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Climate Change and Natural Resource Conflict in ECOWAS and ECCAS Regions: Implications for State Security Forces

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Abstract

Climate change has emerged as the imminent threat to national security in many regions of the world. Nowhere is this reality more acute than in West and Central Africa where surging population growth, rising urbanisation, persistent environmental degradation, emergence of violent extremist organisations and weak state capacity have created a perfect storm of insecurity. It is against this backdrop that this article examines the nexus and dynamics of climate change and natural resource conflicts in ECOWAS and ECCAS regions, with a view to highlighting its security implications. This study notes that climate change contributes to increased conflict, but along indirect pathways. Across the two regions, climate change is experienced through rising temperatures, droughts and destructive floods, which greatly undermine people's well-being and compound the fragility of states. This calls for the capacitation of state security forces through orientation and training that foster good understanding of the complex relationship between climate change, peace

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and security. The study concludes by offering strategic recommendations and policy directions to effectively tackle the climate change and natural resource conflict challenges in the contiguous regions.

Keywords: Climate change, Conflicts, Natural resources, Sahel, Security

1. Introduction

Since the Earth was formed, around 4.54 billion years ago, nature has remained critical to the survival of human society and the ecosystem. It provides the oxygen that living things need to breathe, regulates weather patterns, supplies food and water for all living creatures, and is home to countless wildlife species and the ecosystems they need to survive. However, according to the United Nations Environment Programme (UNEP), human activity has disturbed nearly 75% of the Earth's surface and put millions of animal and plant species on the endangered list. Human society has continuously overexploited nature's resources through land deforestation for agriculture and the livestock industry, while climate change is now exacerbating this degradation faster than ever, increasing erosion and desertification (Congo Basin Forest Partnership, 2021; The National Adaptation Plan to Climate Change, 2021; Giresse et al., 2023; Ojewale, 2023; Onuoha, 2023).

The climate change phenomenon is undoubtedly a global concern and, for the foreseeable future, would continue to receive attention from individuals, communities, organisations and states. The reason for this is not far-fetched. The dynamics of climate change are driving dramatic shocks that generate or exacerbate poverty, migration, conflicts, disease, mortality and the destruction of property and livelihoods across the regions of the world. As noted by Onuoha and Ezirim (2010:255), "climate change does not fit into the mode of traditional threats to national security, such as war, terrorism, insurgency, espionage, or sabotage. Yet its non-violent and gradual dynamics of manifestation serve only to disguise its impact on livelihoods, social order, peace, and stability." In a sense, climate change is already adding a complex dimension to the humanitarian, security and natural resource challenges that confront individuals, communities and states on a daily basis. While no state or region is obviously immune to the deleterious impact of climate change, the difference in its impact on individuals, communities or states lies partly on the level of vulnerability or exposure, adaptive

capacity of the entity impacted upon, and the institutional capacity of authorities to respond to the effects of climate change.

In terms of broad geographical regions, the Intergovernmental Panel on Climate Change (IPCC) has found that Africa is already feeling the effect of climatic change and will experience more changes in the years ahead; yet, the continent has limited ability to adapt (IPCC, 2007). The cruellest irony of climate change is that the regions (in particular the poor and vulnerable groups living in these regions) that emit less of the greenhouse gases (GHG) – significantly responsible for climate change – suffer the worst impact of climate change. For example, in 2004, Africa, with almost 920 million people, contributed 7.8% of GHG emissions, while the USA and Canada, with 326 million people, contributed 19.4% of emissions (Cilliers, 2009). A study by the UK Department for International Development (DFID), which estimates the effect of climate change on Africa by 2050, indicates that Southern Africa and the Sahel, the Great Lakes region and the coastal zones of eastern and western Africa, will be chiefly at risk (DFID, 2006).

Nowhere is this prediction, or reality, more acute than in West and Central Africa where surging population growth, rising urbanisation, persistent environmental degradation, emergence of violent extremist organisations and weak state capacity have created a perfect storm of insecurity. Across the two regions, climate change is experienced through rising temperatures, droughts and destructive floods, which greatly undermines people's well-being and compounds the fragility of states. Aware of the current and predicted impact of climate change on both regions, their respective regional economic communities (RECs), namely the Economic Community of West African States (ECOWAS) and the Economic Community of Central African States (ECCAS), are taking diverse measures. These include sensitisation workshops, drafting of climate change mitigative and adaptation strategies and participation in the Conference of Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) to contribute to negotiations on relevant international undertakings to decrease GHG emissions. Notwithstanding, West and Central Africa have been identified as climate-change hotspots. Population growth and environmental degradation are intensifying competition over already scarce natural resources in the regions, such as land and water. Climate change is set to

increase such competition even further with potential to cause or exacerbate natural resource conflicts.

It is against this backdrop that this article examines the nexus and dynamics of climate change and natural resource conflicts in ECOWAS and ECCAS regions, which form the greater part of the Sahel, with a view to highlighting its security implications. The Sahel region is arguably the most hit by climate security risks. The article is guided by the following questions: Is there any linkage between climate change and natural resource conflicts in the ECOWAS–ECCAS regions? If so, what are the implications of the climate change–natural resource conflicts nexus for the regions? What measures could be adopted to mitigate or adapt to the security challenges posed by climate change in West and Central Africa? The subsequent sections of this paper are organised to respond to these questions and other related concerns.

