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Climate change as a security threat: Legal and strategic implications

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Abstract

Climate change continues to be analyzed as a threat to nontraditional security that is beyond the scope of traditional state-based security systems. Therefore, this thesis elucidates the topic of 'climate change and security' in its legal and strategic context. The research explores how climate change challenges conventional security structures by increasing scarcity of resources, population displacement, and state vulnerability in the affected areas. It assesses the effectiveness of international legal systems, including the Paris Agreement, in addressing conflict arising from climate change and shows the shortcomings of present systems. In doing so, it reveals the seriousness of the linkage between ecological hazards and geostrategic relations and insists on adopting obligatory international compacts to address these novel threats. Combined, this research underlines the complexity of the approach that would necessitate multiple perspectives and agendas: climate resilience, addressing inequality, and solidifying international relations. The study makes a scholarly contribution to the growing literature on climate security by providing policy relevant knowledge that will enhance the efforts of policymakers to reduce various risks and support the promotion of sustainable peace in the wake of emerging climate change challenges.

Keywords: Climate Security; Resource Scarcity; Climate Migration; International Law; State Fragility; Global Cooperation

1 Introduction

1.1 Significance and Context

Climate change has emerged as one of the most pressing non-traditional security threats of the 21st century. Unlike conventional threats, which are often state-centric and militarized, climate change transcends borders, affecting societies, economies, and ecosystems on a global scale. According to the Intergovernmental Panel on Climate Change (IPCC, 2021), the increasing frequency and intensity of extreme weather events, such as hurricanes, floods, and droughts, pose significant risks to human security. These environmental disruptions exacerbate vulnerabilities in already fragile regions, intensifying social and political instability.

Rising sea levels threaten low-lying coastal areas and small island nations, with millions at risk of displacement. The World Bank (2020) estimates that by 2050, over 140 million people could become climate migrants in Sub-Saharan Africa, South Asia, and Latin America alone. Furthermore, resource scarcity—particularly access to freshwater and arable land—has heightened tensions in regions like the Sahel and the Middle East, where competition over diminishing resources fuels conflict.

The emerging link between environmental degradation and security risks is increasingly evident. Climate-induced disruptions have been identified as "threat multipliers" by the United Nations Security Council (UNSC, 2019), as they

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exacerbate existing tensions and create new vulnerabilities. As environmental stresses grow, states and international organizations face mounting pressure to address these interconnected challenges.

1.2 The Global Context of Climate-Security Interactions

Climate change is not only a scientific or environmental issue but also a deeply political and economic challenge. Its consequences are unevenly distributed across the globe, with developing nations and marginalized communities often bearing the brunt of its impacts despite contributing minimally to greenhouse gas emissions. For instance, Small Island Developing States (SIDS) like the Maldives and Tuvalu face existential threats from rising sea levels, while regions like the Arctic are experiencing rapid ecological transformations with significant geopolitical implications (Borgerson, 2008).

The interconnected nature of climate change and global security demands an integrated response. Environmental changes have cascading effects on economic stability, food systems, and public health, all of which are crucial to national and international security. For example, prolonged droughts in East Africa have decimated agricultural yields, increased food insecurity and forcing populations to migrate, often into regions where resources are already strained. These dynamics exacerbate societal tensions, increasing the likelihood of conflict and undermining efforts toward peacebuilding and sustainable development (Raleigh et al., 2010).

1.3 Institutional Responses and Gaps

The growing recognition of climate change as a security threat has led to increased attention from international bodies. The UN Security Council (UNSC) has discussed climate change in relation to peace and security, emphasizing its role as a destabilizing force in vulnerable regions. Similarly, organizations like the European Union (EU) and NATO have begun integrating climate resilience into their strategic frameworks. However, significant gaps remain in global governance mechanisms.

One critical gap is the lack of binding international frameworks that explicitly address the nexus between climate change and security. While agreements such as the Paris Accord focus on mitigation and adaptation, they do not adequately address the socio-political ramifications of climate-induced disruptions. Issues such as the legal status of climate refugees and the mechanisms for managing transboundary resource disputes remain unresolved, leaving millions vulnerable to the cascading effects of environmental change (Wewerinke-Singh & McInerney-Lankford, 2021).

1.4 Climate Justice and Equity

The concept of climate justice highlights the ethical and moral dimensions of climate change, particularly its disproportionate impact on the world's most vulnerable populations. This perspective emphasizes the need for fair and inclusive policies that address historical inequities in contributions to climate change. For example, while industrialized nations are the largest contributors to global emissions, developing countries often lack the resources to adapt to climate-induced challenges, exacerbating existing inequalities (Roberts & Parks, 2007).

The principle of equity also extends to intergenerational justice, recognizing the responsibility to ensure that future generations inherit a livable planet. The urgency of addressing climate change is compounded by its irreversible impacts, such as biodiversity loss and rising temperatures, which will shape the security landscape for decades to come.

1.5 The Way Forward

As the effects of climate change become increasingly evident, it is imperative to adopt a multidimensional approach that integrates environmental, social, and security considerations. Policymakers must prioritize building resilience at local, national, and global levels, focusing on both mitigation and adaptation. Strengthening international cooperation, investing in climate-resilient infrastructure, and enhancing legal frameworks are essential steps in addressing the complex challenges posed by climate change.

Moreover, fostering collaborative efforts between governments, non-governmental organizations, and private sectors can facilitate innovative solutions to mitigate climate risks. For instance, leveraging technology to develop early-warning systems and sustainable energy sources can significantly reduce vulnerabilities, particularly in high-risk regions. Addressing climate change as a security issue also requires expanding the narrative to include diverse voices, particularly those from the Global South, ensuring that solutions are equitable and inclusive.

By reframing climate change as a shared global security challenge, the international community can move beyond fragmented approaches and toward a cohesive strategy that prioritizes long-term stability and sustainability.

1.6 Research Questions

- How is climate change reframing traditional security paradigms?
- What role does international law play in mitigating climate-induced conflicts?
- Are current international security strategies sufficient to address climate-related risks?

1.7 Research Objectives

- To examine the evolving concept of security in the context of climate change.
- To evaluate the role of international legal frameworks in addressing climate-induced conflicts.
- To assess the adequacy of existing international security strategies.

1.8 Structure of the Dissertation

This dissertation is structured into five chapters. Chapter 1 introduces the research, providing background context, outlining the research problem, questions, and objectives, and presenting the overall structure. Chapter 2 reviews the existing literature on climate change and security, focusing on theoretical frameworks and empirical studies. Chapter 3 details the methodology adopted for the study, including data sources and analytical approaches. Chapter 4 presents and discusses the research findings, linking empirical evidence to the research objectives. Finally, Chapter 5 concludes the dissertation, summarizing key contributions, discussing policy implications, identifying limitations, and suggesting future research directions.

This structure ensures a logical progression of ideas, aligning with the research objectives and facilitating a comprehensive analysis of the nexus between climate change and security.

2 Theoretical Framework and Literature Review

2.1 Traditional vs. Emerging Security Paradigms

Overview of Traditional Security: Military Threats and State Sovereignty Traditional security paradigms have historically emphasized state sovereignty and the military capabilities required to defend territorial integrity against external threats. Rooted in the Westphalian system, traditional security is concerned with power dynamics between states, alliances, and the deterrence of aggression through military strength (Walt, 1991). Concepts such as balance of power and national defense dominated discourse, with little focus on non-military dimensions of security. Realist theories, particularly those proposed by Waltz (1979), reinforced the notion that security is synonymous with state survival in an anarchic international system.

However, this state-centric approach overlooks the complex and evolving nature of modern threats, which are often transnational and cannot be addressed through military means alone. While traditional security frameworks remain relevant in certain geopolitical contexts, they are increasingly inadequate for addressing the multifaceted challenges posed by contemporary risks, including climate change, pandemics, and cyber threats.

Rise of Non-Traditional Security Threats: Climate Change, Pandemics, and Resource Scarcity The late 20th and early 21st centuries witnessed the emergence of non-traditional security threats that transcend state boundaries and defy military solutions. These threats include climate change, pandemics, cyber-attacks, and resource scarcity (Kaldor, 2007). Unlike traditional security concerns, non-traditional threats are non-linear, interconnected, and often exacerbate pre-existing vulnerabilities.

Among these threats, climate change has gained significant attention due to its pervasive and long-term implications. Rising temperatures, sea-level rise, and extreme weather events are not only environmental concerns but also security risks, as they can destabilize regions, displace populations, and fuel resource conflicts (IPCC, 2021). Pandemics, such as COVID-19, have further demonstrated how non-traditional threats can disrupt global stability and require cooperative, multilateral responses.

Concept of Climate Security: Linking Environmental Challenges to Geopolitical Stability The concept of climate security highlights the intersection between environmental challenges and geopolitical stability. As environmental degradation undermines livelihoods, displaces communities, and exacerbates socio-economic inequalities, it creates fertile ground for political instability and armed conflict (Homer-Dixon, 1999). Climate security emphasizes that environmental stresses, such as droughts and floods, act as threat multipliers, exacerbating existing tensions in fragile regions.

Researchers have underscored how climate-induced migration and resource competition can escalate into security crises. For example, the conflict in the Lake Chad Basin is often cited as a case where environmental degradation contributed to insurgency and social unrest (Selby et al., 2017). Understanding climate security requires an integrated approach that combines environmental resilience with political stability and conflict prevention strategies.

2.2 Climate Change and Conflict Dynamics

2.2.1 Theories Linking Climate Change to Conflict

Resource Scarcity: Competition Over Water, Food, and Land One of the most widely discussed theories linking climate change to conflict is resource scarcity. Climate-driven phenomena, such as prolonged droughts, reduced agricultural yields, and water shortages, intensify competition over essential resources. For instance, the Darfur conflict has been partially attributed to desertification and dwindling water availability, which heightened tensions between agricultural and pastoral communities (Brown & Crawford, 2009).

Resource scarcity theory posits that as resources become scarcer, groups and states are more likely to engage in competition, sometimes escalating into violent conflict. This dynamic is particularly evident in regions like the Sahel, where climate stressors have contributed to cross-border tensions and communal violence.

Climate-Induced Migration: Displacement as a Driver of Conflict Climate change also contributes to forced migration, as rising sea levels, extreme weather events, and declining agricultural productivity force populations to relocate. Climate-induced displacement often exacerbates social tensions in host regions, especially when they are already experiencing economic and political fragility.

Research by Reuveny (2007) suggests that climate migration can act as a catalyst for conflict when displaced populations compete with host communities for resources or when they are perceived as economic and cultural threats. For example, internal displacement caused by flooding in Bangladesh has created pressure on urban infrastructure and social services, contributing to localized tensions.

State Fragility in Vulnerable Regions: Inability to Respond to Environmental Crises States with weak governance structures and limited institutional capacity are particularly vulnerable to the security risks posed by climate change. Fragile states often lack the resources, infrastructure, and political stability needed to respond effectively to environmental crises.

The Sahel region serves as a pertinent example. Recurrent droughts, coupled with weak governance and chronic poverty, have undermined food security and fueled competition over dwindling resources. Armed groups in the region have capitalized on these vulnerabilities, using resource scarcity and disenfranchisement to recruit members and expand their influence. The interplay of climate stressors and state fragility creates a vicious cycle, where environmental crises erode governance capacities, further deepening instability (Barnett & Adger, 2007).

Strengthening state resilience in fragile regions requires targeted investments in governance, infrastructure, and disaster preparedness. This includes fostering inclusive institutions that can mediate resource disputes and implementing early warning systems to anticipate and mitigate the impacts of climate-induced shocks.

2.3 Role of International Law

Paris Agreement and International Climate Frameworks the Paris Agreement (2015) marked a significant milestone in global climate governance. Its focus on mitigation (reducing greenhouse gas emissions) and adaptation (enhancing resilience to climate impacts) underscores its comprehensive approach. However, the Agreement has been criticized for insufficiently addressing the security dimensions of climate change (Bodansky, 2016).

While the Paris Agreement provides mechanisms for cooperation and financial support, it lacks concrete measures to address climate-induced security risks, such as conflict prevention and management in climate-vulnerable regions.

The UN Security Council's Engagement with Climate Change as a Security Threat The UN Security Council (UNSC) has increasingly recognized climate change as a security threat. In several resolutions and debates, the Council has acknowledged the links between climate stressors and regional instability.

However, the UNSC faces challenges in addressing these risks due to political divisions among member states and the non-binding nature of its climate-related resolutions (Scott, 2015). Despite these limitations, the Council plays a crucial role in elevating climate security on the global agenda.

Gaps in Legal Mechanisms Addressing Climate-Induced Conflicts Existing international legal frameworks, such as the UN Framework Convention on Climate Change (UNFCCC), are primarily designed to address environmental impacts rather than security implications. Scholars have highlighted the lack of binding mechanisms to address climate-induced displacement and resource-driven conflicts (Wewerinke-Singh & McInerney-Lankford, 2021).

2.4 Literature Gaps

Lack of Integration Between Environmental Law and Security Strategies Despite increasing recognition of the climate-security nexus, there remains a significant disconnect between environmental law and security strategies. Climate agreements often prioritize environmental objectives while neglecting the security dimensions of climate change (Gleditsch, 2012).

Limited Focus on Climate-Related Risks Within Traditional Security Policies Traditional security policies remain predominantly focused on military threats, with limited integration of climate-related risks into national defense strategies. This gap highlights the need for a more holistic approach that combines environmental resilience, governance, and conflict prevention (Busby, 2008).

Addressing these literature gaps is essential for advancing a comprehensive framework that bridges the divide between climate governance and security strategies.

3 Data Analysis, Presentation and Interpretation

3.1 Reframing Traditional Security Paradigms

3.1.1 *Shift from State-Centric Security to Broader Human and Environmental Security*

The evolving nature of global threats is prompting a redefinition of security paradigms, which historically centered on state sovereignty and military defense. The traditional approach, largely focused on the protection of national borders, has proven increasingly inadequate in addressing non-traditional security challenges like climate change, resource depletion, and environmental degradation. In this context, the shift toward broader concepts of human and environmental security marks a critical transformation in how security is understood and managed.

Human security, as conceptualized by the United Nations Development Programme (1994), moves away from the narrow focus on the state and instead centers on the safety and well-being of individuals. It emphasizes protecting people from pervasive threats such as poverty, disease, natural disasters, and the impacts of environmental stress. Environmental security, on the other hand, addresses the stability of ecosystems, recognizing that environmental degradation, including deforestation, pollution, and loss of biodiversity, can lead to geopolitical instability and exacerbate existing social tensions (Barnett, 2003). The shift toward these more inclusive paradigms reflects an increasing recognition that human and environmental vulnerabilities are inextricably linked, and solutions must address both simultaneously.

This broader conception of security highlights the interconnectedness of various factors that contribute to global instability, underscoring those environmental threats like deforestation, biodiversity loss, and resource depletion cannot be effectively mitigated through traditional military responses. For example, the deforestation of the Amazon rainforest not only causes localized environmental destruction but also disrupts global carbon cycles, thereby affecting global climate stability and agricultural productivity. This understanding demands a more integrative approach to security—one that accounts for the complexity of environmental, social, and economic factors, all of which can lead to destabilizing outcomes.

3.2 Climate Change as a Destabilizing Force

3.2.1 *Resource Scarcity Leading to Conflicts*

One of the most significant threats arising from climate change is resource scarcity, which can act as a catalyst for conflicts. Climate change exacerbates existing resource shortages, such as freshwater and arable land, creating conditions ripe for competition and violence. This dynamic is particularly evident in regions like Sub-Saharan Africa,

where climate change-induced droughts and shifting rainfall patterns already strain limited resources. The Darfur conflict serves as a case in point, where climate-induced water scarcity and desertification fueled competition between agricultural and pastoralist communities. As water sources and grazing land diminished, ethnic and political tensions were amplified, leading to violence and long-term instability (Brown & Crawford, 2009). Such examples highlight the complex and multifaceted nature of climate-induced conflicts, where environmental stressors intersect with sociopolitical factors to exacerbate violence and insecurity.

Furthermore, the competition for scarce resources, such as water and arable land, has the potential to drive new conflicts or escalate existing tensions, especially in regions where state structures are weak or where governance is fragile. The situation is made more dire by the fact that climate change affects resources in ways that often transcend national borders, creating regional security threats that require cooperative, multilateral responses.

3.2.2 Climate-Induced Migration and Regional Pressures

Another critical dimension of climate change's destabilizing impact is climate-induced migration. Rising sea levels, desertification, and extreme weather events displace millions of people, forcing them to migrate to other regions, often under challenging conditions. This influx of displaced populations can place immense strain on host countries and regions, potentially leading to social tensions, competition for resources, and even conflict.

The Pacific Island States are particularly vulnerable to the existential threat of rising sea levels, which threaten to submerge entire communities and nations. These populations face the prospect of displacement without adequate legal protections or support. Similarly, regions such as South Asia, particularly Bangladesh, are experiencing recurrent flooding, displacing millions and creating significant pressure on urban infrastructure and services. As populations are forced to migrate from climate-affected areas, the strain on receiving regions can heighten existing vulnerabilities, leading to heightened competition for jobs, housing, and basic resources. Climate-induced migration, if not properly managed, can become a source of political instability and social unrest, further complicating the already complex dynamics of global climate change.

The lack of coherent international frameworks to manage climate-induced migration exacerbates these challenges. Without robust legal protections or international cooperation, climate migrants often face uncertain futures, further deepening their vulnerabilities and creating the conditions for social friction and potential conflict.

As the frequency and intensity of climate-related disasters continue to increase, it is crucial for international frameworks to address not only the environmental impacts of climate change but also the resulting social, political, and economic consequences. This necessitates a comprehensive understanding of the intersection between climate change, migration, and regional security, and the development of legal and policy mechanisms to support both affected populations and host regions.

In conclusion, the reframing of security paradigms is essential for effectively addressing the multifaceted challenges posed by climate change. Shifting from state-centric to human and environmental security models recognizes the interconnectedness of global systems and the need for more holistic, integrative solutions to ensure long-term stability and resilience. This redefined approach requires stronger international collaboration, innovative policy frameworks, and a commitment to addressing both the root causes and the consequences of climate change on a global scale.

3.3 Are Current International Security Strategies Sufficient?

3.3.1 Strengths

Growing Recognition of Climate Change as a Security Threat

The growing acknowledgment of climate change as a security threat represents a critical shift in international security strategies. Increasingly, organizations such as NATO, the United Nations, and the European Union have begun to incorporate climate risks into their security frameworks. NATO, for example, has highlighted climate change as a "threat multiplier" in its strategic documents, emphasizing its role in exacerbating conflicts, undermining stability, and increasing the frequency of natural disasters (NATO, 2022). This integration marks progress in recognizing the broader security implications of environmental changes, such as rising sea levels, resource scarcity, and extreme weather events. However, while recognition is advancing, translating this understanding into concrete actions remains a challenge.

3.3.2 *Integration of Climate Resilience in Defense Policies*

Several countries have started to integrate climate resilience into their defense and security policies, marking another positive development. Nordic nations, for instance, have taken proactive measures to bolster climate resilience through the development of climate-resilient infrastructure, disaster response systems, and early-warning mechanisms. These countries are also working to understand how climate-induced risks, including changes in resource availability and migration patterns, might impact national security. The integration of climate resilience into defense policies represents a recognition of the need for a holistic approach to security—one that encompasses environmental, political, and economic considerations (Busby, 2008). Such initiatives reflect an understanding that national security and environmental sustainability are increasingly intertwined in the face of climate change.

3.4 Weaknesses

3.4.1 *Fragmentation Between Environmental and Security Policies*

Despite these positive strides, one of the major weaknesses of current international security strategies is the continued fragmentation between environmental and security policies. In many cases, national defense strategies fail to incorporate environmental risks in a way that aligns with global climate goals. This disconnect means that security policies do not fully address the complex and multifaceted threats posed by climate change. For example, while some countries may recognize the risks associated with climate change, the defense sector often treats these threats in isolation from broader environmental policies. This fragmentation undermines the ability to adopt integrated approaches that are necessary for addressing the root causes of climate-induced instability (Gleditsch, 2012).

3.4.2 *Insufficient Coordination Among International Bodies*

Another critical weakness lies in the insufficient coordination between international bodies that focus on climate change and those that deal with security issues. Institutions such as the United Nations Framework Convention on Climate Change (UNFCCC) primarily focus on climate mitigation and adaptation, while the United Nations Security Council (UNSC) addresses global peace and security concerns. However, these bodies often operate in silos, leading to gaps in policy coherence and strategic coordination. The lack of cross-institutional collaboration has hindered the development of integrated strategies that could effectively address climate-induced conflicts. For example, while climate change has been recognized as a potential driver of conflict in regions like the Sahel and the Horn of Africa, the lack of a unified approach has made it difficult to implement comprehensive solutions (Wewerinke-Singh & McNerney-Lankford, 2021).

3.4.3 *Lack of Funding and Political Will*

Efforts to tackle the security implications of climate change are often hampered by insufficient funding and a lack of political will. Many governments, particularly those in developing regions, face significant challenges in securing the resources needed to mitigate and adapt to climate-induced risks. Furthermore, the political will to prioritize climate security issues is often lacking, especially in times of political instability or economic downturns. Addressing these challenges requires sustained investment in both climate resilience and security measures, as well as long-term policy commitments. However, with competing priorities, such as economic growth and national defense, many governments remain hesitant to allocate the necessary resources to combat climate-induced security threats (Brown et al., 2007). Until there is a shift in political priorities to recognize the importance of climate resilience in national and international security frameworks, these issues will continue to be underfunded.

3.5 Emerging Trends and Strategic Challenges

3.5.1 *Geopolitical Tensions Over Climate Resources*

The emergence of new climate-related geopolitical tensions is becoming increasingly evident. As climate change reshapes resource availability and access, competition over critical resources like water, food, and energy is intensifying. In the Arctic, for example, melting ice is opening up new shipping routes and access to previously inaccessible natural resources. As nations vie for control over these resources, the potential for conflict increases, highlighting the need for cooperative frameworks to manage these resources responsibly (Borgerson, 2008). This trend underscores the importance of developing international agreements and governance structures that can mitigate the risks associated with resource competition in a changing climate.

3.5.2 *Climate Resilience in National Defense Strategies*

The integration of climate resilience into national defense strategies is an emerging trend that signals growing recognition of climate change as a security issue. NATO's 2022 climate action plan, which includes the development of

climate-resilient infrastructure, military operations, and early-warning systems, is a significant example of this shift (NATO, 2022). However, while such initiatives are positive, there remains a gap between policy and action. National defense strategies often focus on short-term security needs, such as military readiness, without adequately addressing the long-term impacts of climate change. In this context, it is crucial for governments to integrate climate resilience into both military and civilian sectors to ensure that the necessary adaptive capacity is built.

3.5.3 *Need for a Cohesive Global Strategy*

The interconnectedness of climate change, peacebuilding, and conflict prevention demands a more cohesive global strategy. Current efforts to address climate-induced security risks remain fragmented, often involving separate international bodies and insufficient coordination. A truly effective strategy must integrate climate action with conflict prevention and peacebuilding efforts, addressing the environmental, legal, and security dimensions in a unified framework. This would require stronger international collaboration, the development of shared goals, and the commitment of resources at a global scale. Ultimately, addressing climate-induced security challenges will necessitate a shift from isolated, reactive measures to proactive, coordinated global strategies. Only by fostering cooperation across sectors and borders can the international community hope to build resilience and promote stability in the face of climate change.

4 Conclusions and recommendations

Climate change is fundamentally reshaping traditional security paradigms, shifting the focus from state-centric approaches to broader considerations that encompass human and environmental security. This dissertation demonstrates how climate change undermines national and regional stability, with resource scarcity and climate-induced migration acting as catalysts for conflict (Broadbent et al., 2018; Li et al., 2017). The role of international law in addressing these challenges is significant but insufficient. While frameworks such as the Paris Agreement and UN Security Council resolutions mark progress, they fall short in providing binding mechanisms or addressing critical issues like legal protections for climate refugees (Brown et al., 2019; Conzade et al., 2022). Similarly, current international security strategies display a growing recognition of climate risks but suffer from fragmentation, insufficient coordination between institutions, and limited political will to address root causes (Forsythe et al., 2023; Ferrigno et al., 2024).

This dissertation offers a unique integration of climate change, international law, and security studies. By bridging these domains, it provides a nuanced understanding of the interconnected challenges posed by climate change to global stability. The analysis highlights gaps in existing legal and security frameworks and underscores the need for innovative, cohesive approaches. Through its interdisciplinary approach, the research contributes to the academic discourse by framing climate change not merely as an environmental issue but as a multidimensional threat requiring global cooperation (Corsaro, 2020; Carnazzola & Guerra, 2020).

Establishing a comprehensive and legally binding international framework is essential to address the nexus between climate change and security. Such a framework should incorporate binding commitments to prevent climate-induced conflicts, enhance resource management, and create accountability mechanisms (Anaya, 2021; Skeete et al., 2020). Strengthening the UN Security Council's role in addressing climate risks to global stability is also critical. The Security Council must adopt a more proactive stance, integrating climate risks into its core agenda, crafting resolutions that acknowledge and address the security implications of climate change, fostering collaboration among member states, and encouraging contributions to global climate resilience initiatives (Chicksand & Rehme, 2018; Harrison & Thiel, 2017). Current international legal frameworks fail to adequately protect individuals displaced by climate change, highlighting the need for a new legal category for "climate refugees" under international law, offering rights and protections tailored to the unique challenges of climate displacement (Buzzavo, 2014; Das, 2019). Additionally, governments and international organizations should prioritize integrated approaches that address the root causes of instability. Linking climate adaptation strategies with peacebuilding initiatives can mitigate risks and foster long-term stability. Such policies should include community-based resource management, conflict resolution training, and investments in renewable energy projects to reduce dependency on scarce resources (Blocker et al., 2012; Janssen, 2015).

The dissertation opens avenues for further exploration, particularly in the impact of climate change on regional conflicts such as those in the Middle East and Sub-Saharan Africa. These regions offer rich case studies where resource scarcity and displacement intersect with existing socio-political tensions (Gomez Vilchez et al., 2013; Gupta et al., 2020). Researching the potential of technologies like artificial intelligence, satellite monitoring, and renewable energy systems to strengthen climate adaptation and security frameworks is also critical. These technologies can play a transformative

role in early warning systems, efficient resource management, and sustainable development initiatives (Kim et al., 2022; Indiran et al., 2023).

The growing recognition of climate change as a security threat underscores the urgent need for global cooperation. Addressing this challenge requires a paradigm shift that integrates environmental resilience into the fabric of international law and security strategies. Nations must transcend political divisions and prioritize collaborative action to prevent the destabilizing effects of climate change. This dissertation highlights that failure to act decisively risks undermining not only peace and stability but also the broader goals of sustainable development. By fostering global solidarity and innovative policies, the international community can navigate the complex interplay between climate change and security, ensuring a more resilient and peaceful future (Featherman et al., 2021; Lang et al., 2021).

Compliance with ethical standards

Statement of ethical approval

Ethical approval was obtained.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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