APPLIED RESEARCH PROJECT

CLIMATE-RELATED HAZARDS AND INTERNAL CONFLICTS: A CROSS-COUNTRY EXAMINATION OF THE SECURITY SECTOR PARTICIPATION IN COLOMBIA, THE DEMOCRATIC REPUBLIC OF THE CONGO, AND ASSAM, INDIA

PARTNER ORGANISATION:

CENTER FOR CIVILIANS IN CONFLICT (CIVIC)

FINAL REPORT

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1. Introduction

The nexus of climate change and conflict has been a topic of intense debate in the past few decades owing to the different approaches in studying their relationship and investigating potential causality (O'Loughlin et al., 2012). While a consensus on the direct relationship between climate change and conflict has not been established, the majority of existing literature on the topic asserts that climate change leads to increased conflict (Salehyan, 2008; Pörtner et al., 2022). According to the United Nations, climate change[1] is one of the most serious crises of our time. Record temperatures, unprecedented sea level rise and frequent extreme weather events point to a calamitous future for the planet and for humanity (United Nations, 2020). This poses threats to the lives and livelihoods, increasing competition for resources, exacerbating internal conflicts[2] and displacement of communities (United Nations, 2020). For these reasons, a growing body of evidence suggests climate change as one of the many drivers of increased insecurity and conflict and a "threat multiplier" (Manea, 2023; United Nations, 2020).

State security actors play a pivotal role in the context of this nexus, as they are key actors in response to both conflict and climate-related hazards[3] (Manea, 2023). For state actors, environmental risks often give rise to disputes, as climate change exacerbates scarcity, which, in turn, leads to insecurity (Theisen et al., 2013). Manea (2023) maintains that it is the state's responsibility to protect the population from the effects of climate change. Similarly, the Geneva Centre for Security Sector Governance (DCAF, 2023) argues that state actors must assume responsibility in the event of climate-related hazards and provide humanitarian relief. Moreover, the absence of preparedness and strategic planning not only affect the capacity of security providers to operate but will also diminish the state capacity to deliver human and conventional security.

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[1] Climate change refers to the long-term changes in the Earth's climate that are warming the atmosphere, ocean and land. Climate change is affecting the balance of ecosystems that support life and biodiversity, and impacting health. It also causes more extreme weather events, such as more intense and/or frequent hurricanes, floods, heat waves, and droughts, and leads to sea level rise and coastal erosion as a result of ocean warming, melting of glaciers, and loss of ice sheets (Definition of climate change provided by UNDP, 2023).

[2] According to the ICRC, an internal conflict or non-international armed conflict refers to a situation of violence involving protracted armed confrontations between government forces and one or more organised armed groups, or between such groups themselves, arising on the territory of a State (Definition of "internal conflict" provided by ICRC, 2012).

[3] Natural hazards can be defined as natural processes or phenomena that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (Definition of "hazard" provided by the United Nations Office for Disaster Risk Reduction).

Non-state security actors also have a key role in the nexus between climate-related hazards and conflict, especially through international organisations. These actors, among them IOs and civil society organisations, are important collaborative entities with state actors to help adapt and mitigate the impacts of climate change (DCAF, 2023). Indeed, international organisations are responsible for providing knowledge and recommendations, monitoring the progress of climate goals, and facilitating collaboration between state and non-state actors in the context of climate change mitigation (Elazari, 2022). The importance of this collaboration is also highlighted in the Paris Agreement as a crucial element to enhance climate resilience (DCAF, 2023). Non-state actors, both international and local, contribute significantly to climate hazard mitigation through disaster response and promotion of sustainable practices, they are pivotal in conducting risk assessments and in the development of early warning systems (Bappenas, 2021). They also play a role in the enhancement of community resilience and in raising awareness through more inclusive approaches to disaster preparedness and more efficient engagement with the local population (Bappenas, 2021).

The exploitation of environmental resources by some security actors[4] also represent a significant challenge within the climate-conflict nexus (Global Trends, 2022). For instance, in Colombia and the DRC, the security forces have been observed to illegally extract minerals and timber, contributing to deforestation and the loss of biodiversity, which exacerbates local tensions and conflicts (Forest Trends, 2021; Global Witness, 2021). Furthermore, there is also a tendency among military actors to intervene in instances of climate related-hazards where their intervention is not warranted, and to do so as a pretext for repression, often harming communities as a result (Van Schaik et al., 2020). In order to be more effective, efforts should be made to clarify the role of the military to reduce and address insecurity issues arising out of climate change (Van Schaik et al., 2020).

Thus, security actors may - even unintentionally - affect the vulnerability[5] of civilians and communities through their interventions (GPC, 2022). In addition, a suitable implementation

[4] The security sector is composed of all the structures, institutions and personnel responsible for security provision, management and oversight at national and local levels. The security sector includes both actors that use force and those responsible for controlling how force is used through management and oversight: these actors are state security providers and those responsible for security management and oversight, which includes civil society (Definition provided by DCAF, 2015)

[5] Certain characteristics or circumstances of an individual or group, or their surrounding physical environment, diminish ability to anticipate, cope with, resist or recover from the impact of a threat. People differ in their exposure to a threat depending on their social group, gender, ethnicity, age, and other factors. Vulnerability is not a fixed or static criterion attached to specific categories of people, and no one is born vulnerable per se (Definition provided by CIVIC, 2023).

response to the impacts of climate change and hazards is crucial for the protection of civilians and vulnerable communities. As security actors often find themselves in charge of the first response to hazards (Manea, 2023) their capacities should be assessed (GPC, 2022). Climate change repercussions are affecting security actor's response capacities and presenting them with new protection challenges, such as the adaptation to a warmer climate or the need for adapted pieces of equipment (Manea, 2023). Additionally, the necessity of accounting for resource scarcity in adaptation strategies has been put forth as a key factor in ensuring more efficient responses to hazards (Urdal, 2005). The involvement of security actors in protection does, however, require a degree of caution and a clarification of their role to prevent their mobilisation as a pretext for military operations or the oppression of civilians (Van Schaik et al., 2020). Moreover, the protection of civilians also implies protection of the natural environment during armed conflicts – as damage to the natural environment during conflict risks depriving civilians of resources needed for their survival (Gale, 2022).

2. Methodology

2.1 Research Question

What are the roles, responsibilities, and risks presented by security actors, both state and non-state, in climate-related hazard response in contexts of internal conflict?

2.2 Data Collection and Analysis

The team utilised primarily secondary desk research and content analysis to address the research question. The team made committed efforts to complement the desk research with interviews of experts on climate-conflict nexus; however, our efforts were not conclusive as access to these experts were limited. Therefore, we developed the final report solely based on secondary desk research. To further strengthen our analysis, the team also utilised a climate vulnerability index (ND-GAIN) and reviewed national policies on climate change adaptation, to better understand the roles and responsibilities of security actors in climate-related hazard response.

2.3 Case Studies Selection

The team selected three case studies: Colombia, the state of Assam in India, and the Democratic Republic of the Congo (DRC). The research took place in Geneva as the exploration of the case studies has been done through desk research.