2. Understanding the concept of climate change and natural resource conflict

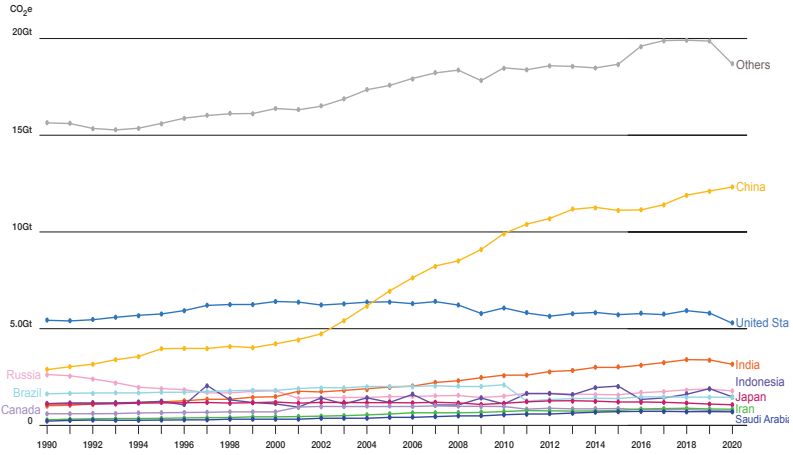
Given the tendency for concepts to elicit varying interpretations, particularly in the social sciences, we clarify our use of these concepts – climate change and natural resource conflicts – as a means to understanding their meaning and linkages in relation to West and Central Africa as a referent context.

In the simplest sense, climate change refers to change in climate overtime, as a result of either or both natural variability and anthropogenic factors. Culling from Article 1 of the United Nations Framework Convention on Climate Change (UNFCCC, 1992:4), "climate change refers to a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods." Climate change has also often been called the single biggest challenge for humanity over the coming centuries (Huntjens and Nachbar, 2015; Yamba et al., 2023).

There are lots of things that affect climate change, but the evidence is irrefutable. There is a large scientific consensus that humans are the leading cause of climate change. In their latest report, the IPCC states unequivocally that human activity is the principal cause of global warming. Human activity, such as burning fossil fuels and changing how human beings use the land, is the leading cause of climate change.

The gas responsible for the most warming is carbon dioxide, also called CO2. According to Climate Watch (2022), developed countries are responsible for nearly 80% of all human-related CO2 emissions between 1850 and 2011. Data in Figure 1 indicate that about 60% of GHG emissions come from just 10 countries, while the 100 least-emitting countries contributed less than 3%. Today, the richest 10% of people on the planet are responsible for nearly half of all carbon emissions (Ghosh, 2022).

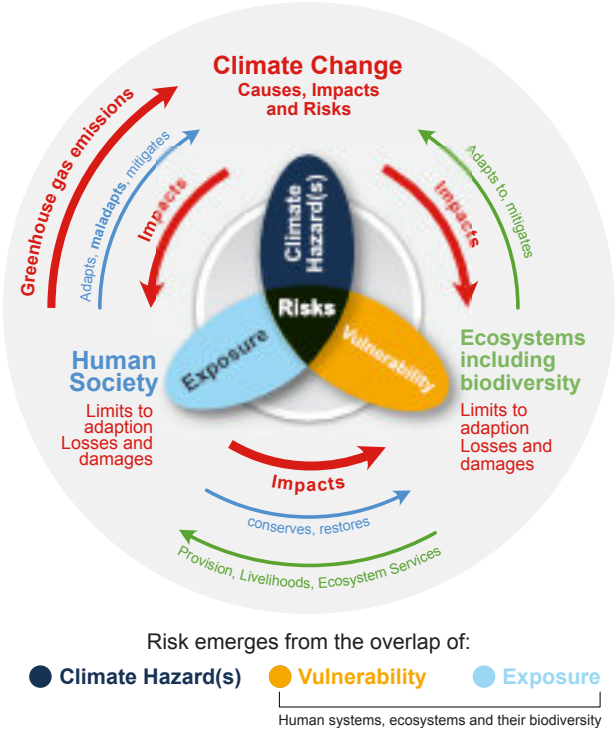
Figure 1: The top 10 countries in global greenhouse gas emissions, 1990–2020



Source: Climate Watch (2023)

Climate change is repeatedly being responded to as a major threat to peace and security in human society. This is understandable given the way it generates new risks or aggravates old ones. In its latest assessment report, the IPCC (2022) highlights how human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. Figure 2 below provides an illustration of the interactions among the coupled systems climate, ecosystems (including their biodiversity) and human society. These interactions are the basis of emerging risks from climate change, ecosystem degradation and biodiversity loss (IPCC, 2022). Its core assumption is that human society causes climate change.

Figure 2: Interactions among climate change, ecosystems and human society



Source: IPCC (2022)

Climate change, through hazards, exposure and vulnerability, generates impacts and risks that can surpass limits to adaptation and results in losses and damages (IPCC, 2022). Human society can adapt to, maladapt and mitigate climate change; ecosystems can adapt and mitigate within limits. Ecosystems and their biodiversity provision livelihoods and ecosystem services. Human society has an impact on ecosystems and can restore and conserve them. The arrow colours represent principle human society interactions (blue), ecosystem (including biodiversity) interactions (green) and the impact of climate change and human activities, including

losses and damages, under continued climate change (red). As depicted in the schema, the risk propeller shows that risk emerges from the overlap of climate hazards, vulnerability and exposure. A major risk associated with climate change is its tendency to act as a threat multiplier for instability, conflict and violence. What then are natural resource conflicts?

