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Climate Change and Darfur: A Holistic Security Approach

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CLIMATE CHANGE AND DARFUR: A HOLISTIC SECURITY APPROACH

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Executive Summary

Climate change is a non-traditional security issue that has evolved into an existential global security threat through its transnational nature. It has direct human security implications that through time turns into indirect traditional security ramifications, which results in higher rates of intrastate conflicts along with regional spillover impacts that destabilizes the geopolitical landscape. Through a comparison of the contexts in Darfur in 1983 and 2003 along with the repercussions that Darfurians face nowadays, I argue that climate change, as a threat multiplier, is the main driver of armed conflicts in Darfur through inter-communal competition over the scarcity of resources that led to food insecurity, health decline, livelihood deterioration, mass displacement, and eventually violent conflict. Compounded by a lack of national development policies, inadequate practices of local governance, and the failure of the applied conflict resolution mechanisms, a vicious cycle that begins with climatic impacts, progresses via conflicts, and culminates in internal and regional destabilization, was created only to repeat itself through the confluence of climate change and armed conflicts. As the root cause of many conflicts nowadays, climate change needs to be addressed through a holistic interdisciplinary security approach that takes into account national security and human security implications, development and good governance policies, as well as risk management practices while integrating an innovative principle entitled "the Responsibility to Prepare, Prevent, and Protect (R2PPP)". Currently, the Conflict in Darfur is still gaining momentum; only political will and collective action that address the multidimensional origins of the conflict, particularly climate change, will bring it to an end.

Dedication

To Ambassador Aly Erfan, who was there for me from the very beginning teaching me that security threats are not only about armies and weaponries, but encompasses also unconventional threats; those negotiations are more like a chess game that needs planning and hardworking but also fun.

To Ambassador Karim Haggag, who showed me that strategy and statecraft are not only in theories but also in practice and they can be adopted in realms beyond wars; the good strategist is the one that makes use of all the available tools for his success, that is conflict resolution and ending wars, even if his path is unclear and the tools are buried deep beyond the conflict calamities.

To Dr. Ibrahim Awad, who taught me to look beyond the scope of theories and create my own while instilling in me an enriching knowledge about the migration-development nexus and how that fits in security talks.

To Dr. Noura Wahby, who taught me the real art of research methods and who believed in my capabilities to excel in them when I did not.

To Dr. Ghada Barsoum who guided me through the journey of this capstone project and taught me with her calmness and patience that I can do anything anytime in research as long as I am determined.

To my Father and my Hero, who believed in me and encouraged me to go on and be more.

To my Mother and my Best Friend, who took with me each step along the way and pushed me beyond my limits to be where I am today.

To my Dear Brother, who lent me his ears and shoulders when I was extremely exhausted and needed them.

Thank you so much. This project would not have seen the light without you all and I could not be where I am today without you and your support.

With Lots of Love and Appreciation

Salma Sakr

Introduction

After almost two decades of war, Darfur witnesses a deepening climate crisis. In addition to rampant violence, the dry seasons are getting longer and hotter and the rainy seasons are becoming less predictable, endangering crop yields that are necessary for human survival and escalating the already severe food insecurity (FEWS NET, 2022). Although it was first considered an optimistic indication, refugees' return and integration turned out to be disturbingly difficult. Upon their return, many refugees discovered that the tribes that drove them from their homes had taken permanent residence there (Kamen, 2021). Arable land is becoming less and less accessible due to environmental deterioration and desertification, while demand is still rising; as the availability of land declines due to climate change, competition for land increases as refugees return (ibid.). Therefore, disputes over land rights are intensifying, particularly when exploitable resources are discovered, like gold deposits in North Darfur and underground water in western Darfur (Elsheikh et al., 2013; Kamen, 2021). Consequently, Darfur's prospects for peace are still questionable as long as the underlying multifaceted drivers of the daunting conflict are not identified.

Even if the crisis in Darfur is the first to be recognized by the United Nations Secretary General, Ban-Ki Moon, as induced by climate change, it will not be the last because it has the potential to serve as a catalyst for impending conflicts throughout Sudan and other countries in the Sahel belt (Ki-moon, 2007; UNEP, 2007; Mazo, 2009; Elzarov, 2022). In fact, experts caution that climate change-related conflicts are prevalent in low- and middle-

income nations around the world, particularly in sub-Saharan Africa (Maino, & Emrullahu, 2022).

Given the convergence of the environmental and political factors that leads to conflict outbreak ranging between weak governance, political marginalization, and power struggle on one hand as well as temperature shocks, changes in precipitation patterns, and more frequent and intense weather events on the other hand, it seems that climate change is a threat multiplier that exacerbates inter-communal tensions until they escalate into an intra-state conflict. This demonstrates that climate change has numerous security implications that begins with scarcity of natural and economic resources, then passes through food insecurity, livelihood vulnerability, and mass displacement before it accumulates into armed conflict.

In this capstone project, I will explore the climate-security nexus through the case study of Darfur while investigating the complex causal connections between the chain of events that starts with climate change and ends with conflict in order to formulate a pattern that govern the correlation between climate and security and to integrate that patten into the security arrangements put forward by the international community. In this way, this capstone project might help dismantle the intricacies that surround non-traditional security issues, including climate change, and draw out a roadmap that best tackles these unprecedented threats by a multifaceted security approach that takes into account these factors: preparedness through technological advancements, prevention through proactive measures, and protection from potential conflict eruption.

Problem Statement/Research Question

There has been a lot written on the speculative connections between the impact of climate change and the occurrence of conflict and fragility. However, we also understand from the broad and lengthy history of research on natural resource management that those conflicts develop when natural resources are scarce or when their availability changes if they are not properly managed (Giordano, et al., 2005; UN, & EU, 2012) . However, there has been moderate progress in better understanding the peace and security implications of a changing climate at the local level, which is in some ways the real and grounded level, and how that affects the regional scene when it spills over across borders and subsequently the global level, too (Watson et al., 1998; Pumphrey, 2008; Kelly et al., 2017).

Even though it is now well acknowledged that climate change acts as a "threat multiplier" (Nanthini, & Nair, 2021; Oels, 2012; A/64/350; A/64/701), the causal pathways bridging climate change to the outset of violent conflict are still under-researched. There are still very few interpretations of the underlying factors. This is problematic for more than just scientific reasons. At a time when the magnitude of such violence is on the rise, the lack of consensus surrounding the links between climate change and violent conflict also makes it difficult to formulate tailored policy interventions. This is particularly true when little research has been done to determine if the debate about climate change and conflict has actually had any influence on the programming goals and financial resources allocated for initiatives related to development assistance and peacebuilding. In fact, several financial instruments for peacebuilding and conflict resolution do not particularly allocate funds for climate-related security threats; until recently, there were very

few funding sources that addressed the nexus between climate change, peace, and security (UNEP, 2021).

Through this capstone project, I will explore the climate-security nexus through the case study of Darfur in order to answer the following questions: How can climate change result in armed conflicts? What are the security implications that climate change leads to in this case? What is the best approach for the securitization of climate change? What are the roles played by governance and development when faced with the double burden of climate change and armed conflicts? How can we integrate climate action and financing into the security arrangements and conflict resolution mechanisms put forward by the international community?

Client Description

Ambassador Karim Haggag is a career Egyptian diplomat with over 25 years of service in Egypt's diplomatic corps and is currently serving as a professor of practice at the School of Global Affairs and Public Policy at The American University in Cairo (AUC). Throughout his career, he has served in numerous capacities focusing on US-Egyptian relations, Middle East regional security, arms control and non-proliferation, and Arab-Israeli diplomacy. His assignments have included serving as director of the Egyptian Press and Information Office in Washington DC. From 2002-2007; the Office of the Presidency in Cairo was responsible for US-Egyptian relations and economic policy coordination (2002-2007); and the political section of Egypt's embassy in Washington (1997-2002) where he was responsible for politico-military affairs and the Middle East peace process.

In addition to his diplomatic assignments, Ambassador Haggag was also a visiting professor with the Near East and South Asia Center for Strategic Studies at the National Defense University in

Washington DC (2011-2013) and is currently a non-resident fellow at the Middle East Initiative at the Belfer Center for Science and International Affairs at the Harvard Kennedy School of Government. He is a graduate of The American University in Cairo and has earned a master's degree in war studies from King's College in London. Ambassador Haggag is currently the director of the Middle East Studies Center at AUC.[1]

With his expertise in arms control, security, and war studies as well as his long and well-established career at the Egyptian Ministry of Foreign Affairs, Ambassador Karim Haggag can work on an in-depth analysis of the Capstone Project as it demonstrates how it is necessary to consider cross-cutting climate-related security threats in policy and programming while emphasizing the significance of rigorous investigation and evaluation of effective measures to counter such threats through the appraisal of the contexts in Darfur in 1983 and 2003.

Moreover, in light of its presidency of the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), that took place in the Egyptian coastal city of Sharm el-Sheikh, from 6th to 18th of November, the Egyptian Ministry of Foreign Affairs can benefit from the findings of this project in addressing climate change, along with its ramifications on security and development, thoroughly and exhaustively, while ensuring that analysis and action are based on context-specificity and national ownership. Furthermore, the Capstone Project will help the Egyptian Ministry of Foreign Affairs provide contextual understanding of how climate change undermines development and security dynamics while offering insights on the obstacles and prospects for strengthening synchronized responses to climate-related threats in Africa. It will also provide a contextualization of how to prevent violent extremism in politically and environmentally fragile contexts affected by climate change and the means to do so through a

[1] https://www.aucegypt.edu/fac/karimhaggag

framework that is based on a holistic security approach and an innovative principle entitled the Responsibility to Prepare, Prevent, and Protect (R2PPP). Ambassador Karim Haggag can help me do that.

Preview of Findings and Recommendations

Based on the conceptual framework provided by Baysal and Karakaş (2017), Werrell and Femia (2019), as well as von Lucke (2020), and through a qualitative approach that is based on deductive reasoning, comparative-historical research and case study research of the Darfurian context, I argue that climate change is a non-traditional security issue that has evolved into an existential global threat through its transnational nature. It leads to direct human security ramifications that through time turn into indirect traditional security complications, which results in higher rates of intrastate conflicts along with regional spillover impacts that destabilizes the geopolitical landscape.

Therefore, it will not be effective to frame climate change as a national security issue because this will only undermine climate security, militarize any counter responses while ignoring its transboundary aspect (Deudney, 1990; Ka¨ko¨nen, 1994; Hameiri, & Jones, 2015). Neither will the adoption of a human security approach be appropriate because it will not genuinely get the international community's attention to its security implications; instead, it will just elevate climate change into high politics and exceptionalism, that is harshly denounced by developing countries in fear of foreign intervention (Duffield, & Waddell, 2006; Oels, 2012). Similarly, risk management will only mitigate its repercussions and make them manageable in the short term, but it will not uproot the threat as required (von Lucke, 2020). As a threat multiplier, climate change

needs an innovative multidimensional approach that takes into account the complexity it constructs (Brown, & Crawford, 2009; Werrell, & Femia, 2015; A/64/701).

Through a comparison of the contexts in Darfur in 1983 and 2003 along with the repercussions that Darfurians suffer from nowadays, I argue that climate change is the main driver of armed conflicts in Darfur. Paving the way for conflicts, climate change in Darfur has caused scarcity of natural resources that led to food insecurity, health decline, livelihood deterioration, mass displacement, and eventually armed conflicts and regional destabilization. Population increase, a lack of national development, inadequate local governance, and the failure of the employed conflict resolution procedures all contributed to the amplification of these challenges. This led to the development of a vicious cycle that begins with climatic impacts, progresses via conflicts, and culminates in internal and regional destabilization, only to repeat itself whenever climatic dangers strike in the midst of these deteriorating conditions. Therefore, Darfurians' suffering is anticipated to continue and armed conflicts are estimated to be renewed because the root cause of the conflicts, that is climate change, is not well addressed.

Accordingly, the international community needs to establish a comprehensive security mechanism that incorporates national security and human security implications, development and good governance policies as well as risk management practices through a framework that enhances the global preparedness for slow and rapid-onset climate hazards, ensures the prevention of their recurrence by strengthening climate action and increasing climate financing along with humanitarian aids, and guarantees the populations' protection in climate hotspots from eruption of conflicts or relapse into them, that is the Responsibility to Prepare, Prevent, and Protect (R2PPP). Such a holistic security approach, along with an embedded innovative principle, is needed and more fitting to confront the unprecedented security threats of the 21st century collectively and

harmoniously through the cooperation of governmental and non-governmental organizations along with civil society associations, public and private sector, as well as think tanks and research centers at the national, regional, and international levels. We are not living in isolated lands, but in one small world that requires our collaborative efforts to gain the momentum for real-life security that is multidimensional and interdisciplinary.

Background

Historical Background

In Arabic, Darfur originally means "the land of the Fur", who happened to be the ruling ethnic group in the Darfur region before 1916. In the outset of the 1300s, most of the Fur converted to Islam and in 1596 an Islamic sultanate was established and declared in western Sudan (Government of Sudan, 2005). Though Darfur remained independent throughout the various conflicts that plagued Sudan, it was only in 1916 that it was subjugated by the British and annexed to the jurisdiction of western Sudan (ibid.). This long-term tendency to independence and resistance to any form of control by outsiders should be taken into account while looking into the Darfur conflict especially with tribal differences and multiple ethnicities.

In fact, Darfur was overlooked and underdeveloped for more than 80 years: either through the 40-year colonial interlude or the following 40 years after independence (De Waal, 2007). This is not to mention the impact internal grievances and the civil war in neighboring country, Chad, had on local governance (ibid.). In fact, these circumstances helped give rise to Darfurians' tendency of independence so that they can have their share in political power and national wealth (ibid.).

Geographic Factors

Darfur's geographic location also played an important role in exacerbating the situation. Darfur has historically been one of the farthest regions of Sudan which has always made it hard to reach by the Capital, Khartoum, leaving it desperately poor and underserved (De Waal, 2007). Moreover, its proximity to Chad created feelings of affinity among a sizable minority in Darfur which facilitated the arms supply when clashes ensued, especially with the spillover of Chad Civil War in the 1980s (Government of Sudan, 2005). This, in turn, enhanced Darfurians' feelings of marginalization and underdevelopment, a fact that prompted two-armed rebel groups, Sudan Liberation Movement/Army (SLM/A) and the Justice and Equality Movement (JEM), to wage war in Darfur in 2003 against the Government of Sudan through attacks on towns, government facilities and civilians (ibid.).

