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CENTER FOR INTERNATIONAL STRATEGIC ANALYSES

CLIMATE CHANGE AND GLOBAL SECURITY

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CLIMATE CHANGE AND GLOBAL SECURITY

Rohail Qureshi

INTRODUCTION

Overview of the Relationship between Climate Change and Global Security

According to the definition put forth by the United Nations, climate change refers to the shifts over time in both temperatures and weather patterns. For a long time, these changes have occurred naturally through natural disasters (e.g. volcanic eruptions, heatwaves, etc.) however since the 1800s and the start of the Industrial Revolution, changes in the climate have increased in intensity due to human activity. This is mainly due to the burning of fossil fuels (coal, gas, oil) which release tonnes of carbon emissions and greenhouse gases into the atmosphere, trapping the sun's heat and consequently contributing to the phenomenon dubbed global warming.¹

The primary greenhouse gases driving climate change include carbon dioxide and methane. These gases are emitted from activities like burning gasoline for cars or coal for heating buildings. Additionally, deforestation and land clearing release significant amounts of carbon dioxide. Major sources of methane emissions include agriculture, as well as oil and gas operations. Key sectors contributing to greenhouse gas emissions are energy, industry, transportation, buildings, agriculture, and land use.

Key aspects of the climate crisis include, among others, global warming, extreme weather events, melting ice and rising sea levels, ocean acidification, and biodiversity loss.

Climate change in 2024 and beyond is only projected to worsen. For example, according to an article by Greenly, there is a 93% possibility that one of the years between 2022 and 2026 would be the warmest to date, exceeding the previous record set in 2016. This has already occurred during the summer of 2023, with many record-breaking temperatures recorded around the planet. This confirms the prior projection that the average global temperature for the five-year period 2022-2026 will be higher than the preceding five-year period from 2017 to 2021.

The worst climate change estimate for 2024 is that the chance of the average global temperature rising above 1.5°C has increased by about 50% over the next five years, from 2022 to 2026.²

The increasing intensity of climate change has significant implications for global security. As greenhouse gases such as carbon dioxide and methane continue to accumulate in the atmosphere, primarily from burning fossil fuels, deforestation, and agricultural practices, global warming accelerates, leading to more severe and frequent extreme weather events.

The impact of this intensified climate change on global security is multifaceted. One of the most pressing concerns is the exacerbation of resource conflicts. The increasing frequency of extreme weather events – droughts, floods, and shifting weather patterns – directly affects the availability of crucial resources such as water, food, and arable land. Regions already

¹ <https://www.un.org/en/climatechange/what-is-climate-change>

² <https://greenly.earth/en-us/blog/ecology-news/climate-change-in-2022-where-do-we-stand>

vulnerable to resource limitations face intensified competition, leading to internal and cross-border disputes over these essential resources.

An example of such disputes is the Syrian Civil War of 2010 during the Arab Spring. This war was one of the most devastating conflicts of the 21st century, lasting ten years and resulting in an estimated 400,000 deaths. Various causes have been suggested for the conflict in Syria, such as governmental corruption, economic decline, and restricted political freedoms. Yet, one aspect that has not received sufficient attention is the role of anthropogenic climate change. Specifically, the argument that climate-induced droughts in Syria and the broader Middle East, occurring before the onset of the war, played a significant role in creating the conditions that enabled the conflict to erupt.

It is understood that due to the periods of droughts that Syria suffered since the 1980s led to a dramatic decrease in wheat and grain production in the years that led to the conflict. The declines in agricultural production could be seen as a trigger for economic strains within the country, which played a role in exacerbating the conflict.³

Human displacement is yet another critical effect of the climate crisis. As global temperatures rise, and extreme weather becomes more common, environmental disruptions force people to migrate. The mass movement of climate refugees places additional strain on the resources and infrastructure of receiving areas, potentially leading to social unrest and heightened security challenges. The pressure on urban infrastructure due to rural-to-urban migration further compounds the risks of instability.⁴

Economic disruptions resulting from climate change also have far-reaching security implications. The impacts on agriculture, including reduced crop yields due to droughts and floods, undermine food security and disrupt livelihoods, particularly in agrarian societies. Simultaneously, energy supply chains face challenges from climate-related disruptions, affecting energy availability and contributing to economic instability. This economic instability can exacerbate existing vulnerabilities, increasing the likelihood of conflict.⁵

Health crises are another consequence of the changing climate. Rising temperatures and more frequent heatwaves lead to severe health impacts, such as increased incidences of heat-related illnesses and the spread of vector-borne diseases. These health crises overwhelm healthcare systems, exacerbate health inequalities, and contribute to social instability, further straining national resources. The WHO (World Health Organization) has identified global warming and the excessive use of fossil fuels to be among the most serious dangers to global health.⁶

Geopolitical tensions are also heightened by climate change. Melting ice and shifting coastlines create new geopolitical issues, such as competition for Arctic resources and

³ <https://interclimate.org/how-drought-linked-to-climate-change-helped-cause-the-syrian-civil-war/>

⁴ <https://www.unhcr.org/what-we-do/build-better-futures/climate-change-and-displacement>

⁵ <https://news.climate.columbia.edu/2019/06/20/climate-change-economy-impacts/>

⁶ https://www.who.int/health-topics/climate-change#tab=tab_2

disputes over maritime boundaries. As nations vie for control over newly accessible resources and altered territorial waters, these tensions can escalate into conflicts.⁷

Furthermore, climate change weakens state capacity, particularly in regions already facing political or economic instability. The compounded pressures from climate impacts strain governance structures, erode state legitimacy, and increase the risk of state failure. This weakening of state capacity can further destabilize regions and contribute to broader security concerns.

The military sector is not immune to the effects of climate change. The increased frequency of climate-related disasters necessitates more military resources for disaster response, potentially straining military capabilities and reducing readiness for traditional security roles. Additionally, damage to military infrastructure from extreme weather events impacts defence readiness and effectiveness.

The purpose of this research paper is to explore the intricate relationship between climate change and global security, examining how environmental changes impact stability and pose ranged threats to international security. By investigating how climate change exacerbates security issues, assessing the role of international frameworks, examining UN efforts, proposing policy recommendations, and highlighting challenges and limitations faced by existing policies and frameworks, the paper seeks to provide a nuanced understanding of the security implications of climate change.

THE ROLE OF THE UN IN ADDRESSING CLIMATE-INDUCED CONFLICTS

The United Nations (UN) is instrumental in addressing the security risks associated with climate-induced conflicts through a wide-ranged approach that encompasses policy formulation, conflict prevention, and humanitarian support. The UN's efforts are pivotal in mitigating the adverse effects of climate change on global stability and fostering peace.

The Paris Agreement

The legally binding Paris Agreement is one of the most important global frameworks the UN has created on climate change. On December 12, 2015, during the UN Climate Change Conference (COP 21) in Paris, France, it was adopted by 196 Parties. The official date of implementation was November 4, 2016. The agreement's principal goal is to keep the increase in global average temperature to well below 2°C over pre-industrial levels, with the ultimate goal being 1.5°C above pre-industrial levels.

In recent times, world leaders have underscored the critical need to meet the 1.5°C target by the end of the century. This urgency stems from warnings issued by the UN's Intergovernmental Panel on Climate Change, which has indicated that exceeding the 1.5°C threshold could result in significantly more severe climate impacts, including more frequent

⁷ https://www.eeas.europa.eu/eeas/geopolitics-climate-change_en

and intense droughts, heatwaves, and heavy rainfall. To achieve this target, global greenhouse gas emissions must peak no later than 2025 and be cut by 43% by 2030.

The Paris Agreement holds particular importance in the global climate change landscape as the first legally binding accord to unite all nations in the fight against climate change and in efforts to adapt to its effects. As of now, all 197 UN member states have signed the Agreement, with Syria being the last to do so on November 7, 2017. The only exception is the United States, which has not joined as a signatory following President Trump's decision.⁸

However, the Paris Agreement has its fair share of controversies and limitations. One of the major criticisms of the agreement is that the emission reduction commitments (Nationally Determined Contributions or NDCs) are voluntary and not legally binding. There are concerns that without binding commitments, countries may not be sufficiently motivated to meet their targets, leading to insufficient overall global emission reductions.

Another criticism is that the Paris Agreement lacks a strong enforcement mechanism to ensure that countries comply with their commitments. While there are transparency and reporting requirements, there are limited consequences for countries that do not meet their pledged targets.

Conflict Prevention: Early Warning Systems and Mediation Efforts

As the effects of climate change become increasingly apparent, the potential for environmental stressors to exacerbate conflicts is growing. In response, the United Nations (UN) has adopted a wide-ranged approach to conflict prevention, leveraging early warning systems and mediation efforts to manage climate-induced tensions. Key UN agencies, including the UN Environment Programme (UNEP) and the UN Office for the Coordination of Humanitarian Affairs (OCHA), play pivotal roles in monitoring environmental changes and providing early warnings of potential crises.

These early warnings are essential for anticipating and mitigating conflicts that may arise due to climate impacts. Additionally, the UN's engagement in diplomatic mediation helps to address and resolve disputes where climate change is a contributing factor, fostering dialogue and negotiation to prevent conflicts from escalating.

Early warning systems are fundamental to the UN's strategy for preventing climate-induced conflicts. The UNEP is at the forefront of monitoring environmental changes and assessing their potential impact on global stability. UNEP conducts extensive research on climate trends, resource availability, and environmental degradation, providing critical data that can signal emerging risks. For instance, UNEP's reports on water scarcity, desertification, and

⁸ <https://unfccc.int/process-and-meetings/the-paris-agreement>

biodiversity loss offer valuable insights into how environmental changes may influence resource availability and contribute to tensions between communities or nations.⁹

Similarly, the OCHA plays a crucial role in managing humanitarian responses and coordinating relief efforts in areas affected by environmental crises. OCHA's early warning systems are designed to detect and address potential humanitarian emergencies before they escalate. By closely monitoring environmental indicators and their socio-economic impacts, OCHA can issue timely alerts and mobilize resources to prevent or mitigate crises. For example, in regions experiencing severe droughts or floods, OCHA's early warnings can facilitate pre-emptive measures, such as the provision of aid or the implementation of adaptive strategies, to reduce the likelihood of conflict over scarce resources.¹⁰

In addition to its early warning systems, the UN actively engages in diplomatic mediation to address and resolve conflicts where climate change is a contributing factor. Climate-induced tensions often arise from competition over dwindling resources, such as water, arable land, and food supplies. The UN's mediation efforts aim to resolve these disputes through dialogue and negotiation, thereby preventing them from escalating into more severe conflicts.

The UN's Department of Political and Peacebuilding Affairs (DPPA) is instrumental in facilitating peace negotiations and mediating disputes. DPPA works with local stakeholders, governments, and regional organizations to address resource-based conflicts exacerbated by climate change. By promoting inclusive dialogue and fostering cooperation, the UN helps to build consensus and develop sustainable solutions that address both immediate needs and long-term environmental challenges.¹¹

For instance, in regions where climate change has intensified competition for water resources, the UN has facilitated negotiations between conflicting parties to establish joint management frameworks and equitable distribution agreements. Such agreements can help to alleviate tensions and promote cooperation, reducing the risk of violent conflict. Additionally, the UN's support for capacity-building and conflict resolution training equips local actors with the skills and knowledge needed to manage and resolve climate-related disputes independently.

The UN's approach to managing climate-induced conflicts through early warning systems and diplomatic mediation faces several significant challenges and limitations. One major challenge is the accuracy and timeliness of early warning systems. While agencies like the UNEP and OCHA provide valuable data and alerts, predicting the exact onset and impact of environmental stressors can be difficult and uncertain. Environmental changes are often gradual and interconnected, making it difficult to pinpoint precise triggers for conflict or to

⁹ <https://www.unep.org/topics/climate-action/climate-transparency/climate-information-and-early-warning-systems>

¹⁰ <https://www.unocha.org/anticipatory-action#:~:text=As%20a%20majority%20of%20anticipatory,and%20OCHA%20is%20committed%20to>

¹¹ <https://dppa.un.org/en/addressing-impact-of-climate-change-peace-and-security>

anticipate the full range of socio-economic impacts. Additionally, the effectiveness of early warning systems depends on the availability and quality of data, which can be limited in regions with inadequate monitoring infrastructure or insufficient resources.

Coordination and communication between various UN agencies, governments, and local stakeholders also pose challenges. Effective conflict prevention and resolution require seamless collaboration and information sharing among multiple parties, which can be hindered by bureaucratic hurdles, differing priorities, and lack of coordination. The success of mediation efforts often hinges on the willingness and cooperation of conflicting parties, which can be difficult to achieve in situations where interests are deeply entrenched or where there is a lack of trust between parties.

Furthermore, the UN's diplomatic mediation efforts may