The ECOWAS Conflict Prevention Framework defines natural resources as "land, water, the environment and all material objects, natural or synthetic, found on and below the land, in and beneath water masses and in the atmosphere, and which can be transformed to produce value." (ECOWAS, 2008) This definition reveals that natural resources are material endowments of nature in their original form, which are used to support life or create useable values in the realms of economics, commerce, industry and technology. Natural resources such as land, water, timber, minerals, metals and oil are vitally important sources of livelihood, income and influence for individuals, groups, communities and states around the globe. When natural resources are poorly managed or inequitably shared, however, or when (corporate) resource exploitation is implemented without due consideration for context and communities, they can contribute to tensions that can escalate into violent conflict, or feed into and exacerbate pre-existing conflict dynamics (United Nations Department of Political Affairs and United Nations Environment Programme, 2015).

Conflict, in this context, is defined as,

> a situation of struggle between and/or among opposing individuals, groups, communities or states over certain perceived desirable values arising from differences in the action of any of the parties in the quest to realise or secure those values. The struggle may be over tangible values such as money, property, land, water, mineral resources, or animals. It may be intangible values such as power, influence, title, respect, and position, to mention but a few (Onuoha, 2008:41).

The conflict thus arises from the interaction of individuals or groups who pursue incompatible goals using incompatible means, leading to a situation of deprivation for any of the parties. On this note, Mark and Synder (1971) contend that a key element of all conflicts is the existence

of resource scarcity where the wants of all actors cannot be fully satisfied and where the quests for such resources result in conflict behaviour.

Natural resource conflicts are "essentially social conflicts (violent or non-violent) that primarily revolve around how individuals, households, communities and states control or gain access to resources within specific economic and political frameworks" (Turner, 2004:2). In other words, it is a "social or political conflict where natural resources contribute to the onset, aggravation, or sustaining of the conflict, due to disagreements or competition over the access to and management of natural resources, and the unequal burdens and benefits, profits, or power generated thereof" (Schellens and Diemer, 2020). Natural resource conflicts typically involve one or more of the following: (i) micro–micro conflicts between or among local stakeholders; (ii) micro–macro conflicts between local and national or international stakeholders, and (iii) macro–macro conflicts such as intergovernmental conflicts. Table 1 below shows examples of the different types of conflict arising in natural resource management. The causes of natural resource conflicts are often complex and multi-layered. A basic distinction can be made between contributing causes (such as climate change or proliferation of arms) and root causes (such as governance or inequality) (Funder et al., 2012).

Table 1: Examples of natural resource conflict

Type	Manifestations
Micro–Micro conflicts	Intra-community conflicts where some households are excluded or further disadvantaged and benefits captured by other community members Conflict over land access between pastoralists and crop farmers Conflicts over water access between long-standing resident groups and newcomer households Conflicts between neighbouring clan leaders over the control of pasture
Micro–Macro conflicts	Conflicts between customary and government authorities over control of land allocation Conflicts between local farmers and the state over protected areas Conflicts between fishermen and the state over hydropower production
Macro–Macro conflicts	Conflicts between two riparian states sharing a river course Conflicts between international NGOs and the state over logging Conflicts between international companies over diamond and fossil fuel resources

Source: Funder et al. (2012)

3. Theoretical framework

Natural resource conflicts are a common feature in many areas of the developing world, and reflect the widespread dependence on access to natural resources for local livelihoods (FAO, 2005). Since the mid-1990s, there has been a growing body of research on the causes of civil wars or violent conflicts. One of the important findings is that natural resources play a key role in triggering, prolonging and financing these conflicts. This finding is not particularly new (Ross, 2003). Indeed, the control and exploitation of natural resources has played a role in many violent conflicts throughout history (Berdal and Malone, 2000). Local conflicts are often resource related, particularly in rural areas where material conditions are poor. For the last three decades, one-third of peacekeeping operations have taken place in areas where the conflicts have been economically fuelled, or otherwise driven, by natural resources. According to Ross (2003:17), "the resources that cause these problems are largely oil and hard-rock minerals, including coltan, diamond, gold and other gemstones." However, population growth and environmental degradation are intensifying competition over natural resources, such as land and water. Climate change is set to increase such competition even further, now and in the near future.

Africa has seven distinct climatic zones and ecosystems, ranging from that of the Sahara to the rainforests of Central Africa. The impact of climate change will vary between and within countries. However, available climate change evidence for Africa suggests increasingly scarce water resources in Central Africa, declining and failing agricultural yields and drought in the Horn of Africa, encroaching, desert-like environments in the Sahel region, the destruction of marine and coastal resources, and damage to property and infrastructure. These changes are already undermining the carrying capacity of Africa's land and water formations, causing destabilising population movements and raising tensions over dwindling key resources (Adano and Daudi, 2012).

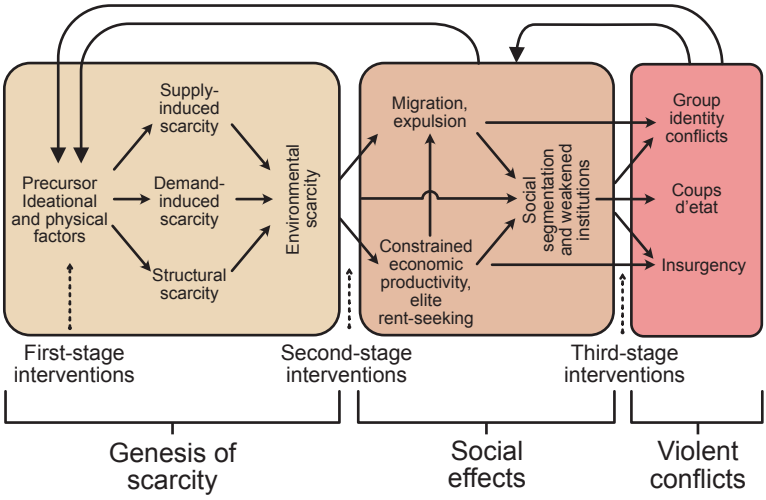
Under these circumstances, climate change becomes a significant factor that drives or compounds resource scarcity amid rising populations, especially under conditions of poor governance. Consequently, the diminution or depletion of natural resources undermines livelihood systems and increases the risk of conflicts, especially where conflict management mechanisms are weak, non-existent or where historic grievances fester or remain unaddressed. Its manifestation is best

understood from the core propositions of the Eco-violence theory, propounded by Thomas Homer-Dixon. Homer-Dixon and Blitt (1998) argue that large populations in many developing countries are highly dependent on four key environmental [natural] resources that are very fundamental to crop production: fresh water, cropland, forests and fish. Scarcity or shrinking of these resources as a result of misuse, over-use or degradation under certain circumstances will trigger off conflicts (see Figure 3 below).