This selection allows us to study cases located in different geographical contexts and to look at examples affected by different scales of climate hazards, involving different types of security actors in responding to climate disasters, and where security actors responded with significantly different levels of capacity. We employed the Notre Dame Global Adaptation Initiative (ND-GAIN) Index to help narrow our selection of case studies. This allows us to compare countries' profiles combining different combinations of vulnerability and degree of preparedness to climate change.

- **Assam:** According to the ND-GAIN Index, India has a high vulnerability to climate change and purportedly high readiness to respond to its impacts. Assam, specifically,

has 15 of India's 25 most vulnerable districts to climate change, due to its geographical proximity to the deltaic region and poor socio-economic conditions. This case is interesting for our project as it shows another type of internal conflict where ethnic disputes have been simmering in the state for decades. Reports indicate that this could emerge as a full-scale internal conflict, exacerbated by climate change impacts. An important consideration here was to include the Assam region and not the entire country of India. This is owing to the fact that India, given its vast size and geographical diversity, does not uniformly exhibit climate-security concerns. On the other hand, the Bay of Bengal region, which includes Assam, raises unique climate-security concerns owing to the existing regional security upheavals and indirect consequences of climatic changes in its neighbour, Bangladesh.

- **Colombia:** According to the ND-GAIN Index, Colombia combines low vulnerability to climate change and low readiness to respond to its effects. Even though Colombia presents low vulnerabilities, the increasing frequency and intensity of meteorological phenomena coupled with the low readiness pose severe threats to both urban and rural dwellers, disrupting livelihoods and infrastructure, while accentuating socio-economic disparities. Since 2008, this has caused 3.8 million people to be internally displaced. Additionally to Colombia's susceptibility to natural hazards, protracted conflicts have been plaguing the country for years, exacerbating the threats to the security of communities. However, in the events of persistent conflict and violence, Colombia has seen attempts at peace building and peace agreements like the accord with the FARC in 2016. This case study provided us with an opportunity to study state interventions in a South American context. The ongoing peace process also allowed us to explore how climate-related hazards are managed in that context.
- **Democratic Republic of the Congo (DRC):** According to the ND-GAIN Index, the DRC combines a high vulnerability to climate change and low readiness to respond to its effects. The country is therefore of interest for our project as it exhibits a combination of serious vulnerability to climate change and state fragility. The DRC faces significant climate risks, including increased droughts and heavy rainfall, which lead to floods and landslides. Moreover, such climate-related hazards are expected to intensify due to climate change, increasing therefore the vulnerability of the country's population. In late December 2023, due to torrential rains, the Congo River reached its highest level in over 60 years, resulting in major flooding in sixteen of the twenty-six provinces of the DRC. Additionally, the DRC is also embroiled in a

protracted conflict involving many armed groups, particularly in the eastern regions. This conflict further exacerbates the vulnerability of civilians as it increases poverty, displacement, and the erosion of social networks, making it thus harder for communities to recover from climate shocks. The DRC is therefore facing violent conflicts and political instability, which allows us to study the impact of such context on the security sector and its response to climate-related hazards.

2.4 Report Limitations

The three case studies (Assam, Colombia and the DRC) being different cases of climate-conflict nexus creates limitations for drawing a general conclusion. Indeed, these case studies present distinct regional circumstances and climate change dynamics. However, notwithstanding these challenges, efforts were made to mitigate limitations by examining the presence of national-level strategies in each case and discerning common factors that permit comparative analysis and contrast. A significant challenge we encountered was a low response rate from potential interviewees. Despite many efforts, securing interviews proved difficult. Furthermore, covering a broad subject within a limited word count was challenging to comprehensively cover all relevant aspects of the topic in the report.

3. Case Study Analysis

3.1 Assam

3.1.1 Context

Located in the northeastern part of India, the state of Assam boasts a rich tapestry of cultures, diverse ethnic groups, languages, and traditions (Boruah & Srivastava, 2024). It is bounded by the Kingdom of Bhutan and the state of Arunachal Pradesh to the north, to the east by the states of Manipur and Nagaland, and to the west by the states of Meghalaya, West Bengal and sharing a border with Bangladesh (Lodrick & Das, 2024). The state's geography is characterised by the revered Brahmaputra River, extensive fertile floodplains, dense forests, and hilly regions. However, this ecological setting also presents unique challenges (Das, 2016). According to the 2021 Climate Vulnerability Index, Assam is ranked as India's most climate-vulnerable state (Mohanty et al., 2021). Several factors can be attributed to this extreme vulnerability, including active seismic activity and the proximity to the Brahmaputra. Given the geography of the region and overall geo-ecological fragility, the state's susceptibility to climate-related hazards is more pronounced, with annual floods, landslides and erosion wreaking havoc on lives and infrastructure (Cursed by the Rain Gods? Assam's Climate Challenge, n.d.). Moreover, Assam's vulnerability is exacerbated by its location in the North Eastern Himalayan foothills, where the Indian tectonic plate meets the Eurasian plate, causing earthquakes and landslides to be acutely felt (Duncan et al., 2020).

With origins in Hindu mythology, the river Brahmaputra is often referred to as the "Sorrow of Assam" due to its annual propensity to ravage vast swathes of floodplains during the monsoon season, affecting thousands of hectares of land and claiming human lives (Mandal, 2017). While the river plays an important role in sustaining agriculture and fisheries, its increasingly unpredictable behaviour poses significant risks to communities living along its banks, especially riverine communities (Pradhan et al., 2021). For decades now, damages related to erosion and flooding have remained a perennial problem, threatening settlements, displacing thousands every year and compounding the state's housing and resettlement challenges (Das, 2016).

The state of Assam has historically been linked to various ethnic struggles and migration conflicts, which have been a subject of political and social issues since the partition of India ("Understanding the Historical Conflicts Behind Today's Violence in Assam," 2012). The

overlay of climate change dynamics only exacerbates these existing vulnerabilities, with erratic weather patterns resulting in more frequent and intense floods, heat waves, prolonged dry spells, and erratic rainfall (Das, 2016).

3.1.2. Overview of the National Strategy

In India, the National Action Plan on Climate Change (NAPCC) developed by the Ministry of Environment, Forests and Climate Change (MoEFCC) serves as the overarching framework for adapting and mitigating the impacts of climate change at the national level (Ministry of Environment, Forest and Climate Change, 2021). The NAPCC, which includes eight national missions on different thematic areas, was launched in 2008 to outline a national strategy to enhance the ecological resilience of the country's development trajectory while addressing the impacts of climate change. The eight national missions each focus on a thematic area or aspect of climate change mitigation and adaptation, including solar energy, water, sustainable habitats, and Green India (Ministry of Environment, Forest and Climate Change, 2021).