Tribalism and Ethnicity

A multi-ethnic and tribal region, Darfur is home to 80 different tribes and ethnic groups divided into mobile nomads and sedentary farmers (Government of Sudan, 2005). Through their differences and distinct identities, the indigenous peoples of Darfur and Arabs shared cordial relations. However, tribal and ethnic tensions have always been present between Drafurians of Arab Origins and Non-Arabs, particularly following the establishment of the Muslim Sultanate (De Waal, 2007). Yet, such tensions were usually characterized as low-intensity and small-scale outbreaks that marked the duration from the 1950s to the 1970s (Government of Sudan, 2005).

Lack of Natural Resources

Yet, when resources have become scarce, ethnicity and race differences gained more weight and materialized into high-intensity, large-scale conflict in the mid-1980s (Government of Sudan, 2005). In fact, due to a prolonged drought in 1983, the nomadic Zaghawa and relevant groups

moved southwards into the central Fur region of Jebel Marra, which created tensions between them and the residing farmers over water, crop yields, and grazing rights (ibid.). Tensions were largely intensified when these groups were supplied with arms by their brethren in Chad so that they could seize lands from their Fur and Masalit neighbors (De Waal, 2007). By the time the peace conference was held in 1989, 40,000 homes had been destroyed, tens of thousands of tribesmen had been relocated, and several thousands had perished (Government of Sudan, 2005).

Yet, the root causes behind both conflicts in 1983 and in 2003 are quite similar. Disputes over access to natural resources such as arable lands and water points are always the norm between farmers and pastoralists in Darfur (Government of Sudan, 2005). Due to recurrent droughts in North Darfur and parts of West and South Darfur, crop yields were diminishing especially with erratic rainfall, pest infestation and lack of agricultural inputs (ibid.). This ignited more tensions between farmers and pastoralists, particularly with livestock trespassing, since herd routes were closed at times of grazing. At the same time, cattle raids increased which dwindled livestock, too (ibid.).

Failure of Local Governance

In a similar vein, Khartoum's policy towards local conflicts has focused on distributing arms to one side to suppress the other, instead of ensuring good governance and a fair distribution of resources (De Waal, 2007). In 2003, the situation was even worse because provincial elites were deeply frustrated by the government neglect and the status quo of lack of resources (Government of Sudan, 2005). Due to this breakdown of local governance, Darfurian society was fragmented amid multiple local conflicts which resulted in massacre, internal displacement, famine, and an overall death toll of more than 200,000 (De Waal, 2007).

The 2003 Darfur Conflict

In 2003, the conflict in Darfur erupted upon the emergence of the Sudan Liberation Movement/Army (SLM/A) and the Justice and Equality Movement (JEM), which attacked military facilities, airfields, and multiple fuel and weapon stockpiles in northern Darfur with the aim of achieving full respect of human rights and ending political and economic marginalization for Muslim African ethnic groups (USAID, 2004; Sarwar, 2009). It was only after the Sudanese government rejected their political demands, which included a regional socioeconomic development plan, the abolition of tribal militias, and a power-sharing arrangement with the central government, SLM/A and JEM resorted to violence (Sarwar, 2009). Therefore, in order to put an end to the insurgency, the government then retaliated by using military force and allied local militias, the Janjaweed, which were largely recruited from the Arabized people from northern and eastern Darfur (ibid.). Such deteriorating conditions left a staggering two million people presumed dead while over four million have been displaced as a result of the conflict (ibid.).

Conclusion

In conclusion, concerns over rivalry for land and water resources are shared by all people living in Darfur, particularly due to recurrent droughts, desertification, intensive floods, and population growth. Therefore, constant tensions between sedentary farming towns and nomads have always been the norm throughout the decades-long strife in Sudan's Darfur region even if they differed in scale and intensity. Such conditions have been made worse by the long-standing government’s marginalization approach that left the majority of Darfurians on the periphery of development as well as the manipulation of ethnic antagonism which have been used to push one tribal group against another as part of a "divide and rule" strategy.

This vicious cycle demonstrates that climatic impacts in Darfur have resulted in food insecurity and livelihood deterioration. This in turn gave rise to escalating tensions among farmers and pastoralists, particularly with the persistent deficit of local governance and undermining living conditions, which induced them to either join forces with rebel groups to fend for themselves or flee for their life. As a result, spillover effects of instability and displacement crossed Darfur's borders, which jeopardized Darfur's security situation and threatened regional stability. This called for a more comprehensive security concept that takes into account the interaction between climatic impacts, development, local governance, and security implications while reinforcing global preparedness for climate hazards through technological and scientific advancements, preventing their recurrence by strengthening climate action and increasing climate financing along with humanitarian aids, and protecting populations in climate hotspots from eruption of conflicts or relapse into them, that is the Responsibility to Prepare, Prevent, and Protect (R2PPP).

Literature Review

In this section, I will explore how climate change has been framed as a threat from a security perspective in the academic literature. First, I will investigate how the security concept has evolved by going through the following: the introduction of non-traditional security threats into the security realm, the distinction between traditional and non-traditional security issues, the differences between hard and soft security issues, and the rise of the securitization movement. This is in order to better grasp the nature of the threat construction where climate change is concerned and to explore the pertinent advantages and disadvantages of its securitization according to the Copenhagen School. Second, I will examine the differences between each framework: from a

national security perspective, from a human security perspective, and from a threat multiplier perspective so as to make sure which perspective is the most relevant.

The Evolvement of the Security Concept post the Cold War

Following the end of the Cold War, non-traditional security threats have been introduced to the security realm, marking a paradigm shift in the security notion and how threats are constructed (Buzan, 1997; Akinrinde, 2020). Still, these unconventional security threats had no clear predefined boundaries, no adequate response, and no military element involved which made it harder to believe that these issues were security-related in the traditional sense (Bedeski, 1992). Though they are not military-based, gradually, they stopped being looked over and began to have their due share of interest among the international community because of their transnational nature which leaves national solutions as insufficient and necessitates multilateral cooperation regionally and internationally (Banerjee, & Basu, 2022). This is especially true when they have grown in number and frequency since 9/11 and have transformed into a major threat to humanity which requires a coherent and sustainable response based on a long-term vision (Zhaohui, 2022).

There are key distinct features between traditional and non-traditional security threats. On one hand, traditional security threats are military-based, usually explicit, intentional in their implementation, and have recognizable goals that involve a reorganization of the threat mechanism and a redefinition of inter-state relations (Bedeski, 1992). On the other hand, non-traditional security threats "arise out of the normal, non-military activities of individuals, groups and states" (ibid., p. 4). Instead of being considered explicit and deliberate, they are usually implicit and unintended in their nature, leading to long-term accumulating consequences which make them hard to identify and resolve (ibid.). Hence, they hinder state's ability to either maintain stability or reinforce living conditions within state borders (ibid.).

In other words, non-traditional security threats challenge the state's perceived capacity to safeguard afflicted populations even though they do not constitute a direct threat to the state's apparatus in the traditional sense (Hameiri, & Jones, 2013). In this novel approach to security, there was a shift away from the emphasis on the state as the main referent object to that of the people at individual and societal levels because conflicts have become more intrastate rather than interstate, driven from issues related to people's ethnic identities and resources scarcity (Anthony, 2016). Yet, they usually result in spillover effects, such as irregular migration, transnational crime, etc., due to their tendency to traverse national borders resulting in more catastrophic consequences since they were initially considered low-probability to occur (Hameiri, & Jones, 2013).

In an attempt to operationalize these characteristics into a detailed definition of non-traditional security threats with the aim of promoting their study and consolidating the resultant research findings, the Consortium of Non-Traditional Security Studies in Asia (NTS-Asia)[2] put forward the following definition:

> "Non-traditional security issues are challenges to the survival and well-being of peoples and states that arise primarily out of non-military sources, such as climate change, resource scarcity, infectious diseases, natural disasters, irregular migration, food shortages, people smuggling, drug trafficking and transnational crime. These dangers are often transnational in scope, defying unilateral remedies and requiring comprehensive – political, economic, social – responses, as well as humanitarian use of military force" (NTS-Asia, cited in Anthony et al., 2006, 6; Anthony, 2016, 6).

2 Consortium of Non-Traditional Security Studies in Asia (NTS-Asia): officially founded in 2003 and initially composed of 14 institutions that are led by the Center for Non-Traditional Security Studies at the S. Rajaratnam School of International Studies (RSIS) of Nanyang Technological University in Singapore

This widening school of thought was supported by a large number of scholars (Ullman, 1983; Jahn et al.,1987; Nye & Lynn Johns, 1988; Mathews, 1989; Crawford, 1991; Tickner, 1992; Weaver et al., 1993), but at the same time was met by resistance for fear of hamstrung effects where powerful countries militarize their response (Deudney, 1990; Hameiri, & Jones, 2015). In this context, developing countries are overwhelmed by the consequences and suffer from resource depletion, civil unrest, armed conflicts, and mass migration (ibid.). Hence, traditionalists saw the need for confining the security concept to the threat or the use of force (Buzan, 1997).

This argument has led to the rise of "hard" and "soft" security concepts in an attempt to differentiate between conventional and unconventional security threats so that the security concept can be widened to encompass non-traditional and non-military security issues (Fatić, 2002; Aldis, & Herd, 2004). Hard security threats were perceived as primarily external threats, inter-state in nature, and depth-based in measurement when it comes to territorial acquisition and incurred damages (Fatić, 2002, pp. 94-95). This requires the use of force or threat thereof is to be performed on a geographical scale (ibid.). As for soft security threats, they are either internal or trans-border in character which requires a policy-oriented and a width-based approach. This approach relies on confidence-building and conflict-preventive measures through regional cooperation between all states "on whose territories such security threats exist" (Ibid, p. 95). Here, society management is more prioritized than the use of force (ibid.). In fact, it seems that this categorization of security threats into hard and soft sources may be traced back to Buzan 1997 and the securitization theory where the state is no longer the exclusive referent object of security though it remains central to the new security agenda (Buzan, 1997, p. 12).

Developed by Barry Buzan (1997, 1998), Ole Wæver (1987, 1993), Jaap de Wilde (1998), the securitization theory found its origins in the 1990s in Copenhagen where the Conflict and Peace

Research Institute (COPRI) was established and most writings were published (Stritzel, 2014, p. 11). Taking into account the perspective of the researchers who aim to widen the scope of security "wideners" and the traditionalists' criticism of that perspective, the Copenhagen School framework of securitization is open to "many different types of threat" (Buzan, 1997, pp. 13-14). This is while keeping in mind the necessity for coherence "by exploring the logic of security itself" instead of confining it to the military sector (ibid.). However, they insist that security threats follow certain criteria: 1) these threats existentially endanger a referent object, 2) through the articulation of a securitizing actor, usually a decision-maker, and, thus, 3) calls for exceptional measures to be taken so that they can be overcome (ibid.). In this manner, politicization is different from securitization and lower at rank because it does not elevate issues to the realm of high politics which at times might be necessary to prioritize a certain agenda item by the international community (Barnett 2001, P. 136).

In this regard, the Copenhagen school managed to incorporate "military and nonmilitary, state and human security concerns, as well as peace and military security aspects, under a much broader, multidimensional rubric of International Security Studies" (Stritzel, 2014, p. 18). However, its legitimization of such a state of exceptionalism, where issues move from normal politics to radical politics, under an artificial notion of universality that it can fit different times and multiple locales at the same time, makes the international community reluctant to apply it (ibid.). This, in turn, leaves a gap where the security concept is concerned, especially when risk management and nationalism are emerging (von Lucke, 2020). In addition, though there was an acute awareness of the growing numbers of human beings and the accelerating rate of industrial activities in our delimited ecosystem, there was no agreement on what is more alarming and needs securitization: the current status of environment or the human behavior along with overpopulation (Buzan, 1997).

Framing Climate Change as a Security Issue

Nevertheless, since the 1960s, the securitization process of climate change has been ongoing and it was among the first non-traditional security threats to be called for inclusion on the security agenda (Buzan, 1997; Hameiri, & Jones, 2015). However, it began to gain impetus only in the 1980s when global environmental issues, such as global warming, emerged and led to the elevation of climate change to the status of referent objects of security that is above the state's role (Buzan, 1997; Trombetta, 2008; Campbell, & Parthemore, 2008). In fact, it was as early as 1987 that the phrase "environmental security" entered into international debates through the publication of Our Common Future by the World Commission on Environment and Development (Trombetta, 2008). A year later, the United Nations and the World Meteorological Organization founded the Intergovernmental Panel on Climate Change (IPCC) as an international independent entity that identifies gaps and weaknesses in climate change knowledge and analyzes climate information with the aim of formulating future sound policies though its contributions remain voluntary and more technical than security-relevant (Campbell, & Parthemore, 2008, p, 4). Yet, in 1989, the G-7 summit convened in Paris and concentrated their discussions for the first time on the environment. However, they were criticized for the lack of strong and immediate action (Ibid, p.6), an issue that persists till the moment (Security Council Report, 2021).

A National Security Issue

Following the collapse of the Soviet Union and the end of the Cold War, the 1990s marked an era of momentum for the climate change-security nexus where there were calls for a redefinition of what national security entails by Jessica Tuchman Mathews, then vice president of the World Resources Institute (Campbell, & Parthemore, 2008). These demands were vehemently supported

by Senator Al Gore, one of the more vocal politicians in the US, who stressed that “the environment is becoming a matter of national security—an issue that directly and imminently menaces the interests of the state or the welfare of the people” (Al Gore, 1989, p. C1; Campbell, & Parthemore, 2008, p. 5). Later, William Reilly, when appointed by Bush as the Head of the Environmental Protection Agency (EPA), cemented Al Gore’s opinion that “ecological integrity is central to any definition of national security” (Satchell, 1989, P.5; Campbell, & Parthemore, 2008, p. 6). Such views found their echoes in Secretary of State James Baker’s FY 1991 budget request testimony where he clearly stated that “traditional concepts of what constitutes a threat to national and global security need to be updated and extended to such divergent concerns as environmental degradation, narcotics trafficking, and terrorism” (U.S. Department of State, 1990; Campbell, & Parthemore, 2008, p. 7).