According to Homer-Dixon:

> Decreases in the quality and quantity of renewable resources, population growth, and unequal resource access act singly or in various combinations to increase the scarcity for certain population groups, of cropland, water, forests, and fish. This can reduce economic productivity, both for the local groups experiencing the scarcity and for the larger regional and national economies. The affected people may migrate or be expelled to new lands. Migrating groups often trigger ethnic conflicts when they move to new areas, while decreases in wealth can cause deprivation conflicts (Homer-Dixon, 1999:30).

Figure 3: Link between natural [environmental] resource scarcity and violent conflict



Source: Homer-Dixon (1999)

Climate change will drive the decline or scarcity of natural resources that are critical to the survival of people and states, for both subsistence and economic mainstay. In some circumstances, access to or control of natural resources has been a contentious issue which has often generated tensions and violent conflicts within, between and among nations. More often, a traditional type of analysis of resource issues as they relate to conflicts focuses on 'hard' resources, such as strategic minerals, at the neglect of 'soft' resources (Bissel, 1996), such as water, food and land. This marginal attention exists in the face of one obvious reality: people derive their living from land, water and other livelihood-sustaining resources, and fierce competition for them underlies conflicts in some parts of the world. If left unaddressed, climate change will increase the frequency and intensity of competition for these life-sustaining resources. For the focus of this study, the foregoing theories find application in four distinct domains: climate-induced fragility, resource conflict, vulnerability of disadvantaged populations and security resilience. We argue that the role of climate change is undeniable within the conflict matrix across the regions, and underscore the importance of climate change-conscious solutions to the unfolding security crisis. In subsequent sections, the findings of this study are highlighted, discussed and situated within this theoretical frame.

4. Understanding ECOWAS and ECCAS regions

The ECOWAS and ECCAS are the two RECs in West and Central Africa, respectively. Both were established to facilitate regional economic integration between members of the individual regions and through the wider African Economic Community (AEC). The ECOWAS, made up of 15 member states, was established by the ECOWAS Treaty in May 1975 with the primary objective of promoting economic integration in all fields of economic activity, particularly industry, transport, telecommunications, energy, agriculture, natural resources, commerce, monetary and financial questions, social and cultural matters. The member states of ECOWAS include Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. Article 3(1) of the ECOWAS Treaty provides that the aims of the Community are to promote cooperation and integration in the region, leading to the establishment of an economic union in West Africa in order to raise the living standards of its peoples; and maintain and enhance economic stability, foster relations among member states and contribute to the progress and development of the African continent.

ECOWAS member states have a tripodal colonial history, namely France (eight Francophone countries), United Kingdom and United States (five Anglophone countries) and Portugal (two Lusophone countries). The ECOWAS, Permanent Interstate Committee for Drought Control in the Sahel (CILSS), and West African Economic and Monetary Union (WAEMU) communique on COP26 and Climate Change of 11 November, 2021 acknowledged that the region was in a situation of climate emergency and called upon COP26 and GCA3 to recognise this state of emergency and to emphasise the urgency of increased action to fight climate change. The communique also called on COP26 to focus on climate finance and the effective mobilisation of up to US$ 100 billion per year until a new, highly ambitious collective climate finance goal was adopted by 2025 (ECOWAS, 2021).

The ECCAS on the other hand, is made up of 11 member states, namely Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Rwanda and Sao Tome and Principe. It was formed in October 1983 by the Treaty establishing the ECCAS signed in Libreville, Gabon. Following internal crises in many member states, ECCAS ceased activities between 1992 and 1998. ECCAS was revitalised by a Heads of State and Government decision at the 1998 Summit in Libreville. Article 4 of the Treaty provides that the community's objectives are to achieve collective autonomy, raise the standard of living of its populations and maintain economic stability through harmonious cooperation. The 1999 Malabo Heads of State and Government Conference set out four priority fields for the organisation: to develop capacities to maintain peace, security and stability as essential prerequisites for economic and social development; develop physical, economic and monetary integration; develop a culture of human integration; and establish an autonomous financing mechanism for ECCAS.

ECCAS member states have a tripodal colonial history, namely France (seven Francophone countries), Portugal (two Lusophone countries) and Spanish (one Español). Regarding the organisation's strategy to mitigate the impact of climate change in the region, ECCAS countries made international commitments to contribute to combating climate change through their Nationally Determined Contributions (NDCs) in the context of the COP21 of the United Nations Convention on Climate Change (UNFCCC) held in Paris in 2015 (Eba'a Atyi, et al., 2018).