Guided by the NAPCC, each state has a program that defines its regional priorities in tackling climate change impacts. In Assam, the State Action Plan on Climate Change (SAPCC) builds upon the NAPCC to underline key areas of state action addressed towards the state's unique socio-environmental challenges and priorities (Margherita et al., 2023). Assam's latest publicly available SAPCC from 2015-2020 states that the objective of the Plan is to identify adaptation strategies that will make the State resilient, to the extent possible, to the ongoing climate variability, climate change and associated extreme events (Government of Assam et al., n.d.). The SAPCC identifies several key areas of action such as extending river bank stabilization using geotextile material, developing district level management plans, construction of multipurpose flood shelter, and sectors vulnerable to climate change impacts, including agriculture, biodiversity, water resources and infrastructure. The plan is definitive in its emphasis towards mainstreaming climate considerations into development planning, promoting green growth, and enhancing adaptive capacity without undermining developmental initiatives (Government of Assam et al., n.d.).

The State of Assam also launched a special vehicle called the Assam Climate Change Management Society (ACCMS), registered as a Society under Indian law to coordinate all SAPCC-related activities and other activities related to climate change in coordination with other departments, including the State Government and funding agencies (domestic and

international) that are contributing technical and financial assistance to implement SAPCC and other climate change-related activities in the state (Government of Assam et al., n.d.). While the Plan is indeed a positive step to streamline climate change efforts in the State, a detailed review of the Plan makes it evident that the SAPCCs' strategies towards climate change are, to a large extent, directed towards core developmental aspirations of industrialisation and high economic growth. As a consequence, climate change policies in the State mainly prioritise only those key sectors which have a direct bearing on macroeconomic outcomes, such as sustainability of agriculture and water resources, energy efficiency, and renewable energy (Ray, 2017). However, other socioeconomic considerations, such as the social cost to society and issues related to loss and damage, migration, inequality and vulnerability, have been deemed as secondary. As the social impacts of climate change become more pronounced, the plan appears to be a missed opportunity to encompass a holistic approach towards adapting and mitigating climate change impacts (Ray, 2017).

3.1.3 Consequences and Risks

The securitisation of climate change poses inherent risks and consequences that must be weighed carefully in the intricate security landscape of Assam (Barbora, 2017). To begin with, the casual framing of climate change as a security threat is highly problematic as it could risk oversimplifying complex environmental challenges and militarising responses, thus worsening the existing local circumstances (Ningelgen, 2018). This approach of climate change securitisation generally prioritises the interests of state security over community resilience, marginalising vulnerable populations, perpetuating violence and social inequalities, and widening the gap between the rich and the poor (Arnall, 2023). For example, *Armed Forces (Special Powers) Act, 1958 (AFSPA)* that was instituted in the name of counterinsurgency operations owing to ethnic conflicts in the region between the bodos, immigrants from Bangladesh and the United Liberation Front of Assam (ULFA) resulted in large scale human rights violations including high incidence of custodial deaths, torture, rape, and extrajudicial killings by armed groups and government forces, against civilians and indigenous communities across the state of Assam, from 1990-2022 (Amnesty International, 2021; Getting Away With Murder: 50 Years of the Armed Forces (Special Powers) Act, n.d.).

Assam presents an interesting case on the securitisation of climate change owing to historically long-standing ethnic tensions and conflicts over land and resources ("Understanding the Historical Conflicts Behind Today's Violence in Assam," 2012). The

state's diverse population, comprising indigenous communities, migrant populations, and ethnic minorities, adds layers of complexity to climate-security dynamics. Over the years, there has been a persistent movement by members of the Bodo community who are seeking separate statehood (Narzary & Lal, 2024). Additionally, there have been various independent militant and separatist organizations such as the ULFA fighting against the Indian government and among themselves on ethnic lines (Baruah, 2007). There have also been attempts by the Central Government to render Muslims in Assam stateless under the National Citizenship Amendment Act over the past three years, among other issues ("India Activates Discriminatory Citizenship Law," 2024). In addition to this, climate-induced displacement and migration exacerbate these tensions, straining social cohesion and exacerbating grievances against the state (Violence Over Land in Assam in India, 1970).

Furthermore, the securitisation of climate change can lead to the militarisation of environmental governance, resulting in security forces potentially assuming control over natural resources and land-use decisions (Khan et al., 2016). This passive top-down approach could not only risk alienating local communities but also undermine participatory approaches to climate adaptation and resilience-building, which is underlined as a focus area in the Assam State Action Plan on Climate Change (SAPCC). Potential strategies to mitigate these risks in the long term could include adopting a human security perspective as a people-centred dimension that prioritises community-centric approaches and recognises the root causes of conflict and insecurity (Tadjbakhsh, 2014).

3.1.4 Fragility and Conflict Risks

Assam has a history of internal conflict and strong anti-outsider sentiment for close to a century (Sharma, 2012). In particular, the state has witnessed a complex history of migration and settlement across linguistic and religious communities, which has given way to a hostile native versus migrant divide in the era of climate change, resource extraction and a new era of national politics (Swain, 1996; Ghoshal, n.d.) Increased and increasingly irregular migration driven by extreme weather events such as floods can further exacerbate social cleavages, anti-migrant sentiments, and resource conflicts in the receiving regions of Assam (Jayaram & Adelphi, 2019).

Understanding today's uprising violence in Assam requires us to look at the state's troubled past. Owing to the neighbouring countries' cultural influence on Assam, the state developed as a tapestry of ethnic, religious, and linguistic traditions, which distinguished it from the rest

of the country (Boruah & Srivastava, 2024). One of the main indigenous tribes in the state, the “Bodos”, have been instrumentalizing insurgency for years to fight for statehood in India (Behera, 2017). The tribe makes up one-third of the overall population, while the remainder of the population belongs to other indigenous tribal groups or is native Assamese. Muslims are the second-largest group in the region by virtue of India’s partition when erstwhile East Pakistan (present-day Bangladesh) fought for independence from West Pakistan, resulting in approximately 10 million East Pakistanis (including many Bengali-speaking Muslims) fleeing to India (Bhattacharyya, 2012). Since then, tensions have long simmered between Bodos and Muslim residents over land ownership rights (Pathak, 2012; Bhattacharyya, 2012). Given this complex background, it is tricky to distinguish between Bengali-speaking Muslims in Assam who were residents in the area before the Partition, those who relocated as refugees during the 1971 war, and those who migrated post-war, including the irregular Bangladeshi immigrants whom the Bodos distinguish and disapprove (Bhattacharyya, 2012, Ziegler, 2013). Since then, these ethnic tensions, rooted in historical injustices and marginalisation, have given rise to many conflicts and violent incidents across different scales, including massacres and mass casualties against irregular Bangladeshi migration and land-ownership issues (Goswami, 2014). Climate change is only going to put additional pressure on the existing scarce resource base, thereby potentially augmenting the issue.