Though these views were promising, they did not emerge without resistance (Campbell, & Parthemore, 2008). Yet, US scholars and policymakers accepted the need for an updated national security concept that is not interpreted in Cold War terms of deterrence and containment (Aldis, & Herd, 2004), especially when national security was considered a “package legitimizer” by the US against the Soviet Union during the Cold War (Stritzel, 2014, p. 16). Nonetheless, attempts to consider climate change as a national security issue were not only US-based since Russia, Finland and the United Kingdom conceived climate change as “a major threat that could trigger violent conflict and have national security implications" (Brzoska, 2010, p. 8; Oels, 2012, p. 199). As a consequence, conceptualization of climate change as a national security issue that directly threatens a state's territorial integrity and increases violent conflicts continued (von Lucke, 2020, P. 2). In fact, a number of the developed countries, including the United States, the United Kingdom and Australia, incorporated climate change in their national security strategies, their

defense planning scenarios, and identified it as a non-traditional security threat that challenges their national security for the long run if left unaddressed (Hameiri, & Jones, 2015, pp. 77-78). However, this approach towards climate change was not welcomed by a number of actors: ecologists as well as developing countries and a number of developed countries (ibid.). This was prompted by concerns about transforming the environmental debate with the confrontational practices of the military (Deudney, 1990), militarizing the environment itself (Ka¨ko¨nen, 1994) or the response of the powerful states to contain the side effects (Hameiri, & Jones, 2015). This is due to the view that, when overwhelmed by depletion of their natural resources, developing countries will suffer from civil unrest, armed conflicts, and mass migration which hardly can be contained within one state's border (Srikanth, 2014; Hameiri, & Jones, 2013; Hameiri, & Jones, 2015). On the other hand, southern countries believe that confining "environmental security" to northern countries in order to safeguard their access to resources, protect their consumption patterns, and keep their pollution rates at the same levels will only exacerbate the issue because it leaves Southern countries at a weaker position (Shiva 1994; Dalby 1999; Barnett 2001; Trombetta, 2008; Oels, 2012). Such contradicting results have made the international community wary of framing climate change in this way (ibid.) especially when "the transboundary nature of environmental degradation renders militarized, state-based responses ineffectual" (Hameiri, & Jones, 2015, p. 78).

A Human Security Issue

This point of view has been accompanied by a fundamental shift in the referent object of security from a state-centered approach to a people-based vision; from sovereignty to human-wellbeing and survival (Oels, 2012). To put it differently, humankind, vulnerable communities, families and human beings have become the main focus and it was the governments' responsibility to ensure

their survival, livelihood and dignity when addressing "emerging threats in a manner that is contextually relevant and prioritized… to prevent and mitigate the occurrence of future threats" (A/64/701). This demonstrates two important factors: 1) human security is "a critical element in achieving national security and international stability", 2) human security and human development are interrelated and "mutually reinforcing" (ibid.).

In this sense, the lack of access to resources is a human security challenge that is "specific to the internal dynamics of a particular community" whereas climate change is a "transnational" one (ibid.). Yet, both are interdependent because lack of access to resources will make people more competitive and this competition might result in intra-state conflicts with spillover effects while climate change will exacerbate the living conditions and this vicious cycle will continue (Oels, 2012; Hameiri, & Jones, 2015). In this context, climate change is securitized without "the counterproductive outcomes that come from securitization by the state" (Barnett, 2010, p. 20) especially when the military role is transformed from fighting wars to protecting the populations and resources (Oels, 2012).

Nonetheless, though human security has been considered a more appropriate framework for climate change, it has been criticized for its counterproductive impacts since it deviates attention from climate change to issues like migration and border control in order to secure global circulation from disruption (Duffield, & Waddell, 2006, PP. 5-10; Oels, 2012, PP. 196-197). In the same vein, human security leads to proactive militarized responses by Northern countries in order to protect their homeland security from the spillover coming from weak and failing states in the south (ibid.). In this context, human security might be abused to legitimize extraordinary measures, such as military intervention in sovereign states on humanitarian grounds and under the pretext of moral duty (ibid.).

Moreover, the mainstream environmental discourse tools employed by the international system to combat climate change, including the foundation of IPCC in 1988, United Nations Framework Convention on Climate change in 1992, the Koyoto Protocol in 1997, and the Paris Agreement in 2015, are all designed and structured according to a state-centric approach (Nanthini, & Nair, 2021, PP 2-3). Though this approach takes into account human vulnerabilities, its main focus is the state's borders and sovereignty which creates a gap in the multilateral climate discourse and leaves states in comparative positions when shouldering responsibility, blaming each other for their share in the status quo of climate change and its acceleration (ibid.).

Such an outcome is not fit to solve the issue of climate change or mitigate its impact especially when the Security Council refuses to adopt a binding resolution that tackles climate change from a security perspective till the moment even though human security concerns have been brought to the forefront of discussions after COVID-19 (Security Council Report, 2021; Nanthini, & Nair, 2021). In fact, this reluctance is not new, but goes back as early as the 1970s when economic and societal security issues have been coined and accepted while environmental security was not and has been the last to include (Aldis, & Herd, 2004; Campbell, & Parthemore, 2008; Trombetta, 2008). Therefore, though human security is among the first attempts acknowledged by the international community to broaden the security agenda through the 2001 report by the International Commission on Intervention and State Sovereignty, entitled “The Responsibility to Protect”, “the outcomes of securitizing moves in the name of human security can be just as violent, short-term-oriented, and undemocratic as those criticized by the Copenhagen School” (Oels, 2012, P. 197).

A threat Multiplier

Alternatively, climate change has been framed as a threat multiplier (Nanthini, & Nair, 2021; Oels, 2012; A/64/350; A/64/701). This is due to:

> "The way it threatens to affect where we can live, where we can grow food and where we can find water—could undermine the economic and political stability of large parts of the world in the coming years. In so doing, climate change could become a threat multiplier that makes existing problems such as water scarcity and food insecurity more complex and intractable" (Brown, & Crawford, 2009, P. 1).

However, this approach is not novel, but it can be traced back to the 1990s when it was concluded that environmental issues, in conjunction with other social, economic, and political problems, could cause new conflicts or aggravate current ones (Homer-Dixon, 1991; Homer-Dixon 1994). Though a direct linkage has not been established and the causal relationship between the environment and conflict has largely been contested, discussions of climate change as a threat multiplier continued (Trombetta, 2008; Aldis, & Herd, 2004; Baysal, & Karakaş, 2017). This is especially true when talks of underdevelopment brought forward issues of climate change, such as food insecurity and droughts, which "will further deteriorate the situation in already fragile countries…and will directly or indirectly contribute to the emergence of new failed states" (Baysal, & Karakaş, 2017, P. 24).

A more detailed manifestation of the threats climate change can bring about was presented in "Climate Change and International Security", a joint document proposed by the European Commission and EU High Representative for the Common Foreign and Security Policy in 2008 to the European Council. This document demonstrated that climate change poses seven different

threats including: conflict over resources; economic damage and risk to coastal cities and critical infrastructure; loss of territories and border disputes; environmentally induced migration; situations of fragility and radicalization; tensions over energy supplies; pressure on international governance.

In this context, "the risk emanates not from climate change per se, but from how climate change interacts with these other environmental, economic, social and political factors" (Werrell, & Femia, 2015, P. 2). Therefore, institutional capacity and governance arrangements play a pivotal role when measuring the impacts of climate change systematically which necessitates an assessment and management of the risks involved in a multidimensional and comprehensive manner (A/64/701).

Such an expanded paradigm of security demonstrates that climate change has direct/primary human security implications and indirect/secondary traditional security implications that are interrelated and mutually reinforcing (Baysal, & Karakaş, 2017). Among the top direct climate-induced insecurities are food insecurity, water scarcity and natural disasters. As for food insecurity, it usually occurs due to the lack of arable lands as increasing temperatures, uneven distribution of rain or rising sea levels leads to deforestation and soil erosion (ibid.). This does not only diminish agricultural production leading to food insecurity, but also indirectly results in political instability and conflicts over the control of the few arable lands available (ibid.). With regard to water scarcity, it is often the outcome of uneven rainfall and rising temperatures leading to competition over the reduced water supply and the exacerbation of current tensions or the emergence of new ones (ibid.). In all cases, such outcomes aggravate the health conditions resulting in the proliferation of infectious diseases as well as unregulated mass displacement and migration which

incites another layer of tension within and between countries of host, transit, and origin over the limited resources available (ibid.).

Conclusion

It seems that climate change is a non-traditional security threat that has turned into a potential existential threat with direct human security implications and indirect traditional security threats. In this case, framing climate change as a national security issue will not be adequate because it threatens to transform environmental security into a confrontational arena while neglecting its transboundary nature which renders military solutions as incompetent. Adopting a human security approach will be equally impractical since it will only elevate the issue of climate change to an exceptional status that is thoroughly criticized by the developing states without actually garnering the attention required by the international community to its security implications. The perfect formula is to understand that climate change negatively affects every sphere of life while multiplying national and international tensions with its transnational nature. To resolve this issue, a broader security concept that takes into account good governance, people's welfare, and the traditional concepts of sovereignty and security is more fit to the third decade of the second millennium that we live in.

Conceptual Framework

There are a number of theories in the literature that govern the climate-security nexus. Though they are numerous, there is usually a negative connotation attached to the securitization of climate issues because it might legitimize the use of extraordinary measures and militarize responses which

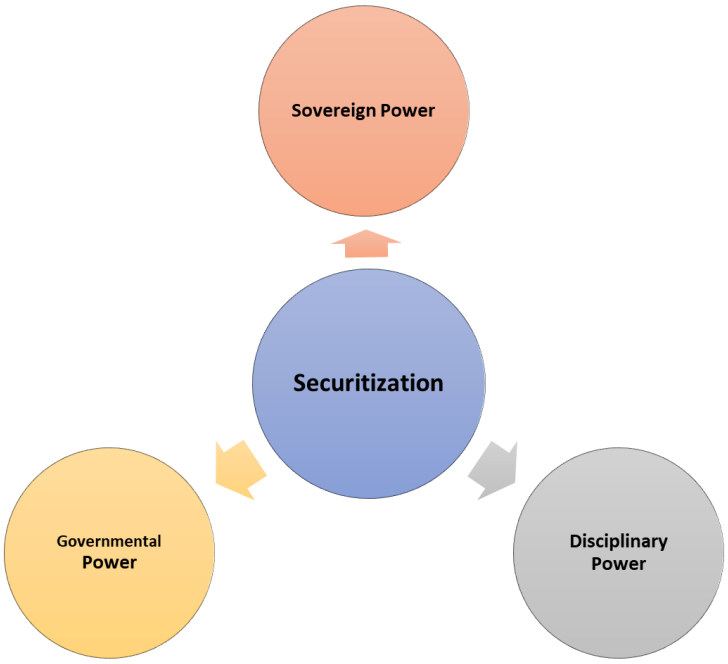
might threaten national sovereignty (Buzan et al. 1998; Vuori, 2008; Roe, 2012; Security Council Report, 2021). This might make them difficult to apply and feared by the international community especially when the securitization of climate change has failed to materialize and has been inefficacious and insubstantial (Spring & Brauch, 2011; Oels, 2012).

Contrarily, "the Paris School argues that the failed securitization of climate change is better understood as the successful 'climatization' of the security field" (Oels, P. 185) where its reconstruction is anticipated. In this sense, climate change is framed as a security threat by security professionals on a daily basis while traditionally existing security practices, such as scenario planning studies, early warning systems, etc., are applied to the issue of climate change and that new practices from the field of climate policy, such as risk management and climate modeling, etc., are introduced into the security field (ibid, P. 197). Though this might be more fit to apply in policymaking, it is still not realistic if and when a more broader security concept is reached and adopted since climatization tends to treat climate change as a human security and/or a developmental issue which usually takes a second place after traditional security issues in the international agenda.

Therefore, this project will be based on the conceptual framework proposed by von Lucke (2020) in his book "The Securitisation of Climate Change and the Governmentalisation of Security", with a slight modification that in my point of view is more fit to contemporary issues that the world faces today. According to von Lucke, climate change is best understood through a "Foucauldian power and governance focused approach of securitisation" (P. 13) where securitisation is multifaceted and context-dependent while power is the catalyst through which it operates. Here, securitization is neither a state-centered top-down concept, as suggested by the Copenhagen school, nor "an ongoing and low-key process in which professionals of (in) security slowly expand

a never-ending state of exception" as proposed by the Paris school (Bigo 2002, p. 73; Bigo &Tsoukala, 2008; von Lucke, p. 8). It is rather mingled with Michel Foucault's understanding of governmentality and the role of power in political rule which moves it from the realm of exceptionalism and helps make security issues more governable (von Lucke, pp. 10-11).

(Figure 1: von lucke's understanding of Foucault's concept of governmentality)



Compiled by the Author based on von Lucke, 2020

According to von lucke's understanding of Foucault's concept of governmentality, it is practiced through the interaction of three different forms of power: sovereign power, disciplinary power, and governmental power where one power attempts to dominate the others. While sovereign power is about a state-centered top-down approach, disciplinary power is at the micro level of the individual, including non-state actors, aiming to transform his/her behavior towards a predefined, ideal-typical norm where that individual is safe, free and able to fulfill his/her human potential

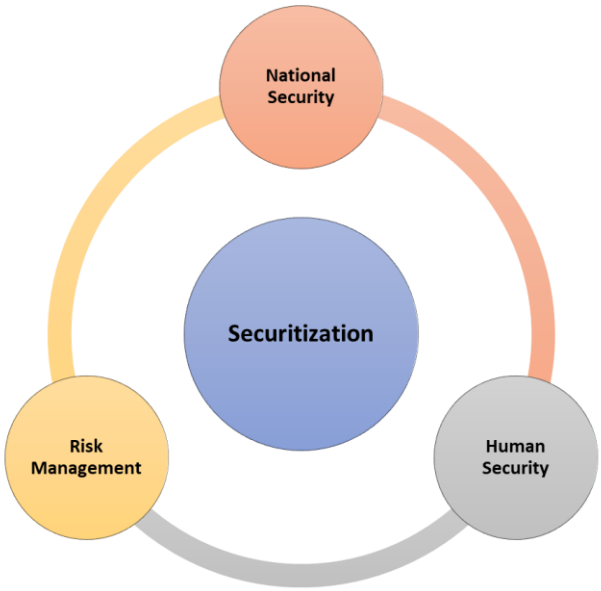
through sophisticated surveillance technologies and control mechanisms (Foucault, 2006b, pp. 89–90; von Lucke, 2020, p. 22). Hence, while sovereign power is related to the practices of national security, disciplinary power usually materializes in the human security approach as per the figure shown above (Figure 1).

As for governmental power, it is directly related to the governmentalization of the state and the emergence of the population as the main referent object while making use of "all statistical operations that have become possible with the development of sophisticated social scientific knowledge together with the fact that state bureaucracies keep track of an endless number of bio-political characteristics of the population" (Foucault 2006b, pp. 74–75; von Lucke, p. 16). By means of this, we can have an insight over the past, present and future variables within the population and manage risks accordingly while influencing developments in their early stages and hence avoiding more far-reaching interventions at a later stage and keeping risks to the minimum, but not necessarily eliminating them (Foucault 2006b, pp. 37-39, 66-69; von Lucke, p. 25).

Through this conceptual framework, it is estimated that each form of power in this power triangle cannot exist in harmony with the other and one of them will have to dominate. Regardless, I believe that their harmony and coexistence is the key to an inclusive security concept that is accepted by the international community and applied in the international agenda instead of the current traditional security concept which is not all-encompassing and one dimensional. However, I have to agree with them that one form of power/security might be the most prevailing every now and then within a state's borders when the need arises, but that does not mean that other forms are neglected or overlooked as they are essential parts of the security puzzle. Therefore, as per the figure shown below (figure 2), the interaction of sovereign power (national security), disciplinary power (human security), and governmental power (risk management) is necessary to create the

right momentum for the securitization of climate change and relevant unprecedented security issues of the 21st century.

(Figure 2: My Modification of von luck's presentation of Foucault's Governmentality)



Compiled by the Author based on von Lucke, 2020

Yet, as much as we need an inclusive security concept that takes into account national security implications, human security consequences and risk management practices in order to overcome any conflict while still at its preliminary phases, we also need to incorporate development and good governance policies and put forward a reliable mechanism, that is the Responsibility to Prepare, Prevent, and Protect (R2PPP), to create a robust international security system in confrontation of a more hazardous but more firmly foreseeable future through technological and scientific advancements so as to underpin global preparedness for any security threat, construct prevention action plans, and consolidate efforts to protect populations from eruption of conflicts or relapse into them, especially in climate hotspots.

(Figure 3: My Conceptual Framework)

Compiled by the Author based on (Werrell, & Femia, 2019; von Lucke, 2020)

Therefore, in this project, I will explore the potential of how climate change can lead to direct human security impacts and indirect traditional security threats according to Baysal and Karakaş 2017, as shown in the Literature Review Section and Case Study Section, in order to define the causal relation between climate change and conflict through Darfur's context. I will also apply my proposed holistic security approach including my modification of Von Lucke 2020, which I lay down as an inclusive security concept, and the innovative principle of R2PPP, which I introduce based on the well-known principle "Responsibility to Protect" (R2P) and the Responsibility to Prepare and Prevent (R2P2) as per Werrell, & Femia, 2019, as the way forward to securitize

climate change and relevant unprecedented security issues of the 21st century as per (Figure 3) above.

Methodology

Introduction

Policymakers have not received much direction from the majority of empirical studies on the security implications of climate change. Therefore, there is a need for research on how natural disasters linked to climate change will affect security (Buhaug, et al., 2008). The causal chains are too extensive and complex, and a variety of mediating factors and contextual variables that might produce divergent results from analogous developments further amplify their confounding effects (Scheffran, et al., 2012). Yet, mostly, the climate change-security nexus demonstrates that "climate security has direct implications for human security and these human security implications result in traditional security issues" (Baysal, & Karakaş, 2017, P. 27). At the same time, good governance is essential in order to mitigate the environmental impacts of climate change and to avoid further human security implications that might lead to traditional security escalations (von Lucke, 2020).

Desk Review Approach and Deductive Reasoning

Therefore, due to these multifaceted impacts and the fact that we need to examine the nature of the climate change-security nexus in the context of threat construction and perception through a comparative approach of common factors, my methodology in this project will be based on a desk review research methodology. To put it differently, data and information about the subject has been obtained and analyzed using an explorative, descriptive, and explanatory strategy (Burnham et al., 2008). Moreover, the project's design assures that new and current concepts' insights help

to explain social behavior and actions where real-world contextual factors are clearly considered and taken into account (Yin, 2015). Thus, deductive reasoning is employed to draw attention to such components through a top-down approach in order to understand the conditions that prompted the conflict in Darfur and the complicated linkages between climate change and security threats.

Research Methods

In this study, I will be depending on two main research tools: comparative-historical research and case study research. First, through comparative-historical research, I will examine how the security concept has evolved over time and which security perspective is best applicable where climate change is concerned. Second, I will provide more in-depth analysis of these insights and a detailed understanding of this real-life phenomenon of climate change by applying case study research on the Darfurian context. However, in order to avoid generalizations, subjectivity and regression away from the project's focus (Hofstee, 2006), I will merge both comparative-historical research and case study research methods when exploring the Darfurian context by going through the impact of climate change in two key historical episodes, 1983 conflict and 2003 conflict.

Why This Methodology

This is to see how the impacts of climate change played a pivotal role in escalating tribal tensions into full-blown conflicts, what other common factors that are at play in both historical episodes, and how we can address the root causes of such conflicts to avoid their recurrency. Therefore, in this instance, I will not concentrate on the armed conflicts in Darfur as much as the surrounding recurrent conditions in both cases that aggravate the Darfurians' wellbeing, escalate tensions among them and between the local factions and the national government, and lead to serious transnational security threats. In other words, though my analysis is historically-based, the focus

of the project will be contemporary since my aim is to compare such historical episodes with the status quo in Darfur so as to draw conclusions from this comparison that will help securitize climate change in a manner acceptable by the international community and help overcome its consequences.

Primary and Secondary Sources

In this research project, I have mainly utilized secondary sources, including articles and books by prominent researchers, in an attempt to deconstruct the complexities that govern the climate-security nexus, to investigate the conceptual frameworks that have been in place regarding the securitization of climate change, and to inspect how the conflicts in Darfur were tackled taking into account the similarities and dissimilarities, if any. However, I also took advantage of primary sources, including reports and agreements issued by think tanks and international organizations, in order to analyze the conflict resolution mechanisms applied in the Darfurian context and how the international community handled climate change from a security perspective.

Limitations and Delimitations

Though interviews might have helped enrich the findings of this research project, I could not go through them due to time constraints. However, I made sure that a variety of my secondary sources were based on interviews, particularly with the local population in Darfur, in order to scrutinize their perception of the climatic impacts and the subsequent armed conflicts either in 1983 or 2003. This is in order to understand why the conflict in 2003 was larger in scale, why the conflict in Darfur continued to relapse to date, and how their perception of climate change contributed to this escalating situation. In order to compensate for the lack of quantitative approach in my methodology, I have also made certain to incorporate quantitative data when comparing the

conditions prevailing in Darfur prior to and after conflicts in 1983 and 2003 as well as the present so as to demonstrate the grievances that climate change led to when left unaddressed for a long period of time amid underdevelopment.

Darfur as a Case Study

Being the first ecological conflict, as many observers highlighted, the conflict in Darfur has been used as a case study multiple times by different researchers. However, through my research, I could not find a single document that collectively compared the conditions of the conflict in Darfur in 1983, the conditions of the conflict in Darfur in 2003, and how it still escalates from a climate-security perspective. Yet, this information could be found separately in different researches with different time spans and from a different perspective. Moreover, my foremost priority is to investigate the applicability of a broader security concept that takes into account traditional security issues, human security issues, and governance and development issues, which is an innovative approach that has not been tackled before in this sense. Therefore, employing Darfur as a case study in this research project is looked into from a different angle than that used by other scholars and practitioners.

Data/Case Selection

Africa Overview and Selection

It is estimated that temperatures in Africa will "increase 1.5 times higher than the rest of the world by the end of the 21st century" (Ray, 2021). According to this scenario, temperatures in Africa will exceed 2 °C of warming above pre-industrial levels to reach 4 °C by the last two decades of this century while the continent's overall GDP is expected to decrease by 2.25% to 12.12% (The

State of the Climate in Africa 2019 report, 2020, pp. 23-24). Moreover, multiple oceanic areas all over the continent have witnessed a sea-level rise of 5 mm per year while the south-western Indian Ocean from Madagascar eastward towards and beyond Mauritius exceeded that limit (ibid., pp. 11-12). However, "sea level rise is currently not the dominant contributor", but it has the potential to aggravate the negative consequences of climate change when combined with other variables in the future (ibid., p. 13). This is particularly true when scientific findings demonstrate an advanced level of coastal degradation in West Africa (ibid.).

In the same vein, Africa has been identified as one of the most vulnerable continents to climate change since it has low adaptive capacity and suffers from numerous stress factors (Climate Change and International Security, 2008). These stress factors include: high poverty rates, where one in three Africans live below the global poverty line, and high dependency on rain-fed agriculture, which is heavily prone to climatic changes and regularly hit by droughts and floods (The State of the Climate in Africa 2019 report, 2020; Ray, 2021). Without economic development, proper infrastructure, and support systems that are present in the developed countries, such circumstances will reduce crop productivity and accelerate urbanization movements from "rural privation to urban poverty" (Ray, 2021). This will lead to serious adverse effects on livelihoods due to low food production, high unemployment rates and poor access to services while undermining health conditions owing to infectious disease transmission (The State of the Climate in Africa 2019 report, 2020; Ray, 2021).

In short, the impacts of climate change in Africa is exponential since it will largely contribute to food insecurity, population displacement and stress on water resources which might spark conflicts over resource scarcity, "particularly in the weak and failing states of Africa", and increase "resentment that occasionally erupts in xenophobic violence" or due to ethnic differences (Aldis

& Herd, 2004, p. 173; Campbell, & Parthemore, 2008, p. 15-19; The State of the Climate in Africa 2019 report, 2020; Ray, 2021). Despite being the least contributor to global warming and having the lowest greenhouse gas emissions as per United Nations reports, Africa stands to lose the most while in need of over $3 trillion investments in mitigation and adaptation by 2030 in order to implement its Nationally Determined Contributions (NDCs) to the Paris Agreement (Osama et al., 2021).

All of this makes Africa the most suitable geographical location to investigate how climate change acts as a threat multiplier and how broadening the security concept can help the international community deal with its repercussions. However, since Africa is too vast geographically for a case selection and faces different side effects of climate change while also needing to scrutinize the security implications of climate change and how it relates to violence escalation, I have decided to narrow my selection in order to grasp the pattern of these connections and extract accurate findings.

Darfur Conflict: Narrowing the Selection

Labeled as the first climate change conflict by the United Nations Secretary General, Ban Ki-moon, the Darfur conflict was assigned a thirteen-year hybrid peacekeeping mission between the African Union and the United Nations, entitled the African Union - United Nations Hybrid Operation in Darfur (UNAMID), which was established on 31 July 2007 and terminated on 31 December 2020. With a mandate that involved protecting civilians, facilitating humanitarian aid, and helping the political process in Darfur, UNAMID did not only fail in its mission but also left a security vacuum that threatens to fuel further escalations (Kamen, 2021). This is due to the fact that a comprehensive solution must take into account climate adaptation and natural resources management since they were the root causes of the conflict (ibid.). In this sense, the Darfur conflict is the perfect case study to get into the details of: how climate change can lead to armed conflict,

if the systematic pattern proposed by Baysal and Karakaş (2017) is fit to apply, and how a multidimensional response under a broader security concept as per my conceptual framework of von Lucke (2020) is urgently required in order to overcome the ongoing and upcoming clashes and enhance socio economic development while taking into account the new climatic hazards.

However, this is not the first time the Darfur conflict is looked into from a climatic perspective though my approach might be unique in employing that case study to broaden the security concept. In fact, the Darfur conflict has repeatedly been examined in relation to climate change. While most authors (Ki-moon, 2007; Campbell, & Parthemore, 2008; Mazo, 2009; Hassan, 2010; Akasha, 2014; Kamen, 2021) advocated that climate change plays a vital role in Darfur conflict, a number of authors implied that climate change cannot be the only driver of Darfur conflict since there are many other factors at play (Kevane & Gray, 2008; Brown, 2010; Hagan & Kaiser, 2011; Sunga, 2011; Verhoeven, 2011; Popovski, 2017). Among these factors are: historical differences accompanied by past violence and a supply of weapons, elites' manipulation of ethnic divisions in the capital, Khartoum, exclusion of local actors from the political processes, limited economic development, and poor access to public services. Hence, according to these authors, this governance failure seems to be a more influential operator because neither similar environmental change stimulated conflicts of the same magnitude in neighboring countries nor Darfurians were at first incapable of coping with these changes when they began back in the 1980s and resorted to violence. Relatedly, other authors feared that framing the Darfur conflict as one that is induced by climate change might absolve the central government and the involved non-state actors from responsibility (IRIN 2007, Salehyan 2007).

However, my approach takes into account the essential role governance plays in conflict resolutions and stresses that the impacts of climate change do not relieve the concerned parties

from their responsibilities. Instead, it demonstrates how climate change exacerbates existing discords and that an all-inclusive security approach that takes into account the people's welfare and incorporates good governance is the key for current and future conflict resolutions.

Case Study Findings

Darfur between the Past, the Present, and the Future

Climate Change Impacts on Sudan

Droughts have not always been as severe in the past since they frequently occur as part of a regular climate cycle (Republic of Sudan, 2018). However, due to their increased frequency and erratic nature of rains in many countries in recent years, droughts began to have a highly detrimental impact on at-risk populations especially when combined with underlying economic, social and environmental vulnerabilities (ibid.). A drought prone area[3] since the 1880s, Sudan has witnessed a number of direct negative impacts on natural resources where natural vegetation is depleted as a result of soil degradation (ibid.).

This, in turn, has affected people's livelihood particularly when 80% of the country works in agriculture (CIA, n.d). Consequently, rates of urbanization of rural areas and internal displacement became higher and herders were compelled to explore other alternatives for their animals' water and food supply (Republic of Sudan, 2018). Additionally, it increased the likelihood of internal conflicts by threatening the social cohesion between farming and pastoral communities when they compete over the available but scarce resources (ibid.). This is specifically true when resource

[3] The year is considered a "drought year "when less than 75% of the normal rainfall is received. Drought prone area: It is defined as one in which the probability of "drought year" is greater than 40% (Republic of Sudan, 2018).

rights are poorly maintained because of the unclear and confusing land laws and the imbalance of power between the federal and state governments that leaves people in the periphery of development (ibid.).

Darfur, which is a region of Sudan, has a number of issues that make it difficult to assess its water resources, including rapid population growth, a landlocked location, a sizable area (more than 510,000 km2), remote and inaccessible rural areas, long sunshine hours that increase evaporation rate, and extensive farming and grazing (Omer, 2002). In fact, Darfur has always been among the most vulnerable regions to be affected by droughts in Sudan particularly during the 20th century when several droughts and successive years of famine hit the country (Republic of Sudan, 2018).

Climate Change and Armed Conflicts: Between Ethnicity and Livelihood

According to a study conducted by Schleussner et al. (2016), 23% of the armed conflicts in ethnically divided countries are linked to climate disasters, compared to just 9% of all armed conflicts. Since Darfur has witnessed long standing ethnic divisions between two primary warring groups, farmers and pastoralists, it is expected that one group will be more disproportionately affected than the other by climate shocks due to its location or poverty level (Schleussner et al., 2016).

In Sudan, the poverty rate varies according to the location and stability. Rural communities and conflict-affected areas have a substantially higher poverty rate that reaches nearly up to 60% in North Darfur (Republic of Sudan, 2018). Moreover, the Sudanese central government under Omar El Bashir adopted a strategy of divide and rule where its proxy militias targeted specific civilian groups and villages and its citizens suffered from a lack of democracy and development (Apsel, 2009; Giddo, 2009). A number of domestic wars in Sudan, particularly the Darfur crisis, have such conditions among their root causes (ibid.). Therefore, though there is no agreement in literature

that climate hazards or disasters act as direct triggers of conflicts, it seems that they have their ripple and multiplier effect when intertwined with other political, social, and economic variables (Schleussner et al., 2016).

Aim of this Section

In this section, I will examine how climate change acts as a threat multiplier in the context of Darfur Conflicts by going through the consequent direct human security impacts and the resultant indirect traditional security effects as per (Baysal and Karakaş, 2017) . Here, I will attempt to prove that there is a causal relationship between climate change and armed conflicts that requires the adoption of a holistic security approach by the international community in order to overcome this existential threat. This approach is based on an inclusive security concept as per my modification of (von Lucke, 2020) where my proposed principle of the Responsibility to Prepare, Prevent, and Protect (R2PPP) plays a pivotal role. First, I will explore how climate change was an essential factor in the 1983 Darfur conflict. Second, I will compare between the two contexts of the 1983 Darfur conflict and the 2003 Darfur conflict in an attempt to demonstrate how climate change was the root cause behind both conflicts. Then, I will move to the status quo in Darfur so as to illustrate that climate change impacts are still hampering any conflict resolution efforts and might result in new conflicts if left unaddressed, particularly with the deficit of local governance in place.

Water Stress: Droughts, Floods, and Desertification

In Darfur, the environmental primary cause of the conflict has been suggested by some prominent politicians and academics (Sachs 2006; Moon 2007; Campbell et al., 2007; Oels, 2012). In fact, the United Nations Secretary General, Ban Ki-Moon, described the conflict in Darfur “as an ecological crisis, arising at least in part from climate change” (Ki-Moon, 2007), referring to the

complex dynamics at play when climate change is intertwined with other political, social, and economic factors.

Recent findings demonstrate that dry conditions have persisted specifically in Northern Darfur since 1966 (Eldredge et al. 1987; Republic of Sudan, 2018). Moreover, as a culmination of this protracted period of poor rainfall that intensified after the end of the 1970s, this drought issue gained momentum towards the eighties when 1983 and 1984 marked the lowest records in rainfall (Tesfaye et al., 1991; Republic of Sudan, 2018). It was not a coincidence that the same year recorded the eruption of the first among a number of protracted armed conflicts between Arab farmers and African pastoralists over the scarce water and land resources (Government of Sudan, 2005).

According to the United Nations Special Rapporteur for human rights in Sudan in 2003, the issue of water scarcity in Darfur is manifested when we compare an individual's share of water in Darfur and elsewhere, stating that “one person uses nearly 400 liters of water per day, in the world's wealthiest countries. In Darfur, 400 liters of water is shared by 20 people” (Nwosu, & Ugwuerua, 2015). However, not all climatic issues in Darfur are caused by drought (UNEP, 2020a). The agony and even death might come with heavy rains. Sudden downpours cannot be absorbed after the earth has been blasted dry during several months of intense heat (ibid.). When it rains, the water rushes off in sudden floods that rip through dry riverbeds and sweep everything in their path. In 2020, 42 people have drowned in such instances in North Darfur alone (ibid.).

Today, in many regions of South Darfur, the development of grazing and crops is still being hampered by severe rainfall and flooding (FEWS NET, 2022). Actually, as of August 2022, the flooding level threshold is expected to be remarkably high in the short term in many areas of Sudan (ibid.). According to the government's Humanitarian Aid Commission (HAC) and the United

Nations Office for the Coordination of Humanitarian Affairs (OCHA), as of August 28, the severe rains and flash floods have affected over 226,000 people, destroyed or damaged over 47,400 homes, 3000 healthcare facilities, and contaminated water supplies in 15 states (ibid.). Moreover, it is estimated that over 740 heads of cattle have perished, and over 140,000 feddans, or about 60,000 hectares, of cropland have been flooded or waterlogged (ibid.). Moreover, it is anticipated, according to the 2022 Sudan Emergency Response Plan (ERP), that more than 460,000 people across the country could be affected by floods in 2022 in comparison to 314,500 only last year (OCHA, 2022). In this regard, Darfur stands to be among the top regions in Sudan that have the highest numbers of afflicted citizens, approximately more than 90.000 people (FEWS NET, 2022; OCHA, 2022).

The spreading desertification in the Darfur region played also a pivotal role in compounding the tensions between nomadic herders and agrarian farmers, which provided the environmental backdrop for genocide (Campbell, & Parthemore, 2008, P. 15). Since severely impacted groups are most frequently hampered by their social vulnerability, it follows that concerns pertaining to survival naturally shape their priorities. Facing rapid desertification, pastoralist communities were put under great stress to find food supply either for themselves or their animals, so they were forced to relocate (Oels, 2012, p. 268). Similarly, farmers were pressured to accommodate the migrated pastoralist groups along with its traditions of livestock grazing while sharing the scarce resources they have, which also threatens their sustenance capabilities (Giddo, 2009). Hence, drought, desertification, and overpopulation have pushed the nomads further south as they search for land and water and thus occupy land originally owned and used by local non-Arab people, leading to a competition over scarce resources and ultimately a conflict of interests (UNEP 2007; Oels, 2012, p. 560).

Food Insecurity between the Past and the Present

Climate change, recurrent droughts, population pressure, and severe food shortages pose the greatest challenges in many parts of Sudan (UNEP 2007; Oels, 2012, p. 560). In fact, the famine that erupted in Darfur in 1984–1985 was the outcome of a prolonged sequence of desertification and drought, a lack of or ineffective national food and agricultural policy, and the absence of adequate public reaction (Tesfaye, et, al., 1991; Republic of Sudan, 2018). Consequently, it was the worst calamity, during which 4.5 million people in Darfur, Kordofan, and Red Sea were food insecure, 250,000 people died from hunger. and 10 million people fled their homes (Save the Children, 2004; Republic of Sudan, 2018). Therefore, in 2000, prevalence of Global Acute Malnutrition (GAM) high rates was already evident, reaching levels of 22.5%, 12.4% and 8.8% in North, South and West Darfur, respectively (Nielsen et al., 2011). As for Severe Acute Malnutrition (SAM), it was above 3% in all three states (ibid.). Such conditions of food insecurity indicate how highly vulnerable Darfur has been even prior to the armed conflict in 2003 (ibid.).

Relatedly, when the conflict broke out in 2003 after a three-year long drought, GAM rates were estimated to be disturbingly high, reaching 25% in some of the affected districts in Darfur, Western Sudan (Save the Children, 2003). However, North Darfur alone witnessed a 33% GAM and a SAM rate of 5.4% mostly in the Malha region, which was more alarming since it has been less affected by conflict (Save the Children, 2004). Regardless, owing to the international prominence the crisis in Darfur gained in the spring of 2004 and the subsequent rapid growth of humanitarian aid, the first two years of the crisis saw a noticeable improvement in the nutrition and mortality situation (Nielsen et al., 2011). For instance, data on GAM and SAM demonstrated a decline by 16% and 28%, respectively, in 2004-2005 (ibid.). After 2005, security and humanitarian contexts became highly complicated (ibid.). Yet, North and South Darfur witnessed a stabilization in levels of malnutrition (ibid.). As for West Darfur, GAM remained stable but SAM tended to increase for

Internally Displaced Persons (IDPs), partly due to the over crowdedness of their camps and the insufficient influx of nutrition aids (Degomme, & Guha-Sapir, 2009; Nielsen et al., 2011). Nevertheless, although malnutrition and mortality rates in Darfur had stabilized below emergency threshold by the end of 2008, concerns about deterioration were high due to the vulnerability climate change and the humanitarian situation can cause (Hakim, 2011; Nielsen et al., 2011). In fact, seasonality significantly influenced the patterns of nutrition and mortality among both IDPs and inhabitants in Darfur (Nielsen et al., 2011). During the hunger-gap rainy season, when food insecurity and illness rose, higher rates of malnutrition and mortality were found to be related (ibid.). Hence, humanitarian assistance could be more effective if it was customized to seasonality rather than failing to account for seasonal fluctuations (ibid.). This is specifically true when issues of food insecurity still persisted in Darfur. According to the Sudan Food Security Outlook February to September 2016, more than 3.5 million individuals in Sudan experienced stress and crisis-acute food insecurity in droughts/conflicts-affected areas, 55 – 60 percent of which were in Darfur (FEWS NET, 2016).

As for agricultural production, according to a food security assessment conducted in October 2004, it was estimated that the harvest for the 2004–2005 season, due in November–December, would only be 5-20% of pre–crisis level (Nielsen et al., 2011). This raised concerns about a meager yield especially when farmers' capacity to plant has also been restricted by the ongoing hostilities and displacement (Save the Children, 2003). Furthermore, despite the significant rains North Darfur has witnessed this year, many hand pumps were out of function, making it challenging to have access to potable water from subterranean sources (ibid.). Moreover, livestock migration patterns have been significantly affected by the ongoing conflict, further restricting grazing access for pastoralists (Young et al. 2005). This illustrates that food insecurity was a major issue among the

local rural population, particularly with the available coping mechanisms broken down due to the conflict (Save the Children, 2004; Nielsen et al., 2011). Therefore, most of the Darfurians, particularly the poorest among them, have lost their primary means of income and livelihood which further exacerbated their situation (Save the Children, 2003).

Today, due to delayed rains in June and July, as well as the high price and scarcity of agricultural inputs, the Ministry of Agriculture and Forestry reported late planting and below-normal cultivation in the majority of traditional and semi-mechanized rain-fed and irrigated sectors (FEWS NET, 2022). This indicates that the forthcoming crop will probably be compromised due to the late planting, expensive agricultural input prices, and flooding (ibid.). Such conditions of successive long dry spells and subsequent flooding threaten to undermine the capacity of the ecosystem and people's resilience to climatic stresses since vegetation is estimated to diminish, leading to higher rates of soil erosion and the spread of water siltation both within and beyond drought affected areas (Republic of Sudan, 2018). This will not only reduce availability of water, but will also compromise yields and forestation due to land degradation (ibid.). Therefore, food production is anticipated to be hindered through the upcoming peak of the lean season where the recently-displaced and conflict-affected people are the most food-insecure population till date (FEWS NET, 2022).

Livelihood, Competition over Resources, and Local Governance

As early as 1999, Suliman argued that a scarcity-conflict framework is most relevant in Darfur due to the competition over scarce renewable resources, such as water and arable lands, between warring local groups since there are no free eco-zones to migrate to (Suliman, 1999; Oels, 2012). Such local violent resource competition is notably on the rise between marginalized groups especially in the weak states in the Sahel and Horn of Africa regions (ibid.).

Meanwhile, these groups are usually characterized by: their lack of political leverage at the national level, limited ability to find alternative livelihoods other than agriculture or pastoralism, and coexistence in areas with little effective state control and/or interest (Raleigh, 2010). This makes them most vulnerable to climate shocks when they strike with no other option except to fight each other to survive (ibid.). In this regard, climate change does not only expose developing countries, including Darfur, to major physical phenomena, but threatens to alter their political stability and to make environmentally-induced conflicts more likely (Byers, & Dragojlovic, 2004; Raleigh, 2010).

Statistics indicate that Darfur's population multiplied by 2.66-fold during the period between 1983 and 2008 while the growth in livestock numbers was only 2.74 times higher between 1973 and 2007 (Elagib et al., 2017). In the meantime, the average area of cropland increased by 3.44 times between 2003 and 2007 compared to the period between 1971 and 1976 (ibid.). All of these variables unmistakably demonstrate the intense strains already placed on the local water and land resources prior to and during the protracted and renewable conflict (ibid.).

This is due to the fact that Darfur's economy is shaped by intensive agricultural and pastoral activities whereas rain-fed agriculture accounts for the majority of production (Elagib et al., 2017). Having this combined with the absence of significant reliable irrigation sources as well as a low-level of soil fertility leaves the region highly susceptible to even modest rainfall variations (ibid.). As a result, climate stresses such as drought and declining rainfall have the potential to affect rural residents' quality of life and increase rural-urban migration along with internal displacement leading to competition over resources and ultimately a full-blown conflict (ibid.). Therefore, when the Darfur crisis erupted in 2003, a sizable percentage of the population's means of subsistence was destroyed (ibid.).

Nevertheless, farmers' perception of the surrounding climatic conditions plays also a vital role since it is shaped by "a combination of various factors that affect production and are not entirely based on climatic observations" (Rao et al., 2011). This is particularly true when Darfuri communities, in the past, lived in peaceful coexistence and resorted to adaptive strategies of agricultural intensification, rural-rural migration, and movement across borders rather than large scale violence (Osman-Elasha, & El Sanjak, 1980; Ibrahim, & Ruppert, 1991; Fadul, 2004; Elagib, 2017). Conflicts erupted only when pastoralists preferred settlement to mobility due to the construction of infrastructures and the provision of a reliable water supply (Ibrahim, 1988; Elagib, 2017). This is due to the fact that the hosting farmers community were alarmed that they have to share the scarce available resources of water and arable land with the immigrant pastoralists, not to mention the pastoralists' tendency of seeking control while outnumbering the indigenous population (Ibrahim, 1998; Giddo, 2009; Elagib, 2017).

According to Young (2009), this situation creates a "local conflict-livelihood cycle" where local groups typically adjust to drought strain on the livelihood system by competing for land, pasture, and water. Such pressure on the livelihood mechanism intensifies in the absence of a strong local government that effectively administers access to resources which results in confrontations between the opposing parties that further undermines local governance (ibid.). Due to environmental deterioration brought on by population pressure, the situation becomes even more complicated (ibid.). As a result, the various demographic groups' means of subsistence would be further jeopardized, and the cycle would continue (ibid.).

In the same vein, the degradation of the ecosystem, a decline in drought resistance, a rise in vulnerability to natural disasters, and the current consequences of global climate change have all been attributed to a diffuse of governance structures, especially with the existing distortion of

power between the federal and state governments (Republic of Sudan, 2018). This illustrates that environmental stress in Darfur has been exacerbated by the incapacity of successive governments to effectively address recurring droughts (De Juan 2015; Elagib, 2017). Therefore, tensions between the local people escalated especially when the government did not play a neutral and appeasing role as it should be, but has become more and more an independent player in the conflict in an attempt to gain the upper hand through proxy parties (Manager, 2006; Apsel, 2009; Elagib, 2017).

Yet, these tensions were easily diffused regardless of their degree of seriousness for centuries owing to the native administration system in place called Ajaweed (Giddo, 2009). Under the patronage of tribal leaders, this system of self-governance handled all sorts of disputes, including serious family issues and judicial matters, collected taxes and helped keep peace in remotely inaccessible zones while avoiding the win-lose approach to conflict resolution that can spiral into a cycle of mistrust, resentment, and devastation (Giddo, 2009; Hakim, 2011). It was the abolition of this indigenous administration by the Sudanese government in the 1980s that brought forward instability and unresolved conflicts between the sedentary farmers and nomadic tribes because it created a security vacuum where the influence of tribal leaders was weakened and the land tenure system in place dissolved (ibid.). Therefore, internal conditions in Darfur worsened because "this effective conflict resolution mechanism was lost, and no equally effective one was developed" (Hakim, 2011). To reflect Arab and Islamic concepts, the Sudanese government replaced the historical and valuable Ajaweed system with Emirates' administration and judicial system which only served to accentuate ethnic and racial sensitivities and marginalized the Fur and Masalit in their own land, leading to more insecurity and instability (Apsel, 2009; Giddo, 2009).

Climate-Mobility-Security Nexus

It is estimated that long-term climatic changes increase demands on natural resources and subsequently migration as an adaptive strategy by the afflicted population, which in turn lead to food shortage, competition over resources, and ultimately armed conflicts (Homer-Dixon 1991; Oels, 2012, p. 560). Throughout the 1980s, life in northern Darfur was severely damaged by a protracted period of severe drought, which led to a mass displacement of people to the south in an attempt to escape the sufferings and deprivation that occurred (Abouyoub, 2012). Since nomadic groups used to live in semi-arid plains leaving the fertile oasis in the region of Jebel Mara for the farmers to plant, this unprecedented large population shift significantly damaged the established equilibrium between farmers and cattle herders (ibid.).

Compounding the extreme poverty that already plagued the people of the arid and semi-arid plains of north Darfur, climate change forced the nomads to alter their lifestyle and seek permanent settlements in lands that belonged to the farmers in their search of water and grass for their animals and a better life for themselves (Abouyoub, 2012). By the end of 1983, it was reported that 300,00 people had relocated from Northern Darfur to South Darfur and that number doubled during 1984 (USAID, 1984). By April 1985, it was estimated that over 50,000 were displaced in Northern Darfur and 263,000 in Southern Darfur (UNDHA, 1985). A month later, government estimates of the IDPs reached approximately 25% of total population which is equal to 763,000 persons with expectations that this number will continue to increase over time (ibid.).

In the 1980s, the situation deteriorated when population displacement evolved "as a strategy, rather than simply a by-product, of the civil wars in Ethiopia and Sudan" at both socio economic and military levels (Harkins, 1998; Apsel, 2009). Populations that have been displaced as a result of human strife find themselves trapped in their own nations (Apsel, 2009). They frequently discover that they must rely on the perpetrator governments, as well as the military and law enforcement

agencies, that were either directly or indirectly complicit in the atrocities that earlier forced them to flee their homes for their "security" (ibid.). Hence, displacement was an important tool in the fighting that ensued in Darfur in 2003 between the Government of Sudan (GOS) and the Sudan People's Liberation Movement/Army (SPLM/A) for their own strategic purposes (ibid.). The SPLM/A, for instance, exploited the displaced people to draw relief donations and to build a pool of prospective recruits (Delhaas, 2006; Apsel, 2009). In the same vein, GOS "used tactics to direct mass movement towards areas where they wanted the displaced to go..." (Cohen, & Deng, P. 11). As large populations were evicted, "the dispossessed formed a pool of cheap wage laborers" (ibid.).

Consequently, over 2.5 million more people were internally displaced and about 1.5 million were considered "affected population" as a result of the Darfurian conflict in just two years (2003–2005); the United Nations Environment Program claims this large population displacement occurred at an unparalleled rate (Apsel, 2009). By robbing, demolishing, and setting ablaze settlement after settlement and village after village, the attacks against the homelands of Masalit, Fur, and Zaghawa farmers and others were successful in driving the occupants from their homes (ibid.). Hence, there have been hundreds of thousands of deaths, and estimates range from two thirds to over half of the population have been directly afflicted (ibid.).

Moreover, as a result of ongoing attacks on villages and IDP settlements, population displacements have occurred repeatedly, with some individuals relocating two, three, or more times (Apsel, 2009). For instance, more than 280,000 Darfuris were displaced in 2007 only while an additional 80,000 innocent civilians were compelled to flee their homes during the period from January to March 2008 due to "aerial bombardment clashes between Government and rebel forces, militia

attacks, Sudan Liberation Army signatories' attacks, and inter-tribal fighting. Sexual and physical assault on civilians" (USAID, 2008; Apsel, 2009).

Moreover, climate change contributed to the IDPs' increasing numbers. Large settlements like the Abu Shouk IDP camp in El Fasher, Northern Darfur, are particularly affected by severe land degradation, water scarcity, and firewood shortages (Apsel, 2009). Furthermore, starting August 2022, Darfur continued to experience heavy rainfall, which is causing more houses and other infrastructure to be destroyed (Radio Dabanga, 2022). For instance, in Kalma camp, torrential rain demolished 7,490 homes, affecting almost 20,000 families, the majority of whom were left without food or shelter (ibid.).

In addition, if a disease spreads or if the ongoing violence causes more displacement, the already difficult nutritional situation of children and their families, particularly in displacement camps, might drastically deteriorate (Save the children 2003). This is particularly true when just two weeks of floods led to the death of six children in Kalma camp for the displaced in South Darfur and a malnourishment of further 2,322 children, 767 of them are severely malnourished while 30 children are permanently confined to health centers (Radio Dabanga, 2022).

More often, overcrowding camps result in easier transmission of communicable diseases; for example, large outbreaks of measles (Save the Children, 2004; Degomme, & Guha-Sapir, 2009). In fact, 80% of excess deaths during the period from March 2003 to December 2008 are higher among the IDPs than residents (Degomme, & Guha-Sapir, 2009). Reasons behind this are mostly not violence-related, particularly with the beginning of 2005 (ibid.). This demonstrates that overcrowding and precarious situations in which the IDPs live in make them highly susceptible to death especially from communicable diseases (ibid.).

Furthermore, population movements reflect the abrasiveness and turbulence of the current regional upheavals (Apsel, 2009). An estimated 250,000 Darfurian refugees (the majority of whom left in 2003–2005) reside in 12 camps in the mostly dry terrain of Eastern Chad, while 57,000 refugees are housed in five camps in the Southern Chad after fleeing from violence in the Central African Republic (OCHA, 2008; Apsel, 2009). Ironically, an estimated 180,000 Chadians were compelled to escape their homes in the wake of the deterioration of the country's security situation in 2005–2006; the majority of these refugees resided in the parched eastern border regions of Chad (Apsel, 2009). By 2007, increased unrest in Chad had caused 20,000 Chadians to flee to west Darfur in Sudan (ibid.).

Conflict Continues: Internal Instability and Regional Destabilization

As a result of a complicated web of unresolved issues that had been building up, armed groups from Darfur rebelled against the government of Sudan, sparking the current conflict in Darfur, which has ever since become more violent and ethnically motivated (Abouyoub, 2012). In fact, the Darfur crisis has gradually been transitioning from a mostly bi-directional battle between the rebels and the central government (including the Janjaweed) to a more complicated conflict with intense combat between different rebel factions (Sarwar, 2009). For instance, as of the middle of 2006, there were 15 rebel groups operating in Darfur (ibid.).

Additionally, even after the Darfur Peace Agreement (DPA) was signed in May 2006, numerous population movements, killings, rapes, and deaths from disease and malnutrition were committed against people in the western Sudanese area of Darfur (Save the Children, 2003; Apsel, 2009). This is due to the fact that the Darfur rebel group, Sudan Liberation Army/Movement (SLA/M) was divided into two factions: one under the leadership of Minni Minawi, who agreed to enter into this agreement, while the other under the leadership of Abdel Wahid, who turned down the

agreement along with the Justice and Equality Movement (JEM) (Sarwar, 2009). According to Abdel Wahid, the DPA had fallen short in providing sufficient political representation and funding for a victims' relief fund taking into account that a more direct SLA/M involvement was needed for the security arrangements to be implemented effectively (ibid.). In the same vein, the DPA's norms on power and wealth sharing were the JEM's justification for not signing the agreement since they failed to adequately address the underlying causes of the dispute (ibid.).

Correspondingly, in order to address political, socioeconomic, and other issues outside the purview of the peace negotiations and to rally support for the DPA, the DPA called for the establishment of the Darfur-Darfur Dialogue and Consultation (DDD-C), a more inclusive forum for Darfur society, particularly those who were not present on the negotiations table (Sarwar, 2009). The DDD-C, however, was unable to improve the DPA's execution because only one rebel faction signed it and the DPA was rejected by the larger Darfur society, not to mention that it lacked a mechanism for justice and accountability (ibid.). Following that, there was a severe decline in Darfur's security situation. As a result, nearly 2.4 million Darfuris, or almost a third of the region's population, have been internally displaced, about 250,000 refugees have fled to the neighboring country of Chad, and an estimated 350,000 people have died as a result of the violence, sickness, and malnutrition (ibid.).

Another aggravating factor is that the crisis in Darfur has already spread to the neighboring states of Chad and the Central African Republic (CAR), leading to more spillover effects throughout 2006 (Sarwar, 2009). According to UN officials, Chad's Arabs carried out retaliatory operations against African militias with the aid of Sudanese Janjaweed; they killed thousands of people and forced more than 170,000 Chadians to escape to camps in eastern Chad (CSMonitor, 2007). Other

camps nearby have already been crammed to a capacity with more than 300,000 Sudanese refugees (ibid.).

Therefore, the president of Chad at that time, Idriss Deby, accused the Sudanese government of spreading ethnic conflict from Darfur across the border in an effort to promote Arab dominance and Islam throughout sub-Saharan Africa, ultimately breaking off diplomatic ties (Reuters, 2006). Subsequently, recent years have seen a deterioration in bilateral relations between Sudan and Chad as both nations struggle to put an end to insurgencies on either side of their shared borders while accusing the other of supporting rebels who are attempting to overthrow their own regimes (Cutler, 2008).

The Central African Republic (CAR) was not left unscathed as rebels seized a swathe of its northeastern region around the town of Birao in 2006 among accusations that they are originally from Darfur and were sent by the Sudanese government to infiltrate the state (Sudan Tribune, 2006; Cutler, 2008). On the contrary, Sudan claimed that these rebels in CAR are the same forces that installed President Bozize in office, but they now have disagreements, taking into account that CAR has witnessed 11 mutinies or attempted coups in the past decade (ibid.).

Climate Change between Development and Conflict Resolution

Recently, the United Nations Environment Programme (UNEP) in partnership with the European Union (EU) launched a water project in Wadi El Ku near El Fasher, the capital of North Darfur state (UNEP, 2020a). As part of this project, it is anticipated that beneficiaries will reach up to 100,000 people from weirs that have been built to store rainwater and regulate it during floods taking into account that its second phase started in 2018 (ibid.). The Wadi el Ku Catchment project has been in place for seven years and has received praise for improving the sustainability of

residents' lives while easing tensions between farmers and nomadic herders of camels, cattle, and goats (ibid.). According to Gary Lewis, UNEP's Director for Disasters and Conflict:

> "The Wadi el Ku project demonstrates why it is critical for UN agencies, donors and the government to work hand-in-hand with local communities on restoring the environment. Ensuring that the region's residents, especially women, manage natural resources in an inclusive way is helping end mistrust between farming and nomadic communities." (ibid.).

Yet, although United Nations Environment program (UNEP) have worked on Wadi El Ku Catchment Management Project to control the water flow "during the region's unpredictable, torrential rains" and distribute it out over vast acres of lands (UNEP, 2017), it was usually considered a developmental project and was not looked into through security lens in its traditional sense. Instead, it was seen as another path down the road to stability, but not a crucial one to end the ongoing conflict though it should have been regarded as a tool in mediation (Oels, 2012).

However, going through Doha Document for Peace in Darfur (DDPD), which was signed in July 2011, by the Government of Sudan and former rebel Liberation and Justice Movement, and the Justice and Equality Movement-Dabajo in April 2013, it does not seem to hold much hope in this regard. Climate change was mentioned only once in DDPD as part of the primary competencies that should be carried out by the Darfur Regional Authority (DRA). Ironically, the four year-mandate DRA was established and dissolved prior to the completion of its peacebuilding projects under promises that they will be implemented by the Higher Committee for Peace in Darfur, headed by President Omar Al Bashir at time of dissolution (Dabanga Sudan, 2016). Moreover,

although DDPD stipulated the needed development policies for Darfur in Article 31 and included in item 172 of the same article the actions necessary to overcome the competition over resources between farmers and herders, they were rather generic and lacked a detailed action plan along with the capacities needed.

According to the Deputy Joint Special Representative of the African Union-United Nations Mission in Darfur (UNAMID), Mohamed Yonis, water is among Darfur conflict's primary underlying causes (Schlein, 2011). He also affirmed that water resources that are effectively managed and fairly distributed can guarantee sustainable peace for the Darfuri people, which is the UNAMID main mission (ibid.). However, a neutral deterrent to violence was eliminated with UNAMID's withdrawal at the end of 2020, which took place after a new phase of warfare in Darfur had begun (NRC, 2021). From January to October of 2021, fighting in Sudan resulted in the displacement of more than 430,000 individuals, the majority of whom were in Darfur (ibid.). Since the peak of the fighting in Darfur ten years ago, there have never been so many civilians fleeing violence (ibid.).

Nevertheless, UNAMID might have failed partly in its mission because it did not take into consideration the climate challenge it had to confront; It should have incorporated long-term post-conflict activities, such as Wadi El Ku Catchment project, into its peacekeeping mission rather than being only concerned with immediate security threats (Oels, 2012, pp. 688-689). It should have included sufficient environmental expertise to ensure a just distribution and a responsible use of resources while taking proactive measures since there were geologistic speculations about vast reserves of water below the desert (Elsheikh et. al., 2013). Such tangible peace dividends could have created an additional incentive for the warring parties to end the conflict (Oels, 2012; Elsheikh et. al., 2013).

Conclusion

Through case study desk review analysis, a comparison of the existing conditions in Darfur in the contexts of 1983 conflict and 2003 conflict, and an exploration of the current situation, it seems that water stress in Darfur has led to food insecurity, health decline, livelihood deterioration, mass displacement, and eventually armed conflicts and regional destabilization. Such conditions were aggravated due to population growth, the absence of national development, the deficit of local governance, and the ineffectiveness of the conflict resolution mechanisms applied. This demonstrates that climate change has a multidimensional influence in Darfur that varies between direct human security repercussions and indirect traditional security ramifications as per Baysal and Karakaş, 2017. Hence, the situation in Darfur created a vicious cycle that starts with climatic impacts passing through conflicts and ends with destabilization internally and regionally, only to recur when climatic hazards hit amid this deteriorating state of affairs.

In other words, water availability for cultivation and habitation in Darfur has grown increasingly erratic due to climate change leading to recurrent prolonged drought-flood cycles and rising temperatures. This, as result, limited the availability of natural resources, either water or arable lands, which caused food shortages, increasing vulnerability of local populations, health decline due to malnutrition, internal displacement in search for livelihood, and competition over the scarce resources, particularly in the absence of effective policies of local governance. Such conditions intensified the competition between local factions over the scarce resources which subsequently turned into longstanding tensions and resulted in armed conflicts and successive waves of mass displacement internally and across borders as well as more deterioration of populations' health conditions and livelihoods due to the over crowdedness of the displacement camps and the loss of income. As a result, Sudan's regional standing was negatively affected particularly with the

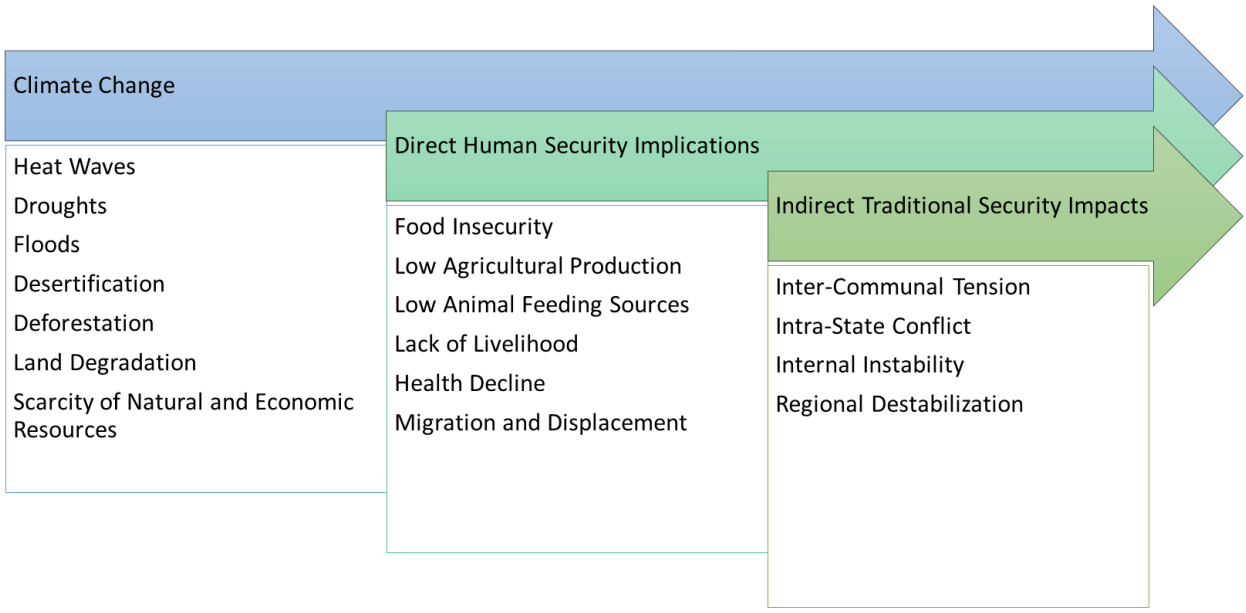
spillovers to Chad and the Central African Republic (CAR) and the internal instability due to other intrastate conflicts.

Regardless, following the 1983 and 2003 conflicts, Darfur still suffers from the adverse impacts of climate change, but its buffering ability is largely undermined due to the devastation these conflicts resulted in and the national development policies that are yet to be effective. This demonstrates that the spillover impact of conflicts, especially through mass displacement, might be more detrimental when it originates from long years of climatic conditions and civil unrest.

It will, thus, be near impossible to address one issue and leave the other because they are all integrated into the same loop that needs to be dismantled carefully and collectively. Otherwise, such conflicts will be renewed over and over again because the root causes of climate change, scarce resources, malnutrition, health decline, local governance deficit, displacement, and violence were not inclusively addressed. These circumstances will continue in a pattern of a vicious cycle that leads to a security vacuum internally and a spill over regionally and internationally, which necessitates that we look into the security concept from a broader perspective and in an inclusive manner.

Policy Implications & Recommendations

In spite of the fact that the climate-security nexus is complex and hard to prove, it is evident and can be measured. Although most pronounced in its capacity to affect the availability of natural and economic resources, and subsequently, livelihoods, climate change also has a complex and indirect influence in the onset of violent conflict. It is true then that climate change results in direct human security impacts that fold into indirect traditional security implications (Figure 1).



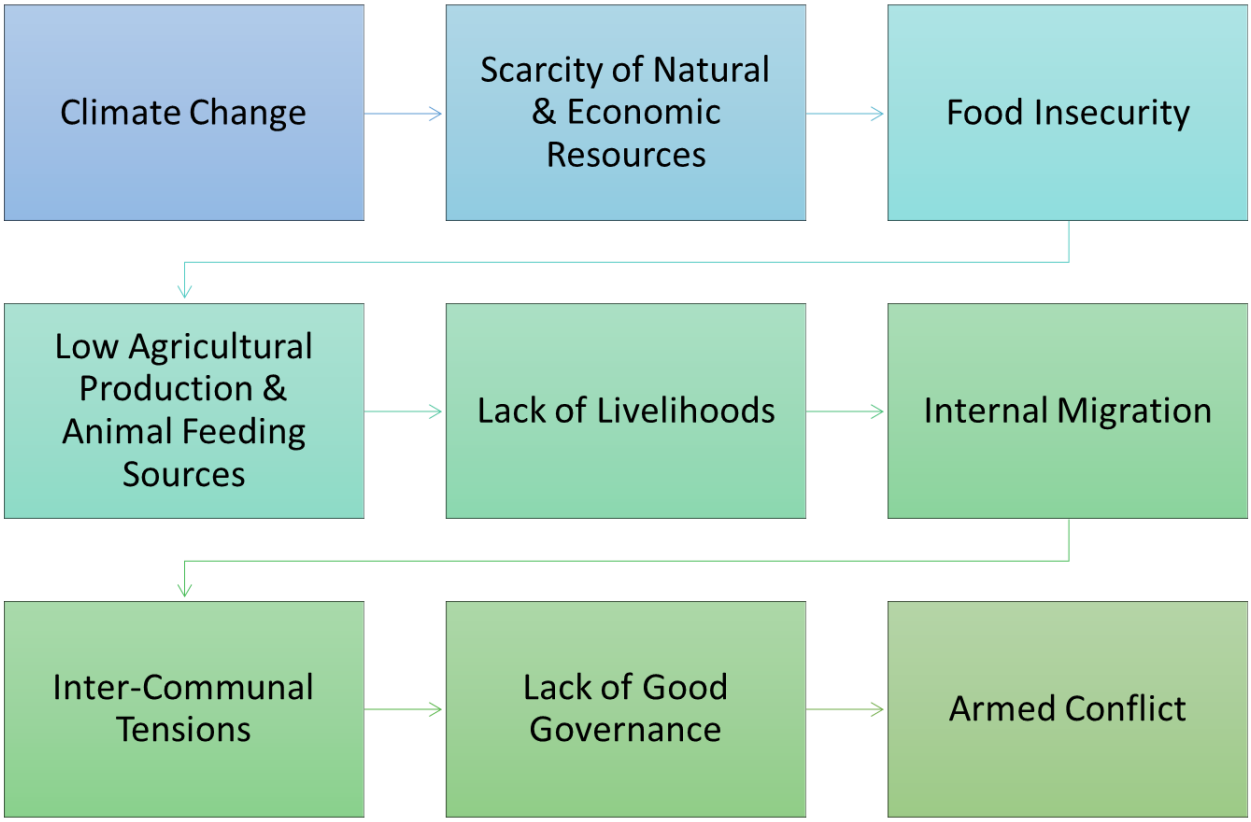
(Figure 1)

Through a series of connected events as shown in the figure below (Figure 2), both slow and rapid-onset climate hazards, such as heat waves, and the prolonged cycle of droughts and floods, usually impacts the surrounding environment through deforestation, desertification, and land degradation. This, in turn, does not only cause food insecurity, but also hampers the agricultural productivity and animal feeding resources, especially for communities that depend on these means for livelihood while suffering from a scarcity of natural and economic resources. This highlights that more conflict-sensitive policy proposals for addressing food insecurity should be produced through research that engages with the climate security-mobility nexus, especially when such climate pressures exacerbate populations' livelihood and forces them to relocate in search of alternative means of income.

In other words, Climate-related migration is primarily caused by households' high susceptibility and limited capability to adapt, and it frequently integrates into larger migratory flows as an adaptation strategy. However, this situation has implications for inter-communal tensions over the limited and dwindling resources because climate-related migrants typically relocate to areas where they must contend with host communities for resources, perhaps igniting new conflicts in the process. Yet, it only accumulates into a full-blown armed conflict when there is a lack of proactive development policies that take into account climate pressures and deficient practices of local governance that do not take into consideration the populations' needs, welfare, and aspirations.

In a similar vein, the pressure of rising climate-related migrant movements and climate-related resource scarcity may cause traditional conflict resolution mechanisms to break down. This is especially true when these mechanisms focus on the conflict itself and neglect the impacts of climate change although resource reallocation and development policies might be considered preempting means of conflict resolution in this instance. Moreover, by further deteriorating the symbiosis between agricultural and pastoral modes of production or by restricting the migration of pastoral communities across borders, state policies and commercial interests that support agricultural mechanization and extensification can intensify conflicts, particularly when these populations depend on pastoral and agricultural activities as their main source of income while suffering from marginalization where power-sharing arrangements are concerned. Therefore, it might be more useful to go beyond livestock systems and integrate a stronger agricultural lens when studying the climate security-mobility nexus, particularly in Africa.

(Figure 2)



Nevertheless, when conflict strikes, people are disproportionally affected by climate change since their capacity to adapt to climate shocks is severely hindered due to incompetence of governmental institutions, lack of vital social services, social discord, and limited freedom of movement. To put it differently, conflict-affected populations, who are already under a lot of stress, are put through further hardships because they lack the means to mitigate or adapt to climate negative impacts. Additionally, conflict frequently contaminates water, soil, land, and air by direct attacks or other forms of warfare, which severely affects the environment.

This does not only illustrate the need for the humanitarian sector to adapt to these risks, but also advocates for rapidly bolstering climate action and financing in conflict-affected countries since their populations are among the groups most overlooked by climate action, in part due to the difficulties associated with operating in such conditions. This is in spite of the fact that they are

among the most vulnerable to the climatic shocks and environmental crises and the least contributors to greenhouse gas emissions, which necessitates the integration of climate action and financing into the humanitarian aid as well as peacebuilding activities in order to overcome the dual burden of climate change and conflict at the same time.

Moreover, although Darfur has experienced droughts and other extreme weather conditions before, the rate of change and the shorter recovery times between catastrophic weather events will put further strain on its already overburdened administration. In other words, state instability and long-lasting conflict may be made more likely by these processes. In fact, local conflicts over access to food and water resources can spread to other nations as people look for safety and greater resources. This could put further strain on those nations' resources and heighten regional tensions. In many situations, climate change does not immediately lead to conflict over issues like limited access to water, but it does increase the likelihood of conflict by amplifying underlying natural resource stresses. In the absence of improved governance and resource management, these scenarios will worsen and become more prevalent. With conflict and climate change coexisting, there is a risk that social tensions between various communities will increase, aggravating the factors that contribute to conflict and fragility. Among these factors are new waves of forced displacement as well as changes to transhumance patterns, including spatial spillover across borders which might cause regional destabilizing effects.

According to the United Nations Development Programme (UNDP), addressing crosscutting climate-related security risks for natural resource management, migration and forced displacement, elite capture, illicit economies, governance challenges and/or reinforcing grievances and structural inequalities, etc. may provide entry points for action. Since the causal linkages and feedback loops that occur in this complex framework could reduce or even nullify favorable

impacts originating from single interventions, action coordination is required both at the spatial scale and across multiple developmental and environmental dimensions. In this regard, as much as we need to activate Responsibility to Protect (R2P), we are in dire need of integrating Responsibility to Prepare and Prevent (R2P2)[4] into our conflict prevention tools in order to overcome the eminent global threat of climate change, particularly in conflict-ridden zones.

The international order, which is state-centric and sovereignty-based, is currently undergoing significant uncertainty due to the rapid climatic, technological, and social changes even with the global and regional security institutions in place. However, this order has an increasing potential to lessen uncertainty, including the capacity to reliably estimate unforeseen changes. In other words, the ability to use scientific and technical instruments to better predict, monitor, and prepare for a variety of conceivable future scenarios is one of the key characteristics that sets the 21st century apart from previous periods of disruption.

Yet, the improved ability to forecast events does not guarantee readiness. Nation-states and intergovernmental security organizations have an obligation to use their enhanced forecasting apparatus to manage and reduce these threats in the face of a quickly changing climatic system and a variety of other rapidly occurring demographic, social, and technical developments. This confluence of "unprecedented risk" and "unprecedented foresight" strengthens the argument for a Responsibility to Prepare and Prevent (R2P2), as a reliable mechanism to create a robust international system in anticipation of a more hazardous but more firmly foreseeable future. Otherwise, state stability and the international order, as we know it, could be severely strained.

[4] As a core part of its mission of anticipating, analyzing and addressing core systemic risks to security in the 21st century, the Council on Strategic Risks and its Center for Climate and Security is working to better understand what we know and what steps should be taken to absorb or lessen the security risks of climate change

Consequently, I believe that the securitization of climate change is best tackled through a holistic interdisciplinary security approach that takes into account national security and human security implications, development and good governance policies, as well as risk management practices, as per (figure 3) shown below.

(Figure 3)

In other words, the security concept in the 21st century should be based on an all-encompassing approach that preserves the state's national security, including its territorial integrity and sovereignty, conflict prevention and resolution, peacekeeping and peacebuilding, protection of civilians and borders, etc. whereas underscoring human security implications inclusive of the populations' living conditions and welfare, food security, healthcare, and humanitarian needs etc...

This is while taking into account risk management practices through the process of risk identification, analysis, prioritization, evaluation, management, mitigation and monitoring while putting in place early warning systems to avoid its recurrence.

This is in light of building momentum for good governance policies including the rule of law, fair distribution of resources, power-sharing arrangements, fulfillment of basic human rights, transparency, accountability, legitimacy, empowerment of marginalized groups and equity, as well as attitudes and values that foster responsibility, solidarity and tolerance with the aim of achieving sustainable development goals with special emphasis on goal 13 of climate action. Such an integrated and multidimensional proposition will ensure that the threat-multiplying ripple effect of non-traditional security issues including climate change is invalidated because it will not only overcome or mitigate their impact, but will warn beforehand from their recurrence in the future, foresee their frequency, and eventually prevent them.

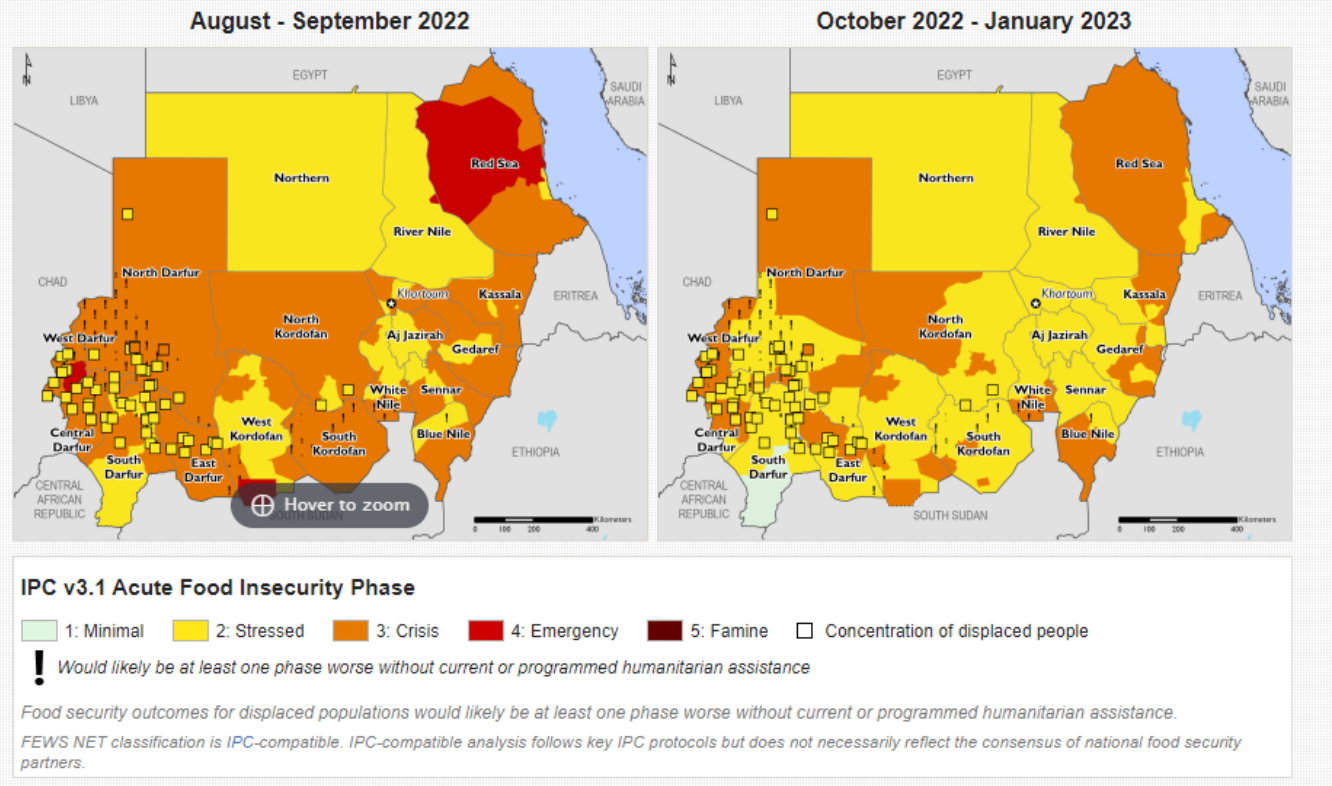
In this context, it will be more feasible to apply an innovative principle entitled the Responsibility to Prepare, Prevent, and Protect (R2PPP) where the advanced technological and scientific tools are used to lay out the potential global threats, the international institutions construct a prevention action plan through development policies and good governance applications including strengthening climate resilience and financing endeavors, and the international community coordinate action and consolidate efforts to protect the populations in climate hotspots from eruption of conflicts or relapse into them.

This will require that all entities work together hand in hand either through public-private partnerships, civil society involvement, think tanks and research centers, governments and international credible organizations, on top of which the United Nations, that needs more coordination and collaboration than most between its organs and agencies. It will also necessitate

that climate action is incorporated into conflict prevention and resolution mechanisms especially in the countries that suffer from the dual burden of climate change and conflict while they are the least contributors to greenhouse gas emissions. If climate justice cannot be attainable, at least we can work together to raise its financing and stipulate it as a prerequisite in upcoming humanitarian aid campaigns and conflict resolution mechanisms in fragile states. Indeed, more research is needed to counter climate impacts along with their destabilizing ramifications, but applying the current findings is needed more to avoid the collapse of our ecosystem in the near future, which will only be achievable if the international community is committed and has the political will to finance climate action and integrate into it into security planning and arrangements, including peacekeeping and peacebuilding activities as well as conflict resolution mechanisms.

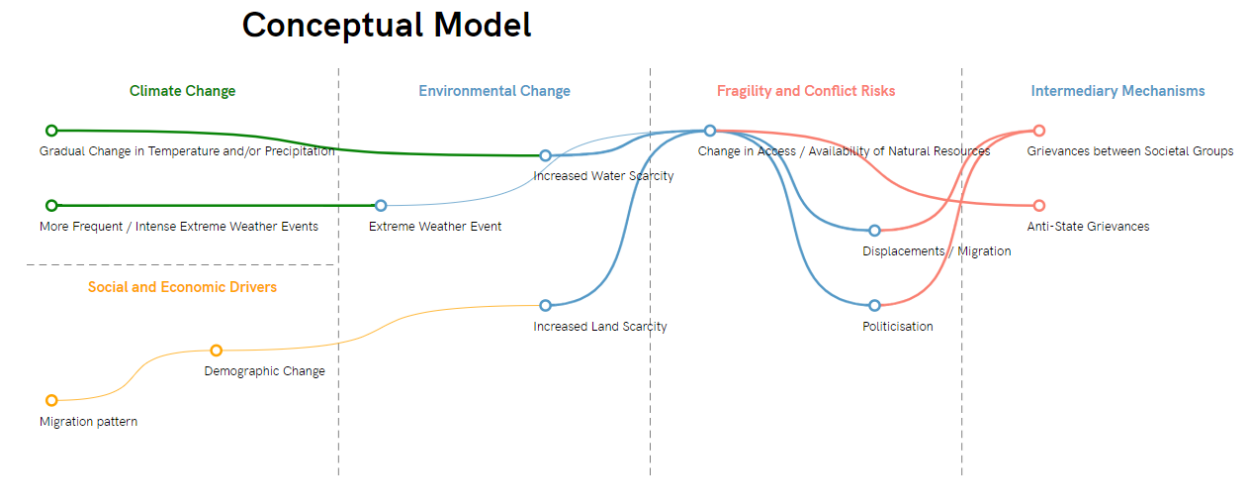
Appendices

Acute Food Insecurity Phase in Darfur



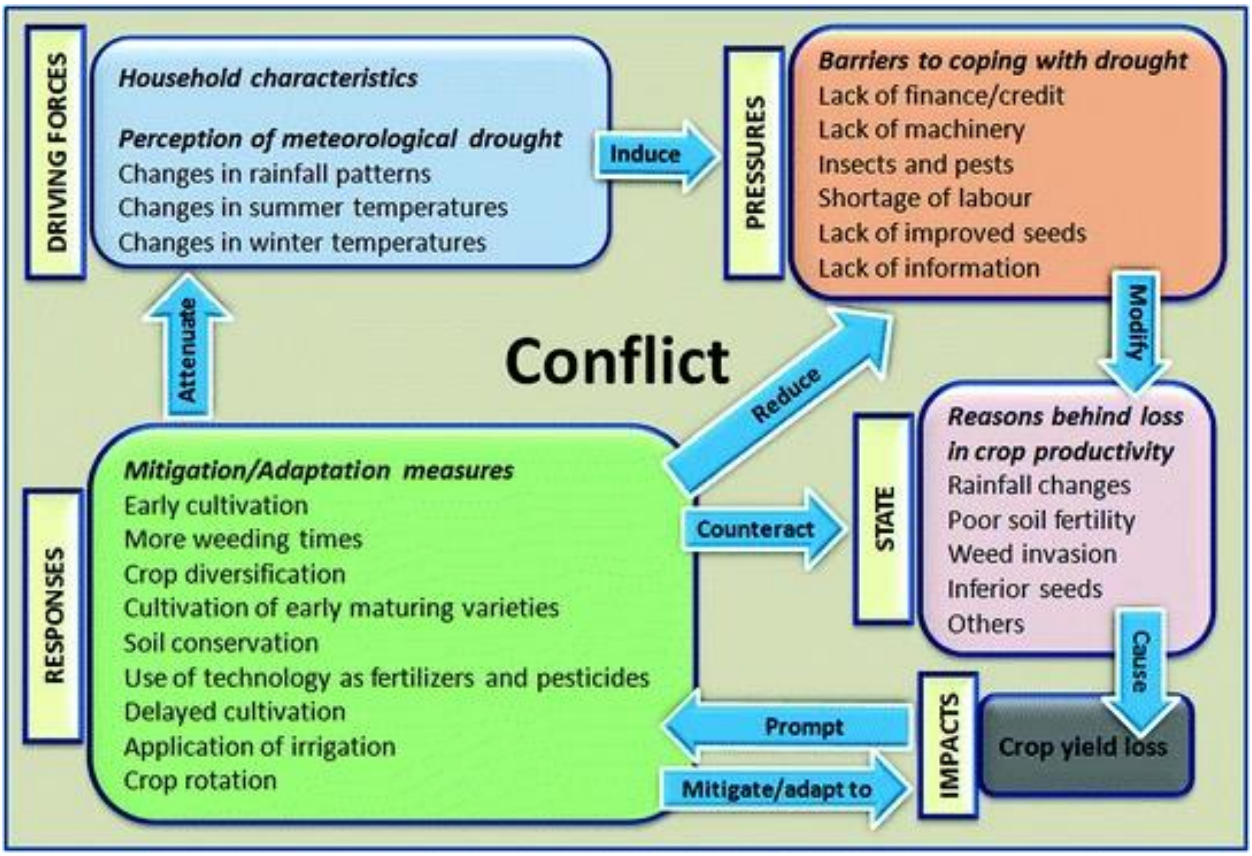
(Source: Famine Early Warning System Network (FEWS NET), 2022. High food prices, flooding, and inter-communal clashes continue driving high needs. *Sudan Food Security Outlook August 2022*. Retrieved from: https://fews.net/east-africa/sudan/food-security-outlook-update/august-2022)

Conceptual Model of the Civil War in Darfur, Sudan



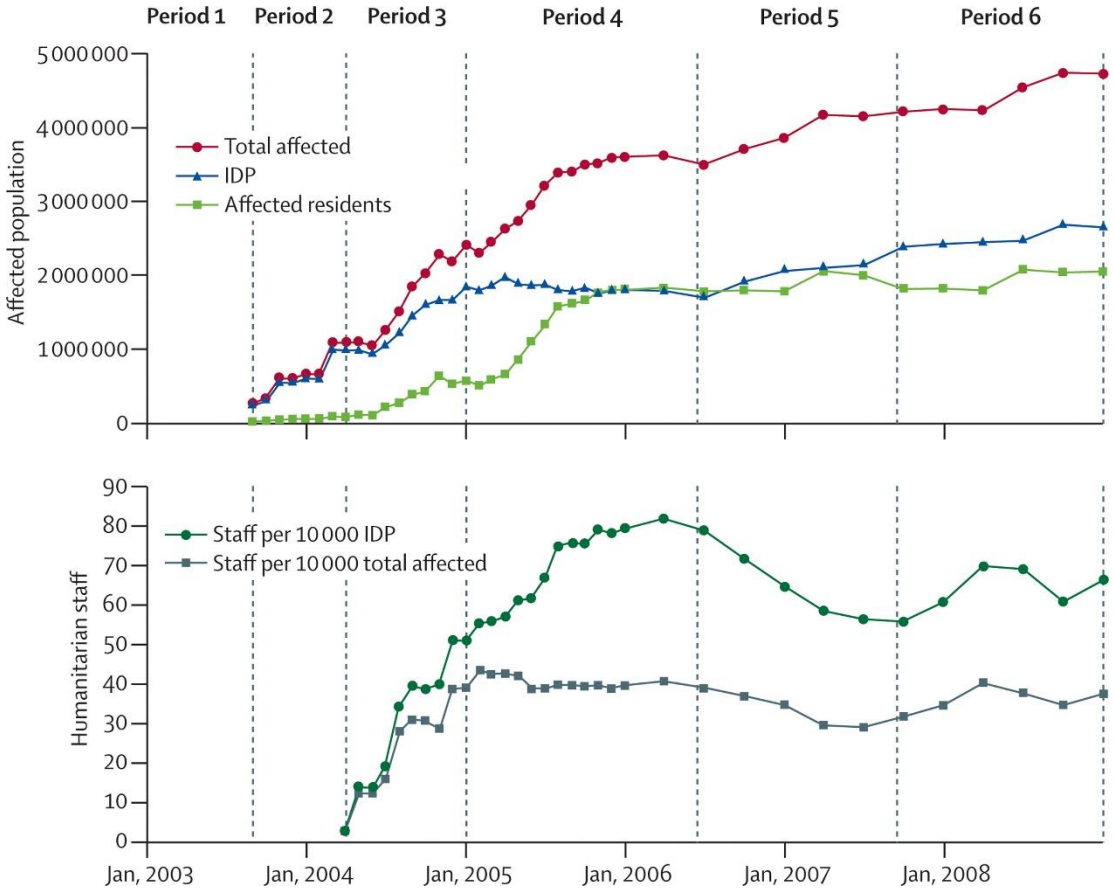
(Source: Climate Diplomacy, available at: https://climate-diplomacy.org/case-studies/civil-war-darfur-sudan)

Farmer-Drought Feedback in the DPSIR framework



(Source: Elagib, N. A., Musa, A. A., & Sulieman, H. M. (2017). Socio-hydrological framework of farmer-drought feedback: Darfur as a case study)

Patterns of Affected Populations and Numbers of Humanitarian Aid Workers per 10 000 affected people during periods 1–6 (2003-2008)



(Source: Degomme, O., & Guha-Sapir, D. (2010). Patterns of mortality rates in Darfur conflict)

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