4.1 Manifestations of climate change in ECOWAS and ECCAS regions

There is a growing body of literature on climate change and conflict. Increasingly, they contend that there are significant linkages between climate change and conflict (Dahunsi et al., 2022; Melinda, 2005; Mikkel, et al., 2012; Schmidt and Muggah, 2021; Turner, 2004). Conflict is not seasonal even though climate varies in regions. Rather, the adverse impact or effect posed by alteration in weather conditions and seasons as a result of human and industrial activities has contributed to the outbreak of conflicts. Scholars have repeatedly described climate change as a threat multiplier of conflicts and instability. In ECOWAS and ECCAS, the consequences of climate change have continued to have a negative impact on the lives and livelihood of citizens, especially those residing in the rural areas. As a result of the massive and dynamic climate variations being experienced in several parts of the regions, such as low rainfall in northern Nigeria; drought in Niger; crop flooding in the far north region of Cameroon; rising temperature in western; northern and eastern Chad; sea-level rise and coastal erosion in Senegal, among other variations, the means to human survival continue to be threatened on a daily basis (Carré et al., 2022). Perhaps no region in the world has been affected as much as the Sahel in West-Central, which is experiencing rapid population growth, estimated at 2.8% per year, in an environment of shrinking natural resources (land and water). Climate change is already exacerbating existing problems, including conflicts in the region. The Sahel region is particularly vulnerable to climate change, with 300 million people affected. Drought, desertification and scarcity of resources have led to heightened conflicts between crop farmers and cattle herders, and weak governance has led to social breakdowns, with dramatic implications on peace and security in the regions.

One of the commonalities between these regions is the geostrategic location of some of the member states along coastal regions, which makes them susceptible to flooding as a result of rising sea levels. However, the manifestations of climate change consequences have cut across the coastal region countries to other landlocked countries in various forms with far reaching consequences. By implication, no country in these regions is immune to the deleterious consequences of climate change. Coastal populations are prone to increased risk of sea-level rise. This is combined with the surge in urbanisation of coastal regions of between 72 and 94

million people migrating to urban centres. The largest clusters can be seen in Lagos, Abidjan, Dakar and Accra (Ogunrinde et al., 2022; Saghir and Santoro, 2018). The intensification of drought risks in West Africa has disrupted the region's nearly 20 million pastoralists, and contributed to a five-fold increase in conflict in Mali's Mopti region in 2019 (Luc, 2023; Ojewale, 2022; Schmidt and Muggah, 2020). Fluctuations in water availability in both regions (ECOWAS and ECCAS) pose a major threat to already vulnerable populations, especially for populations dependent on rain-fed agriculture. The Lake Chad Basin (LCB) is threatened as a result of this fluctuation and has disrupted the food security conditions for nearly 50 million people, of which 6.9 million are already severely food insecure (FAO, 2017).

5. Climate change and natural resource conflicts in the regions

5.1 Climate change and conflict over land resources

Africa has an estimated 132 million hectares of degraded cropland which, combined with climate change, makes millions more citizens vulnerable. Around 45% of Africa's land is impacted by desertification, 55% of which is at very high risk of further desertification. In West Africa, the landscapes are already affected by degradation, particularly in the fast-growing agricultural lands where natural vegetation cover has been removed, and fragile soils have been exposed to wind and water erosion. Since 1975, West African forests have declined from about 131 000 sq km to just 83 000 sq km. Much of that deforestation was driven by agricultural expansion, which doubled in area between 1975 and 2013, and now extends over 1 100 000 sq km – larger than the size of Mauritania. Poor management of agricultural land contributes further to degradation of land. Climate change drivers of land degradation include changes in temperature, rainfall intensity, windstorms and changes in the distribution and intensity of extreme weather events.

With so much of the natural habitat being replaced and fragmented by agriculture – and the increased degradation that is often associated with it – there is growing and intense competition for access to arable land. Consequently, farmers and herders in West and Central Africa have already been forced to migrate within their home countries or even across borders in search of more secure livelihoods. These stressed conditions have been linked to natural resource conflicts over grazing land and water.

Places affected the most in West Africa include Mopti and Gao in Mali, the Tillabéri and Tahoua regions in Niger, the eastern region of Burkina Faso, and the northwest and northcentral regions of Nigeria. The depleting natural resources and grazing lands in the region have increased conflict between farmers and pastoralists. Around 4 000 people died in Nigeria as a result of farmer–pastoralist conflicts between 2016 and 2019. In Mali, the cycles of farmer–herder violence and reprisals have become increasingly lethal since 2015 and resulted in nearly 700 fatalities in 2020 (Ojo, 2023; Onyeneke et al., 2022; UN Humanitarian, 2021).

In Central Africa, hotspots of climate change-related natural resource conflicts include the Salamat, Sila and Ouaddai provinces of Chad. Herders and sedentary farmers have a long and troubled history in southern Chad, where ethnic friction over land is common. In February 2021, about 35 people were killed in clashes involving semi-nomadic herders and farmers in the province of Salamat, south-eastern Chad. Similarly, 12 people were killed in February 2022 in clashes between herders and farmers in the village of Sandana, southern Chad. Thanks to the region's relatively mild climate for the Sahel, its vegetation is lush and, for centuries, it has drawn in migratory herders from arid areas, many of them Arabs, for seasonal grazing (AFP, 2021; 2022). As with the Nigerian experience, it is important to note that, historically, herders and farmers in Chad have been from different ethnic groups and, in this case, it appears that the herders are Arab and the farmers are black Africans. Hence, an apparent conflict over land use may also have or develop an ethnic dimension (Campbel, 2019; Musa et al., 2022; World Bank, 2023).

5.2 Climate change and conflict over transboundary water formation

Water is distributed unevenly in time and space, which creates challenges in management and allocation. Although water is a renewable resource, its natural availability in a particular locality and at a point in time cannot be accurately predicted. Water is essential for a number of purposes, ranging from economic (agriculture, industry, transport, energy) to social (culture, household consumption, recreation) and environmental (all ecosystem services). The case of Lake Chad, straddling the borders of Nigeria, Chad, Niger and Cameroon, is a nodal example in this regard. The rich water resources of the Lake have been a source of economic livelihood, and have sustained over 30 million people inhabiting the catchment areas of the four riparian states. However, in

the last few decades, the size of the lake, as well as its resources, has continued to diminish. As the fresh water and other resources of the lake continue to diminish, economic livelihoods have been significantly disrupted such that local populations relying on the lake for their survival have followed its receding waters. The result has seen resource conflicts within the area.

Conflicts over the resources of Lake Chad manifest in two forms: conflicts of ownership and conflicts of use. Incidences of conflict of ownership occur when the struggle over the resources of the lake borders on the question of which territory of the riparian states has the right to appropriate the resources of the lake. Conflicts of ownership usually involve parties from different nationalities. At the heart of these conflicts is the issue of struggle over water and fishing rights, and it usually assumes both intra-state and inter-state dimensions. The issue of increased competition among the users has led to rampant conflict between downstream and upstream users (Carrington, 2019).

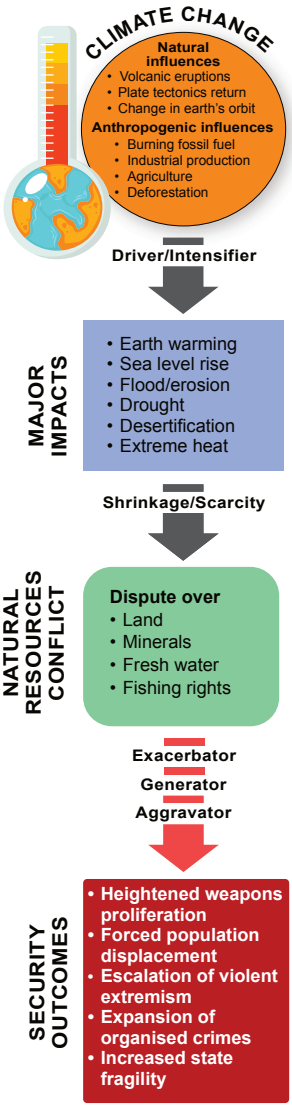
Conflict over fishing rights has been an important aspect of conflict of ownership in the waters of Lake Chad in recent times. For instance, in the early 1980s, there were various allegations of serious infractions and dehumanising treatment meted on Nigerian fishermen by Cameroonian and Chadian gendarmes. On one such occasion in 1983, the skirmishes resulted in the loss of nine Nigerians and 75 Chadian troops, while 20 Nigerians and 32 Chadians were reportedly captured. Similarly, Nigerian fishermen and fish dealers operating from both sides of the water of Lake Chad and the various fishing villages on the Nigeria-Cameroon border have reported a repeated incidence of physical assaults and, often, incarceration without the due process of law (Njoya et al., 2022; Okon-Ekpenyong 1989). Conflicts over competition for the resources of the lake have continued to manifest as the lake diminishes. In 2007, a Nigerian fisherman, Sanusi, contended that: "it is difficult to determine boundaries on water, yet the gendarme from Cameroon and Chad always come after us and seize our fishing nets and traps and we have to pay heavily to get them back" (cited in Murray, 2007). While reports of such conflict are not common since the outbreak of the Boko Haram insurgency in 2009, irregular rainfall patterns in the Lake Chad Basin have created socio-economic shifts that have been linked to recruitment into Boko Haram and the Islamic State (Nagarajan et al, 2018).

Regarding conflict of use, violent conflicts have become recurrent in the adjoining areas of the lake in Cameroon territory, due to growing water scarcity. As noted earlier, the lake's water resources have diminished by 70% in the past 50 years, partly due to climate change. 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 (Kindzeka, 2021). Water scarcity has triggered regular clashes between ranchers and fishers in Logone and Chari, Cameroon. In August 2021, for instance, about 11 000 civilians fled from Logone and Chari to Chad after a conflict over water between cattle ranchers and fishermen. 40 people were killed and 70 were wounded (Kindzeka, 2021).

5.3 Climate change, migration and resource conflict

Climate change is also accelerating migration and displacement in West Africa, especially in the Sahel (Issifu, Darko and Paalo, 2022). Today, roughly 25 million Sahelian herders of cattle, sheep, goats and other livestock travel south with their animals during the dry season and then back north during the wet season. Prolonged dry seasons, shortened rainy seasons and less regular rainfall are generating new uncertainties for pastoralists, which require new herd management methods and which undermine delicate ecosystems. Harsh environmental trends in the northern part of Nigeria, such as the shrinkage of Lake Chad and desertification, have made more permanent the seasonal movement of the Fulani cattle rearers to the southern part of Nigeria. Previously, these pastoralists migrated to the southern part during the dry season and moved back to the north during the rainy season. Because of the deteriorating situation in the region, many of them are now settling in areas of southern Nigeria, such as Ilorin, Umuahia, Ogbomoso, Shaki, Ubakala, Uzo-Uwani and Oyo, where they have ended up competing for the available scarce resources with other economic groups or with host communities. Such resources include fresh water and arable or grazing land. This has contributed to resource conflicts in these areas with the potential to spill over into ethnic clashes (Onuoha, 2010). Competition for grazing land, reduced access to water and the erosion of customary dispute resolution mechanisms are accelerating retaliatory cycles of violence.

Figure 4: Mapping climate change, natural resource conflicts and insecurity nexus



Source: Onuoha (2022)

6. Implications of climate change–natural resource conflicts in the regions

The foregoing examples illustrate the complex nexus between climate change and natural resource conflict. To summarise, climate change compounds the problem of natural resource scarcity. Situations of scarcity lead to intense competition for available resources, which could result in conflict in some cases, but not necessarily in all cases. As conflicts manifest or escalate over land, minerals, fresh water and fishing rights, parties may deploy violent tactics in the struggle to secure or maintain access or to guarantee their own survival. This could generate or complicate security challenges for the affected state or region. The resultant situation may have serious implications for the state and its security forces. For the state, the resultant security outcomes could include food insecurity, heightened proliferation of small arms, forced population displacement, deepening of violent extremism, possible militarisation of society and overall state fragility. Thus, there is a consequential linear relationship when considering climate change, natural resource conflicts and insecurity (see Figure 4 and Table 2).

Table 2: Climate change, natural resource conflicts and (in)security dynamics in the regions

Climate change / Natural resource conflict

Implications	Manifestations/Approximations
Heightened SALWs proliferation	West and Central Africa over the last decade have witnessed some of the most devastating conflicts in the world involving the use of small and light weapons (SALWs). Further outbreaks of climate change-related natural resource conflicts will compound the challenge of weapons proliferation. It will hinder progress towards the African Union's campaign on Silencing the Guns in Africa, especially in the two regions.
Population displacement	The outbreak of natural resource conflicts due to climate change will generate force population displacement and manifest in an increase in internally displaced persons (IDPs) or refugees, or both. For instance, 200 000 people fled their communities in northern Nigeria in 2020, with 77 000 of them crossing the border in search of safety, amid frequent farmer-herdsmen clashes and escalating banditry (Babangida, 2021).
Exacerbation of violent extremism	The outbreak of natural resource conflicts triggered by climate change will heighten the threat of violent extremism. The challenge of terrorism and violent extremism remains endemic in West and Central Africa. In central Mali, for instance, terrorist groups have exploited the growing tensions between herders and farmers to recruit new members from pastoralist communities who often feel excluded and stigmatised. Environmental degradation enables non-state-armed groups to extend their influence and manipulate resources to their advantage.
Growth of organised crime	As resource conflicts break out, organised criminal groups seek to benefit from the situation. The result is an increase in different forms of organised crime, particularly weapons smuggling, drug trafficking, cattle rustling and banditry. In Nigeria's northwest zone, the outbreak of violent clashes between herdsmen and farmers has implicated the rise and persistence of organised crimes, such as banditry, gun running and drug (tramadol) trafficking. Similarly, there are increasing links between transhumant herders and armed groups, such as the ADF, including the phenomenon of foreign armed groups and the exploitation of transhumance for criminal purposes.
Increase in state fragility	Climate has an impact on and compounds conflicts. It further exacerbates fragility. When climate disruption contributes to pressure on institutions and hinders their capacity to provide public services, it fuels grievances and mistrust towards authorities. When the loss of livelihoods leaves populations in despair, the promises of protection, income and justice that are common in violent extremist narratives become more attractive (UNSG, 2021).

Source: Compiled by authors

Note: Table 2 is significant as it reflects the need for these challenges to be understood and addressed in an integrated manner to foster a coupled system of peace, security, resilience and sustainable development.

As with states or regions, the link between climate change and natural resource conflicts has implications for almost all state security forces and officials. Security forces are defined in this paper as the array of public institutions that are statutorily established by constitutional law and entitled to the possession and deployment of certain categories of weapons, equipment, facilities and specialised gadgets to deter, prevent, neutralise or eliminate anything (situation or actor) that poses danger to the safety and well-being of citizens, preservation of assets or cherished values, and continued existence of the state. It encompasses military, paramilitary, intelligence, security and law enforcement institutions established by law for the purpose of maintaining peace, stability and security in a state. Focusing on agencies and institutions that are strategic to the security architecture of a state, provisions in Table 3 offer insights into some of the notable implications of climate change and natural resource conflicts for peace and security management.

Table 3: Implications of climate change-natural resource conflict for state security forces

Agency	Possible statutory tasking	Remarks
Military	The outbreak or intensification of natural resource conflicts due to climate change will place additional demand for the use of the military in internal security operations (ISO) and possibly peacekeeping operations (PKO) or Peace Support Operations (PSO).	Military are almost engaged in more than 60% of the states embroiled in conflicts in the regions.
Police	As the first-line responder to internal security challenges, there will be heightened expectation for police services to preserve the safety and security of persons. Failure will widen loss of public confidence and create a trust deficit.	Police services are already suffering from acute trust and capacity deficit in most of the countries.
Department of State Services (DSS)	The task level and focus of its operative will increase, as they will be expected to inform authorities of early warning signals, conflict entrepreneurs and spoilers.	Once conflict breaks out, there are those who benefit from or support it, including for political purposes.

Agency	Possible statutory tasking	Remarks
National intelligence agencies	The nexus between conflicts and organised crime has been established in the literature based on several empirical studies. The states' intelligence agencies will need to identify possible cross-border flow – weapons, drugs, fighters.	The Macina Liberation Front/Katiba Macina in central Mali has exploited issues such as marginalisation (land rights) to draw local support, and recruit, from Fulani pastoralist youth.
Customs services	The outbreak of natural resource conflicts will likely heighten proliferation of SALWs, especially if conflicts become intense and more violent.	This will add to the already saturated arms flow in ECOWAS–ECCAS regions.
National emergency management agencies	Climate change and natural resource conflicts will put additional burdens on already scarce resources (personnel, facilities and funds), in addition to the challenge of providing coordination amid different actors with divergent organisational cultures and interests.	Once conflict breaks out, there are those who benefit from or support it, including for political purposes.
Correctional services (prisons)	As other state actors deploy to contain natural resource conflicts, they will arrest and prosecute suspects (lawbreakers and criminals) who may be convicted or remanded in prison.	As the prison population increases, so do the risks of jail break.

Source: Compiled by authors

Based on the implications for security forces outlined above, three broad spectrums of response by critical security stakeholders are conceivable. These broad spectrums include the following:

Preventive spectrum: This is the spectrum that looks at gaining a good understanding of the underlying factors of and early warning signals for conflict. These are likely to fall within the remit of agencies we consider the soft security agencies, such as the intelligence agencies and the police services.

Combative spectrum: These are those who have the responsibility to deploy force as a way of separating the warring factions or as a way of restoring normalcy. Top on this list is the armed forces: army, navy as applicable in each country and those deployed for special operations.

Responsive spectrum: These are soft agencies of government that may respond to the conflict across the spectrum of conflict escalation and de-escalation, when the conflict is beginning to break out, at the height of the conflict and when the conflict is ending or has ended. Typical agencies in this spectrum include the national emergency management agencies, civil society organisations and humanitarian actors interested in relief distribution, counselling, restitution, etc.

7. Conclusion and recommendations

This paper has analysed the linkages between climate change, natural resource conflicts and insecurity in ECOWAS and ECCAS regions. No doubt, as a result of climate change, various dynamic shades of insecurity have emerged in West and Central Africa and have continued to hamper peace, security and development in the regions. The regions have witnessed increased conflicts, violence, insurgency and terrorism as a result of climatic variations, which have posed serious challenges to the security forces in their tasks of maintaining peace and security. While climate change is not the direct cause of natural resource conflicts, it has proven to be a multiplier factor in the dynamics of violent conflicts. To more effectively tackle the climate change–natural resource conflict challenge, the following recommendations are pertinent:

Regional economic communities (ECOWAS and ECCAS):

Prioritise commitment to preserving and restoring their forests. In particular, escalating action by ECCAS to support the protection of the Congo Basin, with its rainforests, wetlands and other ecosystems, is a critical and viable pathway to keeping 1.5 degrees in reach. Absorbing around 1.5 billion tons of carbon dioxide in the atmosphere, or 4% of the world's emissions every year, Central Africa remains one of the only regions left in the world that absorbs more carbon than it emits. In addition, these forests play an important role in biodiversity conservation and millions of citizens depend on the free services these forests provide.

Support local initiatives aimed at mitigating climate change through coordination of policies, building partnerships, resource mobilisation and promotion of national ownership of projects that have been implemented.

Partner with universities, research institutions and think tanks to generate knowledge and ideas as well as innovate ways of or mechanisms for mitigating the impact of climate change in the regions.

Deepen partnerships to strengthen the capacity of regional institutions and the frameworks of Lake Chad Basin countries (LCBC) and Multinational Joint Task Force (MNJTF) to respond to transboundary water resources challenges (shrinkage of Lake Chad) and transborder criminality, such as terrorism and organised crimes. The development and instrumentalisation of partnerships and initiatives linking local, regional and national approaches is key. A good example is the Regional Strategy for the Stabilization, Recovery and Resilience of the Boko Haram-affected areas of the Lake Chad Basin Region, which was jointly developed by the AU, LCBC (ECOWAS and ECCAS states), United Nations and other partners. The strategy integrates humanitarian action, security, development and climate resilience.

ECOWAS/ECCAS member states:

Develop properly resourced national climate change mitigation and adaptation strategies, supported with a robust national plan of action. The articulation and implementation of a national 're-greening' initiative should receive priority attention. This would involve the transformation of degraded landscapes into productive and resilient farmland through widespread adoption of agroforestry and related sustainable land management practices (Reij and Winterbottom, 2015).

Strengthen the criminal justice institutions to be able to, in a timely manner, effectively dispense justice on matters arising from marginalisation, grievances and rights violations.

Strengthen the capacity of traditional structures and authorities in early warning, mediation and alternative dispute resolutions, conflict management and peace messaging.

Promote best practices in agriculture and pastoralism, such as improved irrigation efficiency, use of adaptive crops and ranching.

Security forces:

Deepen Civil Military Relations (CMR) and Civil Military Coordination (CIMIC) training and involve a broad spectrum of military, paramilitary, intelligence, security, law enforcement and civilian actors (development and the humanitarian actors) to enable good working relations in complex security emergencies.

Undertake bespoke capacity building, refresher courses and simulation exercises that will enable state security forces to create a new generation of experts with deep-thinking and forward-looking capabilities to correctly

anticipate and effectively tackle the challenge of climate change–natural resource conflicts.

Employ a whole-of-government approach towards pursuit of national security in an integrated manner, aimed at tackling natural resource-based conflicts in ECOWAS–ECCAS regions. It requires establishing or strengthening frameworks that promote inter-agency collaboration and integrated planning among state defence and security forces.

Lastly, redefine and update the training curriculum for officers of the security and defense forces of the ECOWAS and ECCAS countries in the context of rapidly changing national and international security landscapes with the new layer of climate risks. The starting point is to acknowledge that the changing climate has a significant effect on security missions, strategies and installations. The militaries, national security outfits and military education institutions in the countries must elevate climate change as a national security priority and concern by integrating climate considerations into cadet trainings, refresher courses and national security strategies. This will bolster national capability and posture; it will enable security forces to maintain a strategic edge over the non-state armed groups who exploit the vulnerabilities and fragility imposed on states by climate change and will support their capacity to wage and sustain 'new wars' within the states and around their frontiers.

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