In the present day, Bangladesh is perhaps the most vulnerable country in South Asia to the impacts of climate change (International Organization for Migration (IOM) & Walsham, 2010). Climatic changes in Bangladesh, with its flat and low-lying topography, dense population and resource scarcity, create push factors for migration into Assam (Ziegler, 2013). According to the Asian Development Bank, the flow of international migrants between Bangladesh and Assam is arguably the largest in the world (Addressing Climate Change and Migration in Asia and the Pacific, 2017). Therefore, increasing mobility and migration across borders, if not managed carefully in a safe and orderly manner, can threaten to create conflicts and tensions between migrants and the receiving community (Jayaram & Adelphi, 2019). There are also incidents where these tensions have been exploited to advance political motivations by stirring anti-migrant sentiments in Assam (Pisharoty, 2018). Consequently, Assam presents as a sensitive ground where the nexus of environmentally induced migration, resource extraction, and climate change can exacerbate and engender livelihood insecurity, communal violence and anti-state grievances (Stojanov et al., 2017).

3.1.5 Management of Natural Resources as a Proxy

We employ the management of natural resources as a lens to analyse the security forces' involvement in national resource management issues as a proxy for how they might respond to climate hazards. An attempt to understand the underlying factors driving conflicts and instability through the management of natural resources offers a more nuanced insight into the complex interplay between local communities, state forces, and armed groups in Assam. A history dating back to the 1970s with the irregular migration of Bangladeshis in Assam due to changed climatic patterns, resource degradation, and weakened socio-economic climate has been at the heart of these ethnic conflicts and simmering anti-migrant sentiments in the state (Iqbal, 2018; Rishov & Sonowal, 2023). Today, increasing pressures on land resources and agriculture in the state have evolved into clashes over the distribution of natural resources between migrants and local communities, highlighting the impact of climate change on resource distribution, state response and population dynamics (Violence Over Land in Assam in India, 1970; Hazarika, 1993). For instance, in an attempt to conserve protected forest resources, the Ecological Task Force of the Indian Army has been accused of militarising conservation in a conflict environment and a region with historically disenfranchised minority groups (Dutta, 2020). By designating the forested belt as 'reserved forest' on which the Bodo and Adivasi population were dependent for their subsistence, they were labelled as "encroachers" by the state. These populations have historically faced multiple displacements due to violent conflict where their houses are burnt down, or eviction by the forest department. They have also been harassed repeatedly by the Army and paramilitary due to alleged linkages with local militants (Climate Diplomacy and India's Ecological Task Force, 2017; Dutta, 2020).

3.1.6 Recommendations

The foregoing analysis of the climate-conflict nexus in Assam presents an evident case underlining the unintended consequences of military involvement in conservation or climate-related issues. In thinking about ways to respond to these scenarios, sustainable resource management, capacity building and training programs for security forces, innovation in climate-security interventions, long-term planning and investment in climate-resilient infrastructure, livelihood diversification, and multi-stakeholder dialogue considering the needs of the indigenous tribes, migrants, and governments emerge as key recommendations. Undertaking these strategies would not only allow for a nuanced understanding of the

complex interplay between climate change and involvement of the security sector, but would also help supplement the efforts proposed in the national action plan outlined by the State Government.

3.2 Colombia

3.2.1 Context

Ranked 29th on the 2024 INFORM Risk Index, Colombia is one of the most vulnerable countries to natural hazards, particularly floods, landslides and droughts (INFORM Risk Index, 2024). The region's exposure to hazards results from its heterogeneous geography that encompasses mountain ranges, tropical forests, and coastal areas, as well as extreme climatic conditions (IFRC country delegation Colombia, 2024). The increasing frequency and intensity of meteorological phenomena poses severe threats to both urban and rural dwellers, disrupting livelihoods and infrastructure, while widening socio-economic disparities. Since 2008, this has led 3.8 million people to be internally displaced (IDMC Report, 2023).

Colombia is mainly threatened by two climate phenomena that have an important impact on the country: El Niño and La Niña. El Niño is characterised by warmer temperatures of the Pacific waters, leading to droughts and reduced rainfall. On the contrary, La Niña is characterised by colder temperatures of the water in the Pacific that lead to heavy rainfalls and flooding (National Ocean Service, n.d.). Colombia has been experiencing both in different periods, with an El Niño happening currently (Taylor, 2024).

Since 1964, Colombia has endured an internal conflict with numerous NSAGs, hampering the State's disaster response capabilities. In 2016, a Peace Process Agreement was signed with the Revolutionary Armed Forces of Colombia (FARC), an armed opposition group, showing shifts in the security landscape. Despite this agreement there are still important surges of violence due to the presence of other armed groups. A ceasefire with the FARC-EMC and another armed opposition group, the National Liberation Army (ELN), was introduced in October 2023 and extended to July 2024, representing a significant milestone in Colombia's effort to restore peace (Manuel Rueda & Astrid Suarez, 2024). A peace accord will have an important effect as state actors will be able to mitigate environmental hazards more efficiently without being threatened by armed groups in their response.

3.2.2 Overview of the National Strategy

The national strategy in Colombia and the key role that security actors play in it are outlined in the ten-year (2015-2025) "National Plan for Risk Management of Disasters" (PNGRD, 2015). This national plan is complemented by reports by international organisations like the International Organization for Migration (IOM) (IOM, 2022) and USAID (USAID, 2024).

The new president of Colombia, Gustavo Petro, also established the National Development Plan for 2022-2026 "Colombia, World Power of Life" (CWPL) which is a global long-term strategy for sustainable development and peacebuilding. This strategy is focused on community dialogue, negotiation with armed groups and protection of the environment. It aims to control deforestation, protect biodiversity, and improve living conditions for the most vulnerable populations (CWPL, 2022).

Both strategies focus on risk education for civilians in vulnerable areas, risk mitigation, efficient hazard response, and overall better governance. Security actors are crucial for implementing the policies of this strategy, especially in the matters of emergency response, and resilience frameworks, through for example distribution of emergency supplies, or reconstruction efforts in the long term (Plan Nacional de Desarrollo 2022-2026, 2022).

According to reports from IOM (2022), training and capacity building are key aspects of the role of security actors in climate response in Colombia's strategy. Training is centred around providing quick responses, respect of human rights, and aims to answer hazards efficiently while being compatible with ethical implications linked to disaster relief scenarios (CWPL, 2022). The CWPL includes specific education and training programs that are based around a human rights approach. The aim is to be able to effectively answer hazards will keeping ethical considerations. Security actors are also key in enhancing community resilience (CWPL, 2022), through different training sessions with civilians to facilitate community engagement and create a sense of trust between security actors and civilians, which will help enhance response effectiveness and recovery efforts in the long term. The CWPL outlines a transformation of the national police forces focused on a more preventive instead of reactive approach, and more respectful of rights and freedoms. Also the CWPL outlines programs for communities such as "la Estrategia para la resiliencia climática territorial", this strategy aims to help communities in climate resilience by financing and promoting community based-projects for climate change and capacity building with more nature based projects.In the CWPL, it is noted that these efforts are heavily hindered by the presence of armed groups. While the former FARCs were said to have a strict environment guideline preventing degradation, most other groups do not have such guidelines (Cárdenas et al., 2021).

It is also central to understand that mitigation and prevention of climate hazards are the responsibility of the Colombian State (Moreno & Gil, 2023), hence state security actors are crucial in the planning and execution of risk management.

