and unequal distribution of water resources are likely to have an additional impact on security, particularly on the risk of terrorism and the rise of radicalisation, regardless of the types of terrorist groups and their ideological tendencies, namely ethno-nationalist, religiously orientated, and 'extremist' terrorism (Jaworska, 2024).

The connections between terrorism, water security, and climate change are intricate and varied. In unstable and vulnerable regions, the direct and indirect effects of climate change increase the likelihood of terrorism, political instability, migration, and displacement. Climate change also worsens societies' already-existing vulnerabilities. Competition for resources combined with water scarcity exploits climate vulnerabilities, marginalises populations, creates power vacuums, and eventually erodes governance. Furthermore, environmental deterioration creates a climate that is conducive to the emergence of terrorism and acts of violence. Violent extremist groups have taken control of scarce natural resources, contributing to the deterioration of ecosystems and natural capital. In doing so, climate change acts as a threat multiplier, on the one hand, by directly catalyzing threats to human, national, and regional security. On the other hand, it indirectly contributes to the rise of terrorism by creating conditions conducive to the recruitment and empowerment of violent groups, offering them opportunities to thrive and undermining the security capabilities of states (Ari, 2025).

However, many researchers emphasise that there is a relevant causal link between water security, terrorism, and climate change, thus forming a nexus of multidimensional factors. Robyn Eckersley traced the link between climate change and terrorism that

emerged in the environmental security debate of the post-Cold War era. The causal link process is mainly explained through the securitisation of environmental terrorism issues by various political actors, which has become a new concern within critical ecological security at the heart of the field of “critical security studies” (Eckersley, 2008). Jennifer Veilleux & Shlomi Dinar assert that terrorist organisations destabilise governments through violent and coercive acts that include the use of water resources as a target. Water-related terrorism is a widespread method of terrorism in most regions of the world, and hydraulic infrastructures are the preferred target of most terrorist organisations. Moreover, water is an essential resource targeted by terrorists to threaten communities and weaken states, using it as a strategic resource (Veilleux, 2021).

Meanwhile, Andrew Telford explored epistemological claims that establish causal links between climate change, conflict, and terrorism. Thus, climate security is determined by a geographical logic that exacerbates the risks of terrorist violence among populations affected by climate change (Telford, 2023). Michael T. Klare considered the impact of climate change on international security, with water, specifically water scarcity, as a particularly critical factor. Indeed, in many parts of the developing world, water supplies are already inadequate to meet society's needs, and the decline of these resources will lead to widespread hardship, unrest, and conflict. However, this understanding of the centrality of water in the climate change-conflict equation is just as valid as a central variable for assessing the impacts of climate change and dwindling water resources on the rise of terrorist activities and international security (Klare, 2020). Hadžić, Faruk, established a direct link between the impacts of climate change and water scarcity on human security, wars, and terrorism from the theoretical perspective of critical security studies; thus, environmental security and ecological protection are at the centre of the international community's priorities (Hadžić, 2024).

The thematic literature on the causal links and factors, including terrorism, climate change, and water security, reveals significant disparities in the identification of the main determinants that drive the interconnections among these multiple dimensions of environmental terrorism. However, the evaluation of studies analysing causal factors has shown that, although there is a wide range of descriptive, analytical, and empirical publications, no dominant variable can be identified as the explanatory matrix. Environmental terrorism is rather the result of a multidimensional combination of converging factors, interconnected with specific contexts, namely national, regional, and international, within the framework of globalisation. As a result, academic experts and scientific researchers in security, counter-terrorism, and environmental security recognise water as a strategic resource for national security. Consequently, the gap to be addressed is the development of a comprehensive process that systematically quantifies and describes how water is weaponised in the context of transnational terrorism and climate degradation.

Key Literature Review	
Causal Relationship	Citations (Main Literature Review)
Water security, Terrorism, and Climate Change	Haimés, Yacov Y.,2002; Gleick, Peter H., 2006; Copeland, Claudia, and Betsy A. Cody,2007; Eckersley, Robyn,2008; Jones, J. A. A.,2009; Kloos, J., Gebert, N., Rosenfeld, T., & Renaud, F.,2013; Kim, Kyungmee, and Ashok Swain,2017; Kohler, Christina, Carlos Denner Dos Santos, and Marcel Bursztyn,2019; Hadžić, Faruk,2020; Spadaro, Paola Andrea,2020; Telford, Andrew,2020; Asaka, Jeremiah O.,2021; Michel, David, Mats Eriksson, and Martina Klimes,2021; Veilleux, Jennifer, and Shlomi Dinar,2021; Mavrakou, S., Chace-Donahue, E., Oluanaigh, R., & Conroy, M., 2022; Fu, Matt,2023; Kaur, Komalpreet, and Vanina Adoriana Trifan,2023; Ari, İzzet,2025; Stephen Harley,2025.

Figure 1: See the table drawn up by the researcher “Causal Relationship: Water Security, Terrorism, and Climate Change: Key Literature Review”. Source: Author.

4. Lake Chad Basin Region (LCB): Geography and Hydrography

The Lake Chad Basin is an inland drainage system that includes Lake Chad and covers an area of approximately 2,355,000 km² in the eastern part of the Sahel region. The LCB includes portions of Cameroon, the Central African Republic, Chad, Libya, Niger, Nigeria, Algeria, and Sudan. The sedimentary formation of the Chad Aquifer (CAF) is of paramount importance and constitutes one of the largest aquifer systems in the world, as it extends the entire basin. Thus, the hydrological dynamics of the Lake Chad basin are closely linked to development, economic productivity, and food security (Vaquero, 2021). Moreover, the Lake Chad basin is the largest endorheic basin in the world, covering approximately 8% of the African continent. Lake Chad is a vital water resource in the semi-arid corridor of the Sahelian and Saharan deserts, on which a population density of over 30 million people depends for their livelihoods (Gao, 2011). Lake Chad is a variable reservoir of water, largely dependent on seasonal fluctuations; it is thus primarily fed by the Chari-Logone river system and the Ebeji (El-Béid) and Yedseram rivers. Given its geographical positioning in the Central-Western African zone, Lake Chad harbours significant biological diversity, and the region's climate is strongly influenced by seasonal migration and the interaction of dry and subsiding continental air masses with a humid and unstable maritime air mass (Gritzner, 2025).



Figure 2: See the map of the “States, Regions, and Provinces of the Lake Chad Basin”. United Nations Development Programme UNDP (a), 2022.

The decrease in Lake Chad between 1963 and 1990 is attributed to human influences, notably the demographic explosion from the 1940s to the 2010s, and climatic effects, with the decrease in precipitation in the Central African Republic (CAR). This is because two important rivers, the Chari and the Logone, originate in the CAR before flowing into Chad and then into Lake Chad, which serves as a reservoir for these waterways. Despite the increased availability of land, the adverse economic effects on key economic sectors such as fishing, agriculture, and livestock farming are significant, with over 6% in the lake region; they reach 9% in Chad, the country most negatively affected. This shock has repercussions that go beyond mere economic losses; it also affects the overall quality of life and resilience of communities that depend on Lake Chad's resources (Yahe, 2024).

Given the size of the population and the geographical context, it is hardly surprising that any modification of the lake's physical characteristics can have significant social consequences. Indeed, the hydrography of Lake Chad is transforming, with a reduction of about 90% since the 1960s. The declining shoreline offers new opportunities for the

proliferation of transnational security threats, including conflicts and armed actors to establish and maintain their grip. Thus, Lake Chad is the backdrop to a complex humanitarian crisis caused by violence, climate change, and the absence of governance in remote regions, and the intersection of a complex security vacuum with violent extremist organisations (VEOs) (Griffin, 2020). The Lake Chad area stands out as one of the most impoverished regions globally, marked by a substantial population increase and risks of severe weather conditions, alongside the impacts of climate change. The susceptibility of this area has been intensified because of its location at the meeting point of climate patterns, cultures, and geopolitical forces between both West and Central Africa and arid and moist regions of Africa, and additionally because its area extends across four nations – Nigeria, Cameroon, Niger, and Chad – each experiencing unstable sociopolitical developments following their independence. Nevertheless, intra- and inter-community tensions persisted, as did huge social disparities across the Lake Chad region. Climate change, alongside factors such as poverty, social and political conditions, corruption, and state dysfunction, has led to the emergence of radicalisation and the rise of armed jihadist groups, extending their theatre of operations from Nigeria to northern Cameroon, then to Niger and Chad (Magrin, 2018).

5. Jihadist Groups and Water's Weaponization in the Lake Chad Basin

According to Islamic rules, water is considered a vital resource in its religious and economic aspects; thus, the management of water resources has been rationalised based on solidarity and equity. In contrast, jihadist groups affiliated with al-Qaeda and the Islamic State in the Lake Chad region, particularly Boko Haram, have adopted a strategy of militarising water to consolidate their power in controlled areas.

5.1 Islamic Water Management: The Fundamental Rules

The Islamic perception of water is based on fundamental principles, namely public and collective ownership of water and its rational use within a religious and cultural framework, in line with local beliefs and the values of their society. Islamic thought considers freshwater resources to be essential in all facets of religious, daily, social, and economic life. Thus, given the vital importance of water and its scarcity, Islam has adopted a code of conduct that prohibits monopoly and waste, classifying them as acts of devotion; hence, the importance of awareness-raising and the role of water education in the religious duties of a good Muslim with civic responsibility in accordance with the spirit of all the principles of the Dublin Statement⁴ (Ali, 2023) considering water as an essential resource for life, with integrated management of this

⁴ The International Conference on Water and the Environment (ICWE) in Dublin, Ireland, held from 26 to 31 January 1992, established the first concerted effort on the 'Dublin Principles' concerning water and sustainable development. The Dublin Declaration is now considered the basis for the reform and the management of the water sector, involving numerous actors, including global governance institutions, transnational corporations, states, and NGOs.

natural asset, horizontal and vertical participation of users, respecting women's rights, and protecting natural ecosystems (JCI (Préf), 1992).

The policies for water resource management in Islam are designed to ensure the maintenance of principles of equity, water conservation, and the obligation to guarantee an adequate amount of water supply for the environment in accordance with the common interest. Indeed, in the Islamic religion, water is considered a vital collective asset and a fundamental human right; this is why Islamic doctrine places particular importance on water management for Muslims and other religious groups, thereby establishing priorities that affect all aspects of daily life. Water should be distributed equitably and sustainably. The absolute priority is to quench humans' thirst, meet the needs of livestock, and irrigate crops. Therefore, Islamic doctrine supports environmental water rights by insisting that all species have the right to water in sufficient quantity and quality to fulfil their needs. Furthermore, sanctions against polluters of water bodies are harmful to water resources (Shore, 2001).

In fact, water occupies a central place in Islam, representing God's authority over all creation as the primordial, primary, and original element of all living beings through divine intervention (DeLong-Bas, 2024). Moreover, water and the natural environment in Islamic culture and religion belong to Allah (God); thus, the Islamic approach to nature and water resource management is theocentric (centred on God). Within the framework of a consensual process based on facilitation and the resolution of water-related conflicts between riparian states of a river basin, emphasis is placed on the equitable use of water resources between upstream and downstream users. As a result, Islamic water management principles (IWMP) are aligned with the principles of international water law (IWLP) (Loodin, 2021). Conversely, jihadist groups in Africa and jihadist franchises of Al-Qaeda and Islamic State, especially Boko Haram in the Lake Chad region, have exploited Islamic principles by militarising water resources as a warfare strategy.

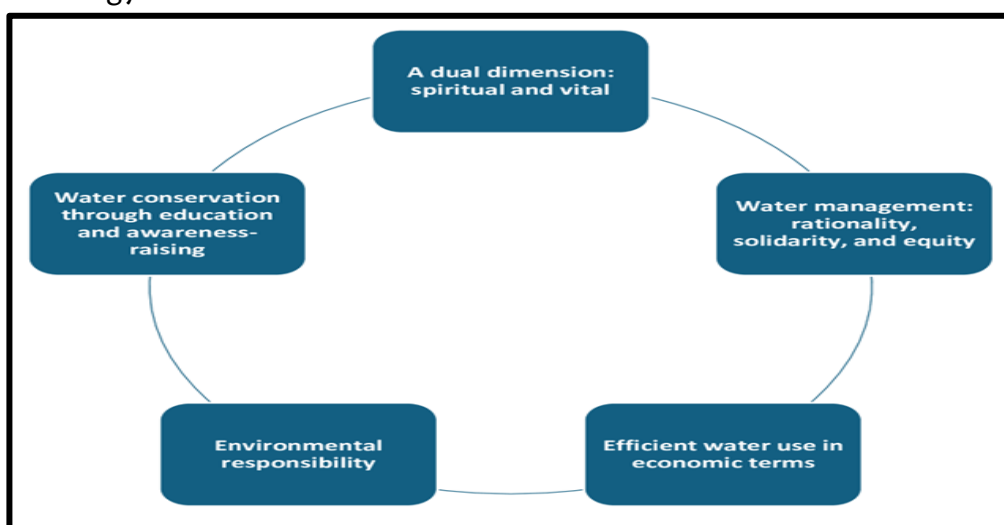


Figure 3: See the diagram drawn up by the researcher. “The Perception of Water Resources in Islam: A Comprehensive Overview”. Source: Author.

5.2 Mapping the Main Jihadist Groups in the Lake Chad Basin

The spread of transnational terrorism in the Chad Basin region is closely linked to climate change; the reduction of grazing routes and competition for land and water resources, in addition to drought and desertification, are fuelled by armed pastoralism, which plays a significant role in the terrorist dynamics led by Boko Haram, constituting the main threat to the countries of the Lake Chad region, previously perceived by Cameroon, the Republic of Niger and Chad as a 'Nigerian problem'. In contrast, the reality of the threat posed by jihadist groups has become a major security dilemma for the African region (Ajala, 2025). The Lake Chad basin has become a haven for rebel groups from neighbouring states. In fact, the lake area historically served as a refuge in the 1990s for the Movement for Development and Democracy (MDD), with its swamps providing an ideal base for protection. Similarly, since the 2000s, Lake Chad has become a sanctuary for non-state armed actors and jihadist movements, primarily Boko Haram. Moreover, the lake's 'swampy labyrinth' in the islands of Boudouma and Kouri, in the state of Kanem-Borno, has long encouraged the emergence of activities related to piracy and looting, later practices of *razzias*⁵ were exploited by all jihadist groups through the transnationalisation of jihadist banditry in the region as part of their cross-border mobility warfare strategy in Nigeria, striking nearest countries such as Chad, Cameroon and Niger, on the one hand by exploiting the lake's resources, on the other hand by imposing taxes on local populations, and also by engaging in the illicit activities of looting livestock and crops (Magrin G. &, 2020).

In the northeastern part of Nigeria, especially in Yobe State, Boko Haram began as just one religious group back in 2002. It was created by Mohamed Yusuf, a preacher who followed Salafism, and he shared extreme thoughts that backed bringing back religion and going back to the true roots of Islam. The size and cruelty of Boko Haram's aggressive acts got much bigger in 2009, when Abubakar Shekau became the leader (Comolli, 2017). However, the Boko Haram security threat has spread outside its initial boundaries and affected the entire Lake Chad region between 2012 and 2013, causing problems in areas including north-eastern Nigeria, northern Cameroon, south-eastern Niger, and south-western Chad. Boko Haram, which is also known as '*Jama'atu Ahl as-Sunnah li-Da'awati wal-Jihad*' (JAS-DJ), was active between 2012 and 2013. Then, '*Jama'atu Ansarul Muslimina fi Biladis-Sudan*' (Ansaru) split from Boko Haram in 2012, following alleged disagreements over the indiscriminate killing of civilians (Bulama Bukarti, 2020). Boko Haram has maintained close ties with Al-Qaeda in the Islamic Maghreb (AQIM), as many Boko Haram fighters participated in the jihad in the Sahel alongside Al-Qaeda-affiliated groups in Mali in 2012 and 2013 before returning to Nigeria with terrorist expertise in operational knowledge of explosive device

⁵ The term '*razzia*' was borrowed from Arabic. The conceptual polysemy is linked to negative connotations, including violence, cunning, and illicit gain. *Razzia* has often been associated with periods of invasion, involving rapid, surprise attacks to gather intelligence and prepare for conquests, accompanied by looting in enemy territory.

construction, financing, training, and material support (United Nations Security Council, n.d.).

The Salafist-jihadist movements in the Lake Chad basin are structured around the ideology of extremist religious movements that were initially very active in northeastern Nigeria in the 1990s. Ansaru is linked to al-Qaeda. Similarly, the Islamic State entered the Lake Chad theatre when Boko Haram pledged allegiance to IS Central in 2015 and was renamed Islamic State West Africa Province (ISWAP) (Karr, 2022). The close ties between jihadist movements in the Lake Chad region have been strengthened by the expansion of *Jama'at Nasr al-Islam wal Muslimin* (JNIM) across the Sahara-Sahel (Kapetanovic, 2025), as well as the rise of non-state armed actors in the region under the banner of Islamic State in the Sahel Province (ISSP) (Nsaibia, 2024).

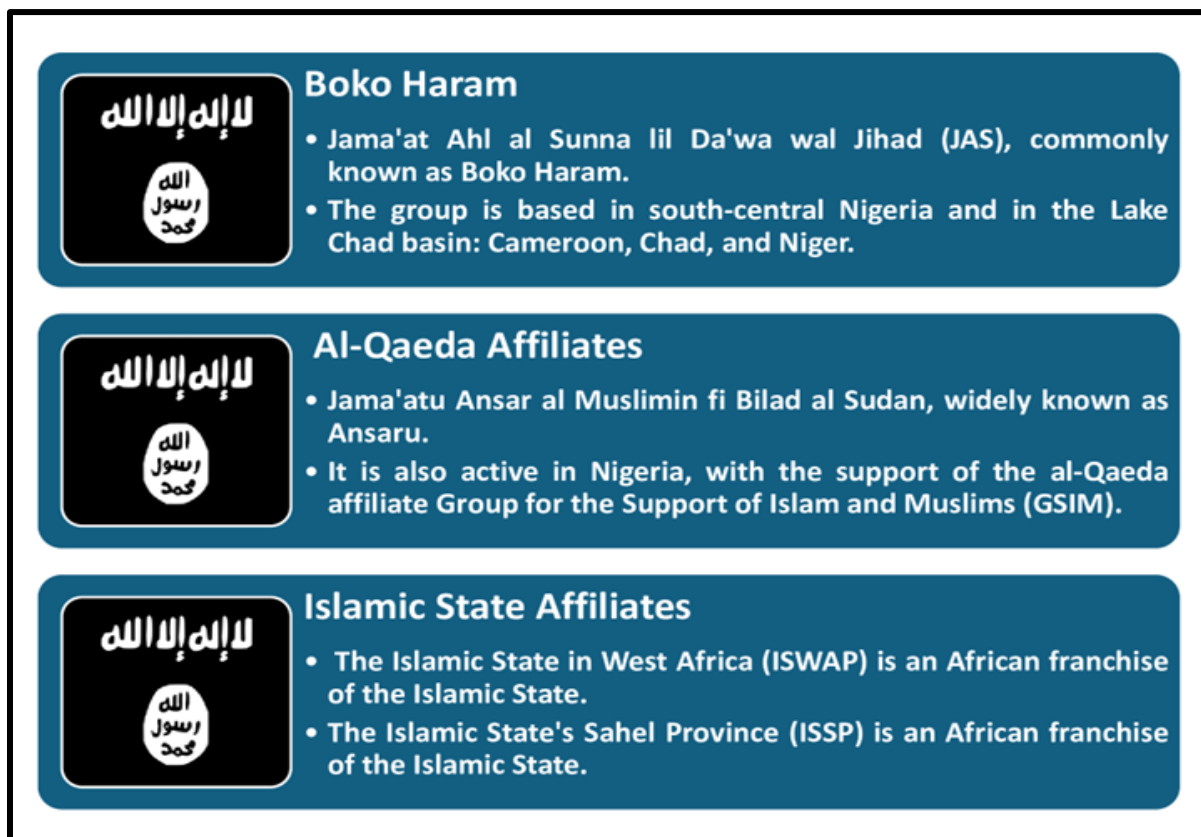


Figure 4: See the diagram drawn up by the researcher. “The Main jihadist Movements in the Lake Chad Basin (LCB)”. Source: Author.

5.3 Jihadist Groups in the Lake Chad Basin: The Militarization of Water Resources

For millennia and in the earliest civilisations, water has been used as a weapon. But in the current conflicts in Syria, Ukraine, and Gaza, the weaponisation of water has

become increasingly visible, particularly through the deliberate targeting of water infrastructure, with consequences for water supply, sanitation, irrigation, and aquatic ecosystems, and serious short- and long-term impacts on environmental and human security. At the same time, the destruction of water sources and the denial of access to drinking water and sanitation are acts condemned by internationally recognised human rights (Sers, 2025). Moreover, water wars have become a postmodern international reality, with numerous hotspots of transboundary water relations evolving into violent conflicts and interstate water wars. But in practice, the weaponisation of water is closely associated with “environmental terrorism” and “hydro-terrorism”. At the same time, intrastate conflicts over domestic water supplies are often triggered by sudden disagreements at the local level (Lopes, 2025). Indeed, the strategic exploitation of water resources by armed groups in the context of conflicts and wars, with water infrastructure—such as dams, rivers, and irrigation systems—becoming a central tool and target in a hybrid model of war governance. As a result, Hydro-Insurgent Groups (HIGs) have weaponised water to assert territorial control, gain legitimacy, and consolidate their transregional and geopolitical ambitions (Mamshai, 2025).

However, the scarcity of water resources is undoubtedly at the root of an increasing number of hybrid conflicts, a factor in war, and a military instrument and objective for state and non-state actors. With this in mind, jihadist groups have resorted to weaponizing water to strengthen their water hegemony and their political and religious power. Indeed, a bellicose hydro-hegemonic strategy has been adopted by the Islamic State in the Syrian conflict (Gama, 2023). Moreover, a relevant understanding of the nature of modern warfare is imperatively linked to the connections between water stress and water geography, which consist of a set of variables related to inadequate water supply, quality, accessibility, and violent political and religious extremism. In fact, the dynamics of these connections revolve around the water cycle and conflicts that produce ‘eco-violence,’ an undeniably recurring reality in water-rich areas in regions at high risk from climate change and the threat of water depletion in Africa and the Middle East, particularly in Iraq and Syria, Nigeria, Somalia, and the Lake Chad basin (Volman, 2024).

Water stress in Africa provides a possibility for extremist organisations to wield water as a weapon. Moreover, water acts as an accelerator of violence, both as a means and an objective of war. Thus, water stress induced by climate change and supply shortages in arid and semi-arid areas creates inter-ethnic conflicts, such as the conflict between the semi-nomadic Muslim Fulani tribe and the predominantly Christian farmers of the central belt of Nigeria. With the prohibition of access to grazing lands and a transition zone that is ecologically diverse but increasingly arid between the relatively temperate Niger River delta and the arid northeast, this clearly demonstrates the correlation between water scarcity, environmental changes, conflicts, and terrorism (Werrell, 2017). In fact, there is a cause-and-effect relationship between environmental changes, which have a significant impact on societal development, reflecting the link between security and the environment; on the other hand, it also

has strong ties and complex interconnections between climate change, scarce water resources, and terrorist activities. Nevertheless, the threats posed by Boko Haram in the Lake Chad basin are exacerbated by climate vulnerabilities, the shrinking size of the lake, and above all, the high degree of climate unpredictability of the water cycle. As a result, climate security has become an instrument of political legitimisation used by jihadist groups affiliated with al-Qaeda and Islamic State in a multidimensional radicalisation scheme incubated by climate sensitivity and socio-economic factors (Sala, 2023). Although Boko Haram's ideological base is rooted in Salafi jihadism, the group's insurrection operations in the Lake Chad basin increasingly reflect environmental degradation with economic motivations, particularly resource control and illicit trade (Nyelade, 2025).

Climate change has had a considerable impact on the emergence of terrorism in the Lake Chad basin through the recruitment of vulnerable communities and the exploitation of vital resources. In this context, Boko Haram has exacerbated the problem by using this fundamental need for strategic purposes to destroy large or important areas, targets, populations, or infrastructure. Tactical militarisation, on the other hand, is characterised by the use of water against targets of strictly military value on the battlefield. For example, in 2015, jihadists directly poisoned water and damaged existing irrigation infrastructure in areas of Lake Chad where they felt threatened. Coercive weaponry is a mechanism that aims to instill fear in a population or group of civilians. Boko Haram, for example, used this method by throwing corpses and human waste into water wells to announce its presence in the region (Scholar, 2022). Subsequently, environmental insecurity and conflicts in the Lake Chad basin, influenced by violent extremist organisations (VEOs) and local jihadist groups belonging to al-Qaeda and Islamic State, have also resorted to the deliberate contamination of water sources to cause collateral damage to the environment and human populations. Furthermore, water has become an instrument of psychological terror through the use of threats to deny access to or intentionally contaminate water sources to instil fear among non-combatants. This has been accompanied by strategies of extortion or incentivisation in water supply operations to reward the behaviour of subjugated populations and support the legitimacy of the perpetrator (King, 2024).

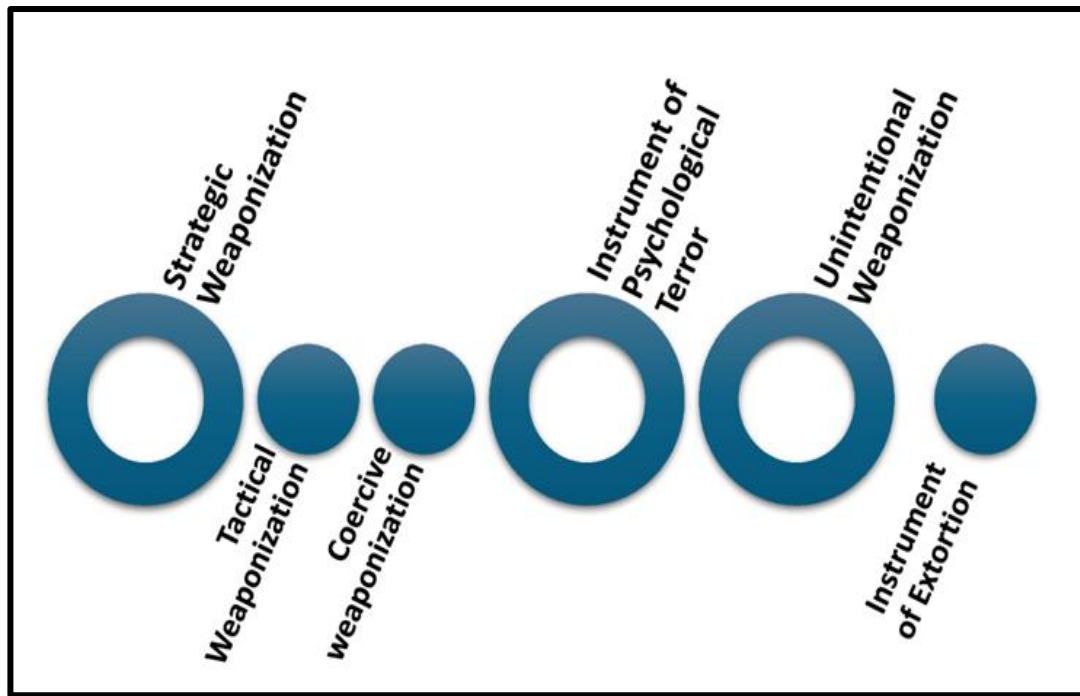


Figure 5: See the diagram drawn up by the researcher. “Jihadist Groups and Water Weaponization: Main Categories”. Source: Author.

5.4 The Consequence of Water Weaponization: a Multifaceted Security Dilemma

The effects of terrorism perpetrated by Boko Haram and various jihadist groups active in the Lake Chad basin pose a serious threat to human, national, and regional security. The intensity of terrorism by jihadist military and paramilitary groups has had disastrous consequences, particularly on economic development, national cohesion, and human rights (Nnam, 2020). More importantly, a transregional challenge has emerged with the volatile nature of insecurity in Lake Chad, providing jihadist groups led by Boko Haram with a sanctuary in a quagmire of “bad neighbourhoods”, with the domino and contagion effect of the nexus between terrorism and crime, followed by ramifications of climate refugees forming a matrix of multiple variables of human insecurity with lasting impacts of increasing complexity of threats and the duration of insecurity and regional instability (Olojo, 2022).

Jihadist groups affiliated with al-Qaeda and Islamic State, especially Boko Haram, have caused irreversible and multidimensional impacts by indiscriminately attacking Christians and Muslims, civilians, infrastructure, schools, and public buildings. This chaotic situation has led to a double crisis: on the one hand, a humanitarian crisis with more than 3 million internally displaced persons (IDPs). On the other hand, the humanitarian effects of the conflict have exacerbated levels of food insecurity, malnutrition, and health problems. This is why, in 2023, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) estimated that 11.1 million people in the LCB require immediate humanitarian assistance. In addition, women are

also victims of abduction and recruitment into the insurgency, where they are forced to carry out suicide bombings as a major part of Boko Haram's strategy, thus creating gender inequality and acts of violence, with the Lake Chad countries ranked lowest on the Gender Development Index, Niger and Cameroon ranked 151st, Nigeria 157th, Chad 186th, and Niger 189th globally (United Nations Development Programme (UNDP), 2024). Meanwhile, countries in the Lake Chad basin are experiencing an unprecedented slowdown in the advancement of human development, according to the United Nations Development Programme's (UNDP) 2025 report. Cameroon, ranked 22nd in Africa with an index of 0.588, ranks only 155th globally. Nigeria, ranked 28th in Africa with an index of 0.560, places it 164th globally, thus classifying it in the category of countries with a medium human development index (HDI). Niger, rated 47th in Africa and 188th globally with an index of 0.419, falls into the category of nations with a poor human development index. Chad, ranked 49th in Africa and 190th globally, comes in second with an index of 0.416 (Belhar, 2025).

6. Regional Strategy of the Lake Chad Basin Commission (LCBC): Water Management, Climate Action, and Human Security

The Lake Chad Basin Commission (LCBC)⁶ was established in 1964 and is one of the oldest African regional institutions dedicated to equitable management of the water resources. Its regional cooperation architecture was redesigned as part of a strategic reorientation (2009-2012)⁷ aimed at better adapting to regional changes and challenges (Magrin G. , 2016). Specifically, Member States undertake to refrain from carrying out water projects that could have an impact on reducing the portion of the Basin subject to jurisdiction in accordance with the status relating to the Development of the Chad Basin, the Niamey Act of 1963, and the subsequent agreement signed in 1964 (Agoro, 1966). Indeed, the LCBC is an intergovernmental organisation with the primary mission of ensuring the effective and efficient use and management of water in the region. It also aims to strengthen security, cooperation, and integration (Abu & Ahmed, 2021) within the framework of Regional Economic Communities (RECs). The primary structural components of the Lake Chad Basin Commission consist of the Summit of the Heads of State and Governments that offers strategic political guidance,

⁶ The Lake Chad Basin Commission (LCBC) was established on 22 May 1964, with its headquarters in N'Djamena, Chad. The founding member states are Cameroon, Chad, Niger, and Nigeria, and other members have joined the organisation, including the Central African Republic (1996) and Libya (2008). The observer members are the Republic of the Congo, the Democratic Republic of Congo, Egypt, and Sudan. The main objective of the LCBC is the sustainable and equitable management of Lake Chad and other shared water resources, the preservation of ecosystems, and the promotion of regional integration, peace, and security in the Lake Chad Basin.

⁷ However, it is important to note that significant progress has been made in this regard; the Commission signed an agreement in 1986, paving the way for increased facilitation of the joint economic development of the Lake Chad Basin region.

the Council of Ministers responsible for overseeing and managing the LCBC, the Executive Secretariat tasked with implementing resolutions and composed of the Executive Secretary and various Departments led by the Director General, and the Consultative Committees (Galeazzi, 2017).

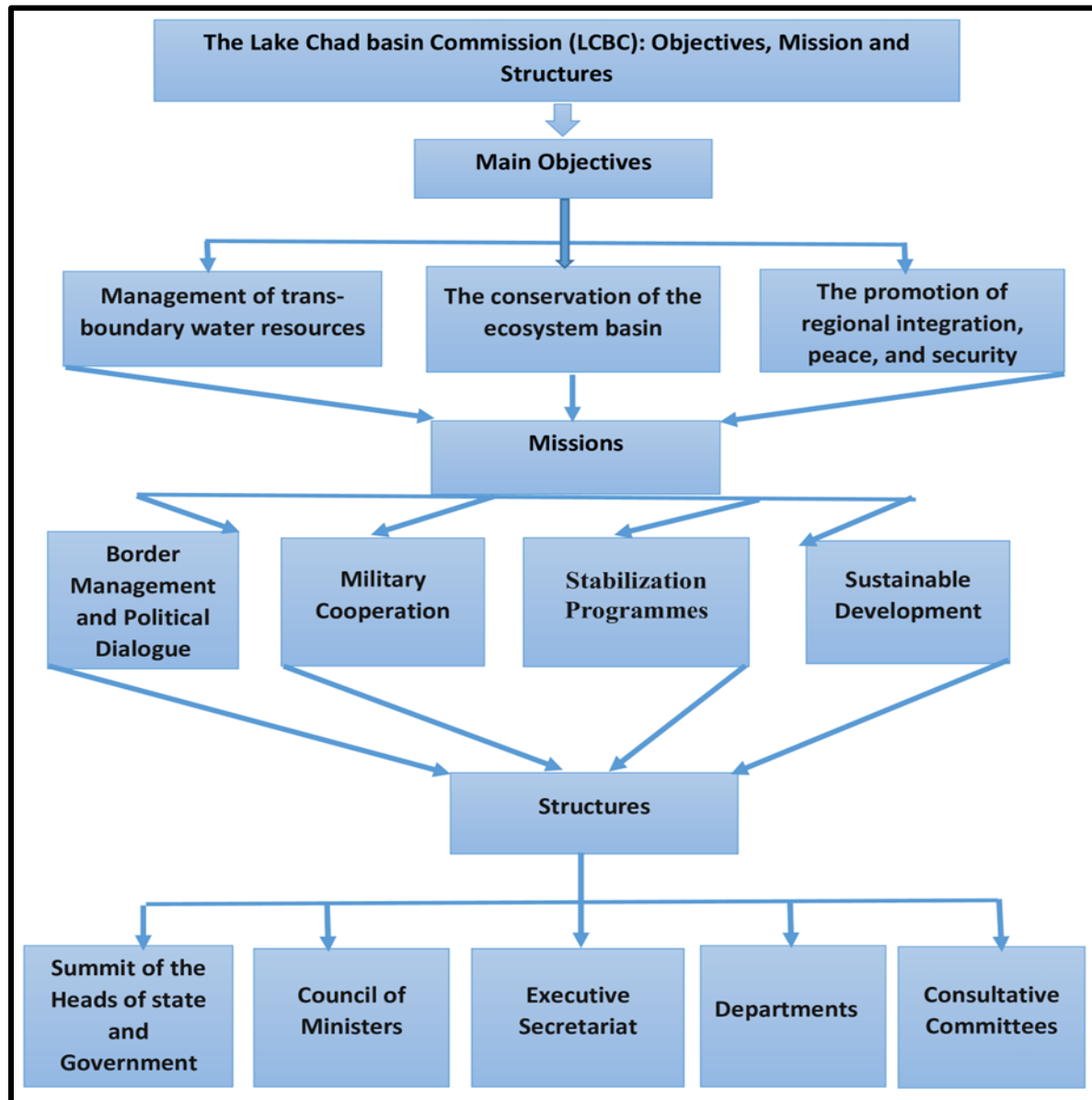


Figure 6: See the diagram drawn up by the researcher. “The Lake Chad Basin Commission (LCBC): Objectives, Missions and Structures”. Source: Author.

The implementation of integrated water resources management principles (IWRM) in the Lake Chad Basin was institutionalised since the adoption of the water charter in 2012 in accordance with international norms of sustainable development (Mbaigoto, 2023). In doing so, the CLCB countries have developed regulations for water extraction, pollution control, and ecosystem protection, especially within the cross-border strategic framework for disaster risk reduction and climate change adaptation

(DRR/CCA) and the Strategic Action Programme (SAP 2023–2037), to address vulnerabilities to climate variability, water scarcity, and environmental degradation (Lake Chad Basin Commission, Integrated water resources management in the lake chad basin (Lcbc), n.d.). Moreover, the LCBC 's approach to peace and security is based on renewed understanding through the promotion of regional cooperation and inclusive governance, while considering the interrelationships between factors of insecurity and the rise of transnational terrorism, which are closely linked to climate change, water scarcity, and state failure. This is why peacebuilding, environment, and socio-economic actions are at the heart of the LCBC's policies under the Regional Strategy for Stabilisation, Recovery, and Resilience (RSS) and the Strategic Action Programme (SAP 2023–2037) (Lake Chad Basin Commission, Peace and security in the lake chad basin, n.d.).

The LCB countries have established comprehensive regional counter-terrorism governance cooperation with enhanced coordination among actors, led by the African Union (AU) and other sub-regional blocs in North Africa, the Sahel, Central Africa, East Africa, and the Horn of Africa. The fight against jihadism in the Lake Chad Basin region is also reshaped within the volatile geopolitical and regional context, including multidimensional actors, socio-economic realities, local communities, humanitarian actors, non-governmental organisations (NGOs), the private sector, and civil society organisations (CSOs) (United Nations Development Programme UNDP(b), 2022).

The LCBC has been engaged in a hard process of preserving peace and security to address transnational security challenges, cross-border threats, particularly terrorism. In 1998, the Strategic Action Plan was adopted, with the creation of the Multinational Joint Security Force (MJSF), to combat the emergence of local terrorist groups with strong links to the jihadist movement related to Al-Qaeda networks and the Islamic State. In 2014, the CBLT established the Multinational Joint Task Force (MNJTF) to combat Boko Haram. In 2015, the LCBC was mandated by the African Union to be the political coordinating body for the operation. Counter-terrorism efforts were strengthened by the adoption of the Regional Strategy for Stabilisation, Recovery and Resilience (RSS/RR) of Areas Affected by Boko Haram in the Lake Chad Basin Region (European Council on Foreign Relations, 2020).

Simultaneously, the LCBC has developed a comprehensive approach focused on soft and multidimensional mechanisms for the screening, prosecution, rehabilitation, and reintegration of jihadists associated with Boko Haram, in accordance with international standards (Union africaine & CBLT, 2018). With this in mind, the Lake Chad countries, led by Nigeria, have turned to vigilante groups, which play a major role in the fight against terrorism and jihadist groups such as Boko Haram. The LCBC has provided these non-state armed groups (NSAGs) with training programmes that combine practical skills in intelligence, equipment, and instruction on national and international laws on respect for human rights (International Crisis Group, 2017). Indeed, the countries of the Lake Chad Basin region are focused on a non-kinetic counter-terrorism strategy, as a non-military approach that is an effective tool aimed primarily at

minimising vulnerability, violent extremism, and the recruitment of local people who have suffered climate shocks into jihadist enclaves (Aina, 2025).

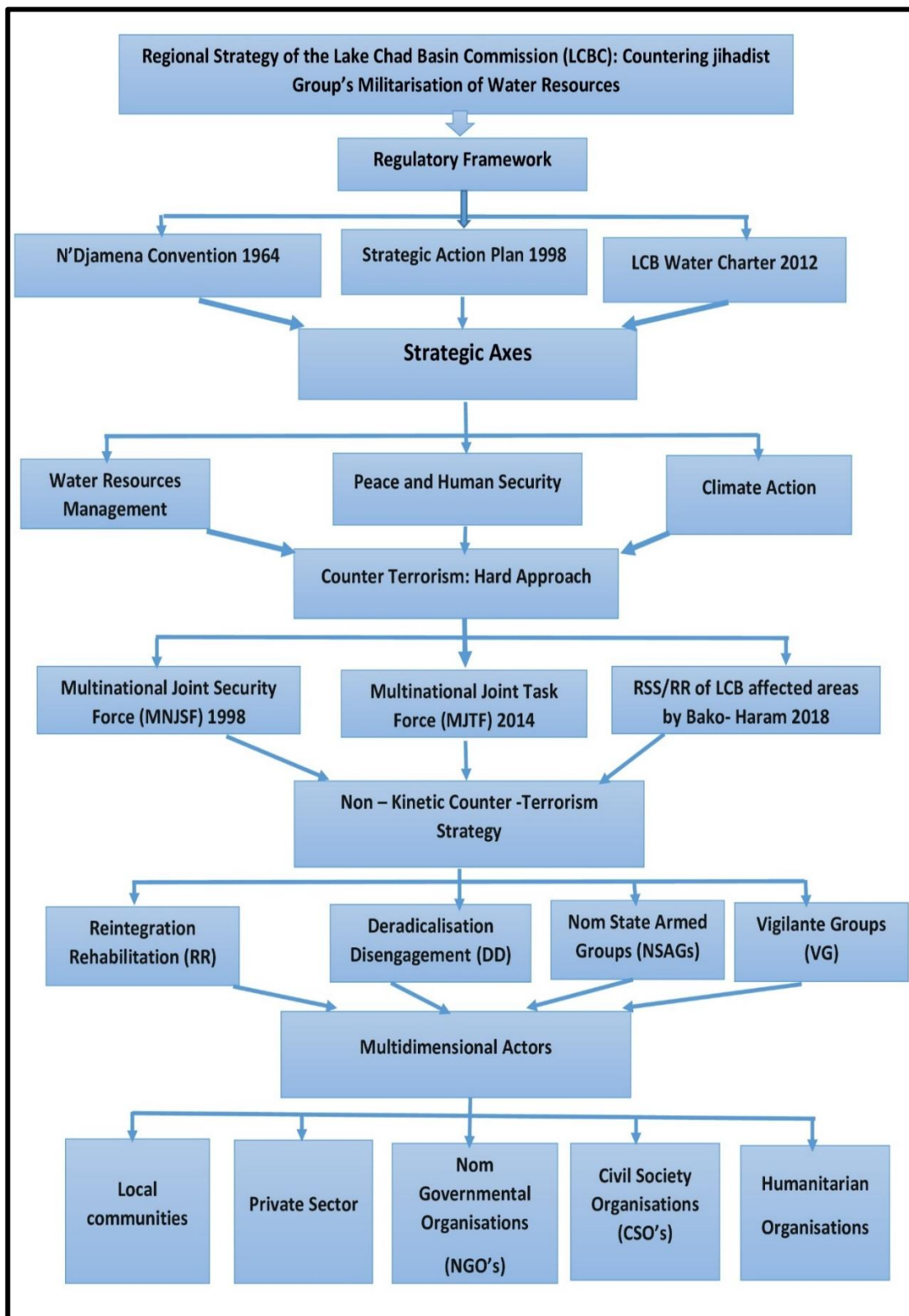


Figure 7: See the diagram drawn up by the researcher. “Regional Strategy of the Lake Chad Basin Commission (LCBC): Countering Jihadist Groups’ Militarisation of Water Resources”. Source: Author.

Conclusions

The article highlighted the causal interrelationship between climate change, water insecurity, and the emergence of transnational terrorism, far from simplistic and reductionist explanations, but rather based on an analytical interpretation of a cause-and-effect relationship oriented towards an inclusive and overlapping understanding of hybrid, multidimensional, dynamic, and complex security threats. The Lake Chad basin, with its complex arc of insecurity, has been a case study that has provided an analytical perspective describing the complexity of the security landscape, exacerbated by factors related to climate change that have directly impacted the lake's water security, with a major upheaval in the physical and human geography of the basin, with water becoming a source of conflict, especially with the rise of terrorism in the region.

Environmental terrorism linked to climate change is exacerbating the water shortage crisis in the Lake Chad basin region. This has been a determining factor in the proliferation of water terrorism, which has become a dual political and security issue with its use by jihadist groups active in the region, particularly Boko Haram and affiliates of Al-Qaeda and the Islamic State, as part of a hybrid warfare strategy based on tactical militarisation, coercion, psychological manipulation and extortion strategies, thus constituting a threat to human, national, regional and international security, with humanitarian crises, food insecurity, internally displaced persons (IDPs) and gender-based violence.

The Lake Chad Basin Commission (LCBC) has implemented a set of enhanced mechanisms for water management, climate action, and human security to counter the militarisation of water resources by jihadist groups. On the one hand, the LCBC has established a hard-line anti-terrorism governance approach based mainly on the Multinational Joint Task Force (MNJTF) to combat Boko Haram and the Regional Stabilisation, Recovery and Resilience Strategy (RSS/RR). On the other hand, it has developed a soft strategy for preventing radicalisation, focusing on rehabilitation and reintegration with the involvement of non-state actors, humanitarian organisations, and civil society as a whole.

Despite the efforts undertaken by the countries of the Lake Chad Basin Commission (LCBC), the terrorist threat remains a constant in the regional security matrix, and the militarisation of water resources as an instrument of environmental and water terrorism is de facto a favourite tool of jihadist groups. Thus, anti-terrorism governance policies must be rethought to include the needs of local communities as a proactive resilience mechanism, while placing sustainable development and sustainability at the centre of

counter-terrorism and security policies and emphasising the primacy of peace and security over aspects of militarisation.

Conflict of Interest

The author hereby declares that no competing financial interest exists for this manuscript.

Notes on Contributor

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References

- Abu, S. W., & Ahmed, A. O. (2021). Cooperation Between the Countries Around Lake Chad Basin: An Assessment. *Asian Social Science*, 17(12), 1. <https://doi.org/10.5539/ass.v17n12p1>
- Agoro, I. O. (1966). The establishment of the Chad Basin Commission. *International & Comparative Law Quarterly*, 15(2), 542-550. <https://www.jstor.org/stable/757187>
- Aina, F., & Ojo, J. S. (2025). (De)Weaponizing Climate-Induced Recruitment: Prospects of Climate Change Adaptation as a Non-Kinetic Counter-Terrorism Strategy in the Lake Chad Basin Region. *Global Society*, 39(4), 446-469. <https://doi.org/10.1080/13600826.2025.2459627>
- Ajala, O., & Murphy, J. (2025). Countering Terrorism in Nigeria and the Lake Chad Basin: Reassessing the Role of Vigilantism as a Counterterrorism Initiative. *African Security*, 18(1), 6-33. <https://doi.org/10.1080/19392206.2025.2458409>
- Ajayi, V. O. (2023). A Review on Primary Sources of Data and Secondary Sources of Data. *Universal Journal of Arts, Humanities, Science and Technology Education Research (UJAHSTER)*, 2(3), 1-3. <https://doi.org/10.5281/ZENODO.16739602>
- Ali, A.-S. M., & Chatti, C. B. (2023). Muslim Peoples and the Challenges of Water Security: A Socio-Anthropological Analysis. In M. Basu & R. DasGupta (Eds.),

- Indigenous and Local Water Knowledge, Values and Practices* (p. 79-95). Springer Nature. https://doi.org/10.1007/978-981-19-9406-7_6
- Ari, İ. (2025). Assessing Efforts to Address Nexus Between Climate Change, Conflict and Terrorism. In *Climate Change and Terrorism* (p. 65-82). Centre of Excellence - Defence Against Terrorism. Retrieved July 10, 2026 from https://www.tmmm.tsk.tr/publication/researches/22-Climate_ChangeandTerrorism.pdf#page=67
- Asaka, J. O. (2021). Climate Change—Terrorism Nexus? A Preliminary Review/Analysis of the Literature. *Perspectives on Terrorism*, 15(1), 81-92. <https://doi.org/https://www.jstor.org/stable/26984799>
- Belhar, M. (2025, May 26). Voici le classement des pays africains selon l'indice du développement humain 2025. *Finance*. Retrieved July 10, 2026 from <https://finance-cd.com/blog/2025/05/26/voici-le-classement-des-pays-africains-selon-lindice-du-developpement-humain-2025/>
- Bulama Bukarti, A. (2020, January 13). *The origins of boko haram—And why it matters*. Hudson Institute. Retrieved July 10, 2026 from <https://www.hudson.org/national-security-defense/the-origins-of-boko-haram-and-why-it-matters>
- Chalecki, E. L. (2024). Environmental terrorism twenty years on. *Global Environmental Politics*, 24(1), 1-9. https://doi.org/10.1162/glep_a_00728
- Chauvin, E., Langlois, O., Seignobos, C., & Baroin, C. (Eds.). (2025). *Conflict and Violence in the Lake Chad Basin* (1st ed.). Berghahn Books. <https://doi.org/10.3167/9781836951063>
- Comolli, V. (2017, October 24). *The evolution and impact of Boko Haram in the Lake Chad Basin*. Humanitarian Practice Network. Retrieved July 10, 2026 from <https://odihpn.org/en/publication/the-evolution-and-impact-of-boko-haram-in-the-lake-chad-basin/>
- DeLong-Bas, N. J. (2024). Islamic Resources for Water Conservation and Management. In *Recovering environmental and economic traditions in the Islamic world* (p. 117-147). BRILL eBooks. <https://doi.org/10.1163/9789004681033>
- Eckersley, R. (2008). Environmental security, climate change, and globalizing terrorism. In *Rethinking Insecurity, War and Violence* (p. 97-109). Routledge. <https://doi.org/10.4324/9780203894194-14>
- European Council on Foreign Relations. (2020, October 7). Lake Chad Basin Commission (LCBC). *ECFR*. <https://ecfr.eu/special/african-cooperation/lcbc/>
- Galeazzi, G., Medinilla, A., & Ebiede, T. M. (2017). *Understanding the Lake Chad Basin Commission (LCBC)* (N°; p. 1-24). European Centre for Development Policy Management. Retrieved July 10, 2026 from <https://ecdpm.org/application/files/1516/6134/0837/LCBC-Background-Paper-PEDRO-Political-Economy-Dynamics-Regional-Organisations-Africa-ECDPM-2017.pdf>



- Gama, M. (2023). Water Weaponisation: The Syrian Case. *e-cadernos CES*, 40, 29-56. <https://doi.org/10.4000/120rj>
- Gao, H., Bohn, T. J., Podest, E., McDonald, K. C., & Lettenmaier, D. P. (2011). On the causes of the shrinking of Lake Chad. *Environmental Research Letters*, 6(3), 034021. <https://doi.org/10.1088/1748-9326/6/3/034021>
- Griffin, T. E. (2020). Changing Hydrography, Violent Extremism, and Climate-Conflict Intersection. *Expeditions with MCUP*. <https://doi.org/10.36304/ExpwMCUP.2020.05>
- Gritzner, J. A. (2025, November 15). *Lake Chad*. Britannica. Retrieved July 10, 2026 from <https://www.britannica.com/place/Lake-Chad>
- Hadžić, F. (2024). The Impact of Climate Change on Human Security: Wars and Terrorism. *Panoply Journal*, 1, 53-69. <https://doi.org/10.71166/rx19gq09>
- Harley, S. (2025). Al-Shabaab's Exploitation of Climate Change in Somalia. In *Climate Change and Terrorism* (Centre of Excellence Defence Against Terrorism, p. 99-118). Retrieved July 10, 2026 from https://www.tmmm.tsk.tr/publication/researches/22-Climate_ChangeandTerrorism.pdf#page=67
- International Crisis Group. (2017). *Watchmen of Lake Chad: Vigilante Groups Fighting Boko Haram* (Africa Report N° 244; p. 1-31). International Crisis Group. Retrieved July 10, 2026 from <https://sahelresearch.africa.ufl.edu/wp-content/uploads/sites/170/ICG-watchmen-of-lake-chad-vigilante-groups-fighting-boko-haram.pdf>
- Jaworska, J., & Nosarzewski, K. (2024). Future Nexus Between Climate Change and Terrorism: Will Environmental Issues Influence Radicalization Regardless of Ideology? In R. J. Chasdi & Y. Sharan (Eds.), *Issues of Terrorism in the Post-Coronavirus Era* (p. 135-153). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-68542-2_8
- JCI (Préf), D., & C (Préf), C. (1992). *Conférence internationale sur l'eau et l'environnement. Déclaration de Dublin et rapport de la conférence*. Retrieved July 10, 2026 from <https://side.developpement-durable.gouv.fr/GRDE/doc/SYRACUSE/80531/conference-internationale-sur-l-eau-et-l-environnement-declaration-de-dublin-et-rapport-de-la-confer>
- Kaldor, M., & Marcoux, S. (2006). La sécurité humaine : Un concept pertinent ? *Politique étrangère, Hiver (4)*, 901-914. <https://doi.org/10.3917/pe.064.0901>
- Kapetanovic, T. (2025). Applying the Transplantation Framework to JNIM's Expansion in the Sahara-Sahel: A Criminological Lens. *Journal of Illicit Economies and Development*, 7(1). <https://doi.org/10.31389/jied.253>
- Karr, L. (2022, November 29). *Salafi-Jihadi Areas of Operation in the Lake Chad Basin*. Critical Threats. Retrieved July 10, 2026 from <https://www.criticalthreats.org/analysis/salafi-jihadi-areas-of-operation-in-the-lake-chad-basin>

- King, M. (2024, March 8). Climate Change and the Water Weapon: How Rising Temperatures are Expanding the Footprint of Conflict. *Common Home*. Retrieved July 10, 2026 from <https://commonhome.georgetown.edu/issues/spring-2024/climate-change-and-the-water-weapon-how-rising-temperatures-are-expanding-the-footprint-of-conflict/>
- Klare, M. (2020). Climate Change, Water Scarcity, and the Potential for Interstate Conflict in South Asia. *Journal of Strategic Security*, 13(4), 109-122. <https://doi.org/10.5038/1944-0472.13.4.1826>
- Kohler, C., Denner Dos Santos, C., & Bursztyn, M. (2019). Understanding environmental terrorism in times of climate change: Implications for asylum seekers in Germany. *Research in Globalization*, 1, 100006. <https://doi.org/10.1016/j.resglo.2019.100006>
- Lake Chad Basin Commission. (n.d.). *Integrated Water Resources Management in the Lake Chad Basin (LCBC) – Lake Chad Basin Commission*. Retrieved December 20, 2025 from <https://cblt.org/integrated-water-resources-management-in-the-lake-chad-basin/>
- Lake Chad Basin Commission. (n.d.). *Peace and security in the Lake Chad Basin – Lake Chad Basin Commission*. Retrieved December 20, 2025 from <https://cblt.org/peace-and-security-in-the-lake-chad-basin/>
- Le Deuff, O. L., & Roumanos, R. (2021). Open Source Intelligence (OSINT): retour aux sources. *I2D - Information, données & documents*, 1(1), 8-12. <https://doi.org/10.3917/i2d.211.0008>
- Loodin, N. (2021). *Title: The Role of Islam in Water Resources Management: Could it be Integrated into International Water Law Principles (IWLP) for Islamic-Dominated States?* [Texas A&M University]. <https://www.researchgate.net/doi/10.13140/RG.2.2.35445.45286>
- Lopes, P. D., & Gama, M. (2025). Reviewing Water Wars and Water Weaponisation Literatures: Is There an Unnoticed Link? *Water*, 17(6), 897. <https://doi.org/10.3390/w17060897>
- Magrin, G. (2016). The disappearance of Lake Chad: History of a myth. *Journal of Political Ecology*, 23(1), 204-222. <https://doi.org/10.2458/v23i1.20191>
- Magrin, G., & De Montclos, M.-A. P. (2018, July 1). *Crisis and Development. The Lake Chad Region and Boko Haram*. Agence Française de Développement. Retrieved December 20, 2025 from <https://www.afd.fr/en/ressources/crisis-and-development-lake-chad-region-and-boko-haram>
- Magrin, G., & Lemoalle, J. (2020). Chapitre 7. Insécurité au lac Tchad : Environnement et conflits. In E. Chauvin, O. Langlois, C. Seignobos, & C. Baroin (Eds.), *Conflits et violences dans le bassin du lac Tchad : Actes du XVIIe colloque Méga-Tchad* (p. 135-148). IRD Éditions. Retrieved December 20, 2025 from <https://books.openedition.org/irdeditions/38322>



- Maillet, A., & Mayaux, P.-L. (2018). Le process tracing : Entre narration historique et raisonnement expérimental. *Revue française de science politique*, Vol. 68(6), 1061-1082. <https://doi.org/10.3917/rfsp.686.1061>
- Makateng, D. S., & Mokala, N. T. (2025). Understanding Qualitative Research Methodology: A Systematic Review. *E-Journal of Humanities, Arts and Social Sciences*, 6(3), 327-335. <https://doi.org/10.38159/ehass.2025637>
- Mamshai, F. H. A. (2025). Hydro-Insurgency: Weaponization of Water Resources and Infrastructure in Northeast Syria. *World Water Policy*, 11(4), 924-938. <https://doi.org/10.1002/wwp2.70024>
- Mbaigoto, N., Alsharif, K., & Landry, S. (2023). An assessment of the degree of the implementation of the integrated water resources management principles in the Lake Chad Basin: The case of the Republic of Chad. *Sustainable Water Resources Management*, 9(4), 118. <https://doi.org/10.1007/s40899-023-00894-3>
- Nnam, M. U., Ugwuoke, C. O., Njemanze, V. C., & Akwara, F. A. (2020). Boko Haram Terrorism and Human Security in Nigeria: Matters Arising. *Journal of Aggression, Maltreatment & Trauma*, 29(10), 1257-1278. <https://doi.org/10.1080/10926771.2019.1710637>
- Nsaibia, H. (2024, September 30). *Newly restructured, the Islamic State in the Sahel aims for regional expansion*. Armed Conflict Location & Event Data (ACLED). Retrieved December 20, 2025 from <https://acleddata.com/report/newly-restructured-islamic-state-sahel-aims-regional-expansion>
- Nyelade, R. A. (2025). Economic and Religious Dynamics of Boko Haram: Understanding Conflict and Security in the Lake Chad Basin. *African Security*, 18(3), 290-312. <https://doi.org/10.1080/19392206.2025.2500769>
- Olojo, A., & Aniekwe, C. C. (2022). *Crime and Terror Nexus: The Intersections Between Terror and Criminal Groups in the Lake Chad Basin* (N°; p. 1-32). United Nations Development Programme: Regional Hub West and Central Africa. Retrieved July 10, 2025 from <https://www.undp.org/africa/publications/crime-and-terror-nexus-intersections-between-terror-and-criminal-groups-lake-chad-basin>
- Range, L. (2024). *Case study methodologies*. EBSCO Knowledge Advantage. <https://www.ebsco.com/research-starters/health-and-medicine/case-study-methodologies>
- Sala, L. (2023, January 17). *The nexus between climate change and terrorism: An analysis of ISIS's weaponization of water in Syria and Boko Haram activities in the Lake Chad Basin - Finabel*. Retrieved July 10, 2025 from <https://finabel.org/the-nexus-between-climate-change-and-terrorism-an-analysis-of-isis-weaponization-of-water-in-syria-and-boko-haram-activities-in-the-lake-chad-basin/>
- Scholar, M. (2022). *Climate Change and the Spread of Terrorism: The Indirect Linkage* (p. 1-14). European Intelligence Academy (EIA). Retrieved July 10, 2025 from https://euintelligenceacademy.eu/wp-content/uploads/20220717_EIAPaper4.pdf

- Schwartz, D. M. (1998). Environmental Terrorism: Analyzing the Concept. *Journal of Peace Research*, 35(4), 483-496. <https://doi.org/10.1177/0022343398035004005>
- Sers, R. (2025). The weaponisation of water. *The Lancet*, 406(10507), 992-994. [https://doi.org/10.1016/S0140-6736\(25\)01087-6](https://doi.org/10.1016/S0140-6736(25)01087-6)
- Shore, K. (2001, May 4). *L'approche islamique de la gestion de l'eau*. Le Centre de recherches pour le développement international (CRDI). Retrieved July 10, 2025 from <https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/2655113c-1df4-4193-bb1b-9cc670a64eb4/content>
- Spadaro, P. A. (2020). Climate Change, Environmental Terrorism, Eco-Terrorism and Emerging Threats. *Journal of Strategic Security*, 13(4), 58-80. <https://doi.org/10.5038/1944-0472.13.4.1863>
- Telford, A. (2023). Where to draw the line? Climate change-conflict-migration-terrorism causal relations and a contested politics of implication. *Environmental Science & Policy*, 141, 138-145. <https://doi.org/10.1016/j.envsci.2023.01.001>
- Union africaine & LCBC. (2018, August). *Document relatif aux piliers de la CBLT et de la CUA : triage, poursuites, réhabilitation et réintégration du bassin du lac Tchad*. Union africaine. Département Paix et Sécurité & Commission du Bassin du Lac Tchad (CBLT). Retrieved July 10, 2025 from <https://www.peaceau.org/uploads/annexe-3-document-relatif-pour-le-triage-poursuites-rehabilitation-et-reintegration.pdf>
- United Nations Development Programme UNDP. (2022). *Conflict Analysis in the Lake Chad Basin 2020-2021 Trends, developments and implications for peace and stability* (p. 1-36). Regional Hub West and Central Africa. Retrieved July 10, 2025 from <https://www.undp.org/africa/publications/conflict-analysis-lake-chad-basin>
- United Nations Development Programme (UNDP). (2024). *Joint AfDB-LCBC-UNDP Fragility and Resilience Assessment (JALUFRA) for the Lake Chad Basin* (p. 1-57). United Nations Development Programme (UNDP) Nigeria. Retrieved July 10, 2025 from <https://www.undp.org/africa/publications/joint-afdb-lcbc-undp-fragility-and-resilience-assessment-jalufra-lake-chad-basin>
- United Nations Security Council. (n.d.). *Jama'atu Ahlis-Sunna Lidda'awati Wal-Jihad (Boko Haram)*. *Security Council*. Retrieved December 20, 2025 from https://main.un.org/securitycouncil/en/sanctions/1267/aq_sanctions_list/summaries/entity/jama%27atu-ahlis-sunna-lidda%27awati-wal-jihad-%28boko
- Vaquero, G., Siavashani, N. S., García-Martínez, D., Elorza, F. J., Bila, M., Candela, L., & Serrat-Capdevila, A. (2021). The Lake Chad transboundary aquifer. Estimation of groundwater fluxes through international borders from regional numerical modeling. *Journal of Hydrology: Regional Studies*, 38, 100935. <https://doi.org/10.1016/j.ejrh.2021.100935>
- Veilleux, J., & Dinar, S. (2021). A Global Analysis of Water-Related Terrorism, 1970–2016. *Terrorism and Political Violence*, 33(6), 1191-1216. <https://doi.org/10.1080/09546553.2019.1599863>



- Volman, D. (2024). Marcus D. King. *Weaponizing Water: Water Stress and Islamic Extremist Violence in Africa and the Middle East*. Boulder, CO: Lynne Reiner, 2023. 245 pp. Bibliography. Index. \$95. Hardback. ISBN: 9781955055833. *African Studies Review*, 67(4), 1121-1122. <https://doi.org/10.1017/asr.2024.129>
- Werrell, C. E., & Femia, F. (2017, June). *Epicenters of Climate and Security: The New Geostrategic Landscape of the Anthropocene*. Center for Climate and Security. Retrieved July 10, 2025 from <https://sites.law.lsu.edu/coast/2017/06/epicenters-of-climate-and-security-the-new-geostrategic-landscape-of-the-anthropocene/>
- Yahe, L. (2024, April 5). *Shallow dive: The data behind the impacts of Lake Chad's shrinkage*. World Bank Blogs. Retrieved July 10, 2025 from <https://blogs.worldbank.org/en/opendata/shallow-dive--the-data-behind-the-impacts-of-lake-chad-s-shrinkage>