However both national strategies in Colombia fall short to include collaboration opportunities with prominent international organisations working in the climate-conflict nexus such as IOM or USAID. In coordination with these actors, they are able to facilitate aid, evacuation, and disaster relief working with humanitarian actors. This collaboration highlights the crucial role that security actors play in coordinating with other actors for hazard relief. They also play a key role in responding to environmental challenges, such as degradation, through their responsibility as law enforcement agents, which positively affects hazard vulnerability (USAID, 2023).

3.2.3 Consequences and Risks

The inclusion of the security sectors in climate-related hazard response in contexts of internal conflict brings several consequences and risks that influence and question its effectiveness. The key factor that leads to several negative consequences is the inadequate implementation of national strategy (Moreno Gil & Londoño, 2023). This has the opposite consequences that were expected by this strategy. Certain communities are left more vulnerable to hazards because security actors are unable to apply their response policies properly (Contreras Mojica & Contreras, 2014). This lack of capacity to respond can also be seen in the long-term recovery efforts that are also inefficient (Few et al., 2021). An inability to answer hazards also causes additional economic and human loss (Moreno Gil & Londoño, 2023). All of these consequences lead to an erosion of public trust toward the government (Moreno Gil & Londoño, 2023).

The involvement of security actors in hazard response also creates risks. Notably, the presence of military forces in humanitarian response harms community trust-building efforts (Contreras Mojica & Contreras, 2014). The military forces are often the first present in cases of climate-related hazards, their presence can be perceived as harmful and create a feeling of distrust, especially in regions where armed groups are operating (Contreras Mojica & Contreras, 2014). In certain cases, this presence can even lead to an escalation of local conflicts in the areas with strong-armed group support by the population and may harm the affected areas even more (Cárdenas et al., 2021). For instance, in 2021, in Arauca the region suffered severe flooding, more than 50 000 people were affected (Davies, 2021). The military intervened and maintained a presence there, which led to some tensions in this area where armed groups are quite present. The military has also been accused of committing human rights violations and extrajudicial killings in this region among others violations (Human

Rights Watch, 2022). The tension caused by the military presence might have caused the eruption of violence between demobilised FARC members and ELN members, in January 2021, when 23 people died in clashes between armed groups (CNN, 2022).

Another key risk is linked to the resettlement of the population after hazards, while they are resettled to facilitate the reconstruction of their homes, these temporary solutions are often also prone to hazards, such as landslides (Few et al., 2021). These resettlement areas are usually not for residential use (Few et al., 2021), exposing the population even more to the risk of hazards.

3.2.4 Fragility and Conflict Risks

Despite the Peace agreements with the FARC, there is still an ongoing surge in violence coupled with severe climate risks poses constant threats to Colombians, resulting in subsequent government mismanagement of these risks, and as a result, mass migrations and livelihood insecurity (Moran et al., 2018).

Floods and other natural hazards damage homes and villages, causing not only displacement but also making roads impassable, which hampers the delivery of aid to communities in need (IDMC, 2023). In addition, the displacement of communities has created difficulties, particularly in urban areas (GIDRM, 2023). The absence of planned urbanisation, combined with complex social dynamics, creates informal settlements in which individuals are often particularly vulnerable and exposed to disaster risks due to poor infrastructure and the prevalence of natural hazards (GIDRM, 2023).

Furthermore, the lack of governance oversight preventing settlement in flood-prone areas, and deforestation that has removed natural barriers, make some regions more prone to flash flooding, mudslides and other natural events, exacerbating the population's vulnerability to climate risks and humanitarian emergencies (Houston Chronicle, 2017).

3.2.5 Management of Natural Resources as a Proxy

We utilised the management of natural resources as a proxy to examine the engagement of security forces in national resources management issues. Colombia's vulnerability to natural hazards is exacerbated by the presence of armed opposition groups that exploit natural resources for profit and dominance over territories (Bram Ebus, 2021). Two main categories

of natural resources are exploited, mining activities and deforestation, creating an interplay between natural hazards, internal conflict and security challenges in Colombia.

In Colombia, mining activities are one of the most significant sources of impact on the natural environment and communities (CMS Law Now, 2024). The extraction of mineral resources, particularly the increase of gold extraction, has recently become one of the fastest growing illegal economies, surpassing cocaine as the main source of revenue for armed groups (Ryan Berg et al., 2021). This production causes enormous environmental damage, including deforestation, biodiversity loss and water pollution as well as health threats due to the emissions of hazardous substances, such as mercury and nickel that contaminate the rivers and forests (Buse Egin, 2023). Despite being officially prohibited in Colombia since 2018, mercury is still commonly used in mining activities, resulting in the contamination of local water supplies that pose risks to both humans and wildlife (Ryan Berg et al., 2021).

Through the Single Registry of Mineral Traders (RUCOM), the Colombia government aimed to target criminal mining operations as well as bringing diggers into greater formality in order to dissuade environmental harmful practices by increasing formalisation of the operation in accordance with environmental and technical requirements of the government (Charlie Espinosa & Charles Lyons, 2023). However, due to long procedures and high expenses of formalisation, miners continue their operations without the proper permits, environmental, and technical standards (Andrés González-González et al., 2021). Therefore, in order to identify the correct policy responses, it first requires unravelling the networks of coercion, violence, and smuggling that currently dominate much of the mining landscape (Andrés González-González et al., 2021). Furthermore, the National Mining Agency (ANM) is working to make a public compilation of all licensed mineral producers to increase transparency in the mining sector (Ryan Berg et al., 2021). Consequently, systematic monitoring and transparent reporting of land should be improved by leveraging emerging technologies, such as satellite monitoring and large-scale digital reporting to address environmental outcomes of human security (Andrés González-González et al., 2021).

The security sector, notably the military and law enforcement actors, are crucial in combating the illegal use of natural resources, like unlawful deforestation. Through law enforcement, control of deforestation, and helping the development of regions prone to deforestation, through community engagement. The CWPL mentions the use of satellite imagery to monitor deforestation, as well as making plans for protection of the Colombian Amazon. The security

actors also play an indirect role in contributing to deforestation through their security operations against armed groups as these operations are often prioritised over environmental concerns, aggravating deforestation (Contreras Mojica & Contreras, 2014), an example of this is the building of roads, bases and infrastructures in forested areas. The new national plan (2022-2026) underlines a less important role for security actors, especially the military, it sees more of a supporting role in the fight against deforestation rather than being at the forefront. This can be seen through new laws punishing environmental crimes (Cárdenas et al., 2021). This means that the focus for security actors is on police forces apprehending perpetrators rather than on military actions. This strategy also outlines an enhanced cooperation between the communities, environmental NGOs and the security actors to address deforestation more effectively(CWPL, 2022).

Initially, the results of this strategy were extremely positive: in 2022, deforestation in the Colombian Amazon was down by 30 percent compared to 2021, and in 2023 it even reached 70% (Yale E360, 2023). In 2024, however, deforestation has risen to levels above the two previous years (Taylor, 2024). One reason to explain this is the El Niño phenomenon that creates droughts leading to forest fires. Moreover, armed groups are said to have tightened their grip on deforestation increasing their illegal activities causing more deforestation. The environment has, indeed, been used as a bargaining chip for armed groups' negotiations (Taylor, 2024).

3.2.6 Recommendations

To manage the relationship between climate-related risks and conflict, Colombia has implemented measures to tackle the root causes of environmental degradation, however, the challenge lies in the implementation of these measures, which is inefficiently managed (Cárdenas et al., 2021). Consequently, the state’s capacity to effectively address climate risks could be strengthened to contribute directly to vulnerable communities.

Firstly, to enable effective implementation of measures, the state should prioritise strategies that strengthen the state's non-military presence to avoid harming community trust-building efforts. This change in behaviour will reinforce trust with the local population and prevent escalation with armed groups (Cárdenas et al., 2021). Additionally, the government should tackle the issue of displacement management through more resilient infrastructure. The state should aim for a more effective support program for displaced people, with climate-adaptive

infrastructure for resettlement plans and hazard-withstanding infrastructures for disaster prone regions (Few et al., 2021). Moreover, the institutional framework should be strengthened by prioritising policy implementation.

Finally, it is essential that peacebuilding efforts take into account climate change and human-induced environmental degradation, both of which are sources of socio-economic vulnerability that can drive local populations to join armed groups (Cárdenas et al., 2021).

3.3 Democratic Republic of the Congo

3.3.1 Context

The Democratic Republic of the Congo (DRC) is identified as the fourth least prepared country to address climate shocks by the ND-GAIN Index. This ranking highlights a high vulnerability to climate change and low readiness to enhance resilience (Notre Dame Index). Nevertheless, according to the World Bank (2023) and the country's president F. Tshisekedi (NUPI & SIPRI, 2023), the DRC could become a leading 'climate solution country' due to the world's second largest rainforest being located within its borders and its large freshwater resources and mineral reserves.

However, as the country is facing critical climate-related challenges and a protracted conflict, if its rainforests are not protected adequately and on time, the DRC could also become a net source of carbon emissions and play a detrimental role in the protection of the environment (World Bank Group, 2023). The eastern part of the country is, indeed, embedded in a protracted conflict involving numerous armed groups, such as the Allied Democratic Forces (ADF) - the group that perpetrated the most violence against civilians in the DRC in 2023 - and the March 23 (M23) Movement - on the rise since late 2021 (ACLED, 2024). These conflicts increase the marginalised population's vulnerability, notably by increasing poverty, displacement, and the erosion of social networks (NAP 2022-2026).

Furthermore, the country is exposed to important climate risks (Bucher et al., 2024) - risks that could also exacerbate future conflicts, particularly in relation to the scarcity of water and arable land (NAP 2022-2026). An assessment of the DRC's situation, conducted by Woodwell Climate (Naegele et al., 2023), notably predicts an increase of droughts across the majority of the country due to climate change, as well as an intensification of heavy rainfall leading to riverine floods - which will, in turn, result in an increased occurrence of landslides and floods.

3.3.2 Overview of the National Strategy

The government of the Democratic Republic of the Congo (DRC) has demonstrated its commitment to addressing climate-related hazards through the National Adaptation Plan to Climate Change (NAP, 2022-2026). The DRC National Adaptation Plan (NAP) (2022-2026) aims to strengthen the country's resilience and to integrate climate change into national and

provincial strategies (Naegele et al., 2023). Some of the primary climate-related risks identified by the NAP are abundant rainfall - which can provoke floods and landslides -, droughts, and rising temperatures (Naegele et al., 2023). The NAP comprises nine adaptation objectives and several sectoral-level targets for adaptation and climate change resilience, with a particular focus on the agricultural sector and energy. Nevertheless, reducing the risk of disasters does constitute one of the adaptation objectives (NAP 2022-2026).

The country's principal instrument for disaster risk management was the 2017–2023 National Strategy for Disaster Risk Reduction and Prevention (UNISDR) (World Bank Group, 2023). As the implementation period concluded in 2023, it is therefore reasonable to conclude that this process should have been achieved by now. However, an examination of the current situation faced by civilians (Reuters, 2024; Kasongo & Nyemba, 2024; Radio Okapi, 2024a) reveals no significant change in climate-related hazard management since the implementation of the strategy.

Additionally, the DRC issued its revised Nationally Determined Contribution (NDC) in 2021 (Destrijcker et al., 2023), a document in which the country shares its vision for combating climate change (République Démocratique du Congo et al., 2021), benefiting therefore from the UNDP's Climate Promise which offers support to the countries on national climate pledges under the Paris Agreement (UNDP, n.d.). The DRC's NDC (RDC et al., 2021) outlines the main anticipated effects of climate change, which include increased water-borne illnesses, habitat destruction (particularly in poor urban areas, where heavy rainfall combined with increasing population density may also result in water stress), damage to infrastructure, and severe disruption of crop cycles due to seasonal droughts. The 2022-2026 NAP, therefore, seeks to represent the baseline of the DRC's contribution to its NDC.

The Ministry of Interior and Security of the DRC, which is in charge of the National Congolese Police (PNC), has been attributed the task of "coordinating the management of natural disasters" in collaboration with the other relevant ministries[6] (Ordonnance n° 20/017, 2020). Supporting the population in the event of disasters and catastrophes is hence part of

[6] The Ministry of Humanitarian Actions and National Solidarity oversees the victims of natural disasters. More specifically, it is charged of coordinating humanitarian actions to help victims of natural disasters and collaborating with humanitarian agencies and national, sub-regional, regional and international organisations responsible for providing assistance to victims of disasters. The DRC government seems therefore to have mainly delegate the assistance to victims to humanitarian organisation. However, the MHANS does have an operational task on its agenda regarding the management of natural disasters: "Monitoring and integrating victims of disasters and natural catastrophes" (Ordonnance n° 20/017, 2020).

the ordinary mission of the PNC, as described in the Organic Law on the Organisation and Functioning of the National Congolese Police (Police Nationale Congolaise (PNC), 2011, Article 16) - a law that is part of a more global process of the police reform in the DRC (PNC, 2023). In addition to supporting civilians in case of sudden climate-related hazards, ensuring environmental protection and nature conservation initiatives by providing support and assistance to the relevant specialist services and bodies is also part of the PNC's agenda (PNC, 2011, article 21).

The state security sector includes, in addition to the PNC, another armed force: the Armed Forces of the DRC (FARDC). The Terrestre forces of the FARDC have, as one of their mission, to participate in humanitarian operations (*Force Terrestre | Vice Primature - Ministère De La Défense Nationale Et Anciens Combattants*, n.d.) and could therefore be requisitioned to help manage post-hazards situation.

3.3.3 Consequences and Risks

Climatic hazards give rise to disasters that continue to have a severe impact on vulnerable populations (OCHA, 2024). As the DRC has seen an important increase in the frequency of floods, focusing on their mitigation by the security sector allows to highlight the consequences and plausible risks of their involvement. In the DRC, between November 2023 and January 2024, approximately 2.1 million people were affected by rain and river flooding in 18 of the country's provinces - including the capital, Kinshasa. Furthermore, the floods caused extensive damage or destruction to infrastructure, including 98,000 homes, 1,530 schools, and 267 health facilities. In addition, the floods caused the deaths of 300 people (OCHA, 2024).

Despite the NAP (2022-2026) and the forces that could be mobilised among the state security sector, the government of the DRC recognises its limitations in the mitigation of sudden climate-related hazards such as floods. It indeed called for support from external partners in December 2023 as heavy rains were expected until March 2024 (*Congo: Floods - Dec 2023, 2024*). Furthermore, sufficient evidence of the concrete involvement of the armed forces of the state security sector - the PNC and the FARDC - in the initial response to sudden climate-related hazards have not been found through our research, in spite of the fact that this role has been assigned to them (PNC, 2011, Article 16; *Force Terrestre*, n.d.). Moreover, members of the affected communities have conveyed to journalists (Kasongo & Nyemba,

2024; AFP, 2023a) their perception of a lack of reactivity from the authorities, along with a dearth of assistance provided to those suffering from the impacts of climate change (Kasongo & Nyemba, 2024). This seems to corroborate a lack of direct response from the state security sector. Amnesty International (2023) had, indeed, urged in 2023 the DRC authorities to provide urgent relief to civilians affected by floods and landslides, given the absence of sufficient state response. The NGO (Amnesty International, 2023) considers that the government of the DRC has failed to learn from past natural disasters - notably those which have affected Kinshasa. As a result, these climate-related hazards continue to have a disastrous and deadly impact on civilians.

The scale of the consequences of climate-related hazards such as floods illustrate the malfunction of the reaction system in the country. Indeed, the DRC seems to be lacking a specific flood disaster prevention plan[7] (UNICEF, 2023a). Floods and their disastrous consequences have been a recurring phenomenon in recent times, with every heavy rainfall episode upon Kinshasa, the capital city, resulting in significant damage (Radio Okapi, 2024a). Despite the recurrence of such disasters, the population continues to face the same situation without visible improvements in the prevention or response to such catastrophes. This lack of effective response seems thus to persist, highlighting a structural deficit - out of 400 water flow gauges, only 15 are currently in function - and what is described (Radio Okapi, 2024b; Radio Okapi, 2024a; Toulemonde, 2024) as a lack of involvement from the authorities.

While the government, through the Ministère de l'Environnement et Développement Durable (MEDD), is engaged in the advancement of projects pertaining to forest conservation, such as the Sustainable Forest Management Program (MEDD, March 2024), and mining management (MEDD, May 2024), the implementation of concrete measures regarding floods and other sudden climate-related hazards seems to be lacking - as early warning signals continue being disregarded[8] (Kasongo & Nyemba, 2024; Radio Okapi, 2024a).

[7] Despite the current absence of a global contingency plan for flood risks, some functionaries interviewed by UNICEF (2023a) have nevertheless mentioned that authorities were working on elaborating such a plan.

[8] In December 2023, the Transport Ministry had flagged the imminence of a flood, having warned about the unusually high water level and its potential disastrous consequences for the country's capital, Kinshasa (Kasongo & Nyemba, 2024). Similarly, the national meteorological agency had issued a warning announcing heavy rains on the capital for April 2024. However, preventive measures - such as the reinforcement of the drainage infrastructure or the clearance of blocked drains – had not been implemented by the authorities as of the 9th of April 2024 (Radio Okapi, 2024a).

The decentralisation process initiated by the country is presented within the NAP (2022-2026) as a means of countering the lack of implementation of government responses to climate-related hazards. This process aims to allocate more capacities to the local authorities for the better mitigation of such hazards and their consequences. In a research led by UNICEF (2023) in some provinces of the DRC, local authorities such as neighbourhood leaders do indeed report being in charge of transmitting information from the local to the provincial level, to then ensure coordination with humanitarian actors to organise the response to floods. In addition, at the provincial and territorial level, functionaries indicated that their role consisted in the collaboration with humanitarian partners to conceive an appropriate response to such climate-related hazards. However, doubts were expressed at different administrative levels as to how information was followed up and what action was actually taken when an incident was reported (UNICEF, 2023a; UNICEF, 2023b). Moreover, focus groups established by UNICEF (2023a) to discuss the response to floods in the DRC, shared these same doubts, adding that a lack of financial resources was hindering the mechanism of flood mitigation and deploring a lack of actions from the authorities. It thus appears that current efforts by state security sectors to address the operationalisation of their strategy for responding to climatic hazards may not be sufficient.

Consequently, NGOs as well as civil society organisations are vital in filling gaps left by the governmental response. The Congolese Red Cross (CRC), for instance, is a significant actor in the DRC, frequently mobilised to provide immediate relief and support in collaboration with the government (*Congo: Floods - Dec 2023, 2024*; MONUSCO, 2020). The current role of the DRC's authorities seem therefore to be coordinating responses to climate-related hazards and issuing calls for support rather than the implementation of these responses themselves.

In addition to the actions of NGOs, other non-state security actors have been active in the response process. MONUSCO, whose mandate includes contributing to the protection of civilians in the DRC (United Nations, 2022), have indeed deployed blue helmets in the past to assist affected communities following climate-related hazards (MONUSCO, 2020). However, the mandate of MONUSCO is set to conclude at the end of the year, with troops gradually withdrawing from the country (United Nations, 2023).

3.3.4 Fragility and Conflict Risks

The withdrawal of MONUSCO leaves some roles in the immediate response to climate-related hazards unfilled. However, as instances of violence and violations of human rights perpetrated by members of the security forces have been documented during operations conducted by the Congolese national police force and the FARDC (Ministère de la Communication et Médias, 2024; ONU Info, 2021), increasing the involvement of state security forces with the civilian population raises concerns about the potential risks and the efficacy of reinforcing their presence in the response to climate-related hazards.

Furthermore, the involvement of the state itself comes with its sets of limitations and potential risks. Indeed, the protracted conflict in eastern DRC not only directly affects civilians but also reduces the government's capacity to respond to climate-related hazard impacts (NAP 2022-2026). In addition, acute corruption within the national and provincial authorities (Transparency International, 2019) exacerbates challenges in emergency response and resource allocation following climate-related hazards (NUPI & SIPRI, 2023). The DRC indeed ranks 162 out of 180 on the Corruption Perception Index (Transparency International, 2019) and frauds in its climate funding have been reported in the past (Transparency International, 2024). This therefore raises concerns about the efficiency of the authorities role as coordinator of responses to climate-related hazards.

However, the lack of responsiveness and preparedness of the authorities to respond to basic state services and protection concerns is not the sole factor explaining the delayed response observed in the DRC. Indeed, many areas affected by climate-related hazards became inaccessible after the catastrophes (Ilunga, 2022). Consequently, the extent of the damage observed after climate-related hazards cannot be attributed solely to natural phenomena; the NAP 2022-2026 indicates that the impact of climate-related hazards is also a consequence of human behaviour, including the manner in which urbanisation and waste management are conducted.

In addition to the struggles associated with the direct aftermath of sudden climate-related hazards - including a lack of operationalisation of the state security sector's strategy regarding sudden climate-related hazards and the risks associated with the mobilisation of its armed forces - such hazards have serious long-term consequences that the security sector must address, such as displacement caused by climate-related hazards impacts.

Indeed, the DRC is facing major population displacement as the frequency of floods increases. According to the United Nations (AFP, 2023b), The DRC had a record 6.9 million internally displaced people (IDPs) in October 2023, as a result of conflict, insecurity, and natural disasters like landslides and floods. Migration may be considered a strategy to respond to climate hazards, however, in the DRC, internally displaced persons (IDPs) rarely manage to escape the impacts of climate change (Vinke et al., 2023). The majority of these individuals have, indeed, no alternative but to remain in emergency camps, where they frequently reside for extended periods in precarious conditions (The EastAfrican, 2023; Reuter, 2024). Furthermore, these displacements can also give rise to tensions between the IDPs and the host communities. The resettlement of IDPs exerts an additional pressure on the scarce resources available, thereby increasing the risk of conflict over resources between IDPs and local communities (Vinke et al., 2023). Moreover, according to Vinke et al. (2023), this situation may also become a recruitment ground for armed groups, exploiting the precarious situation and community discontent to recruit new members.

3.3.5 Recommendations

To address sudden climate-related hazards such as floods more effectively in the DRC, state and non-state security sectors need to pursue their collaboration and enhance their coordination and operational capacities. To improve their response, the authorities of the DRC should enhance the concrete implementation of the NAP (2022-2026) and work on the creation and implementation of a strategy to respond to sudden climate-related hazards like floods. In addition, the calls for the enhancement of early warning systems and the implementation of more practical adaptation measures (Toulemonde, 2024) further emphasise the need to operationalise the strategies developed to respond to climate-related hazards and enhance prevention measures.

The state security forces, including the PNC and the FARDC, must be adequately trained and equipped to respond efficiently to such hazards. The NAP (2022-2026) presents a number of promising suggestions, including the organisation of simulation exercises as an adaptive measure for abundant rainfall - intended to facilitate a more effective response to the effects of floods and landslides such as the inaccessibility of communication channels, the destruction of infrastructure, and so forth. Nevertheless, the implementation of such actions have not yet been observed.

Furthermore, the decentralisation process outlined in the NAP (2022-2026) should be pursued in order to empower local authorities, thereby enabling them to manage and respond to emergencies more effectively. This approach could help to bridge the gap between national strategies and local implementation, ensuring timely and context-specific interventions. Enhancing community participation and capacity building would allow for a more effective response to climate-related hazards in the DRC.

Non-state security actors, such as NGOs and international organisations, play a crucial role in complementing the DRC state security sector's efforts to respond to climate-related hazards. In the context of ongoing conflicts and government capacity limitations, these organisations provide critical support in the response to climate-related hazards, distributing aid and engaging with communities. These organisations should continue to work closely with local communities to build resilience and promote sustainable practices that reduce vulnerability to climate-related hazards.

4. Cross-Case Analysis

The examination of the three selected case studies reveals the emergence of some similar patterns in the security sector's response to climate-related hazards, which, once highlighted, allow us to make some recommendations. We have chosen to focus on three main themes: role attributed to the state security sector in national policies, post-hazard response and prevention.

Firstly, security actors - state as well as non-state - such as national police and the military have usually been attributed a role in the implementation of the response to climate-related hazards designed by national environmental strategies. However, as our research on the role of the security sector through national strategies highlights a lack of concrete implementation of such a response in Assam, Colombia and the DRC, the state security sector's involvement seems to be partially reduced to the design of strategies (Cárdenas et al., 2021; Reuters, 2024; Kasongo & Nyemba, January 2024). There appears to be a lack of adequate response from the state security forces - national police and military - in efforts to prevent and mitigate the impacts of sudden climate-related hazards. Strengthening capacity building through activities such as training could therefore address this need for more concrete implementation of national strategies. Indeed, more training and capacity building in the security sector could facilitate more effective mitigation of climate-related hazards. Moreover, enhancing the ability not only to prevent but also to respond to such events could likely increase the resilience of communities to climate impacts (De Coning and Krampe, 2022; Moreno Gil & Londoño, 2023).

The three case studies under the purview of this project revealed the need to rethink security actors' approaches to post-climate-related hazards management in order to ensure the safety of affected populations. For instance, it has been observed that climate-related hazards underpinning increasing impacts of climate change were an underlying factor driving mass displacement - migration or internal displacement. Likewise, similar patterns have been noticed in the consequences of these climate-induced displacements between case studies. Indeed, in Assam and the DRC, the resettlement of IDPs or migrants in emergency camps following climate-related hazards revealed the existence of significant competition over the scarce resources available between displaced persons and locals (Vinke et al., 2023). These challenges therefore call to highlight a reappraisal of the security sector's involvement in approaching post-climate-related hazard management.

Additionally the analysis of the case studies - including the scale of damages following climate-related hazards - reveals the need to invest more efforts into prevention. The state security sector does not seem to play a sufficiently important role in strengthening infrastructure in anticipation of hazards. Furthermore, inadequate waste management as well as damaged transport routes, are all factors that contribute to the extent of the damage and therefore impede the security sector's ability to respond effectively[9] (RDC et al., 2021; IDMC, 2023). In thinking about ways to respond to these issues, several long-term strategies emerge as potential pathways. These include investing in climate-resilient infrastructure, efficient waste management systems, efficient waste management systems, fostering livelihood diversification through state-funded programs, and innovation in sustainable resource management policies.

[9] The state security sector response includes for instance the search for potential survivors immediately after the disaster, as well as, the supply of medicines and food to the victims (Ilunga, 2022; Radio Okapi, 2024b).

5. Recommendations

This research focused and contributed towards expanding the knowledge on an under researched question around the roles, responsibilities, and risks presented by security actors - both state and non-state - in responding to climate-related hazards in contexts of internal conflict. The selected case studies, viz. the Assam region in India, the Democratic Republic of Congo and Colombia, each present unique opportunities and weaknesses in terms of national climate adaptation strategy and the strategy of the security actors in dealing with climate-related risks.

- Promoting transboundary cooperation for improved prevention and rehabilitation from issues arising out of migration, resource competition and climate-related hazards
- Focusing state response on prevention and rehabilitation, especially through issuing early warning signals, planning climate-resilient infrastructures and enhancing support to IDPs
- Strengthening community resilience through training on climate-related hazard management, in order to enhance their immediate response capacities as they usually embody the first responder responsibility
- Reaffirming the responsibility of the state to support the capacities of the communities in responding and adapting to climate-related hazards
- Mobilising the armed security sector through careful consideration to avoid the risks associated with the securitisation of climate change

Note: *Although this research report is focused on the security sector, it is important to acknowledge that security is only one of the many facets of climate-related hazards mitigation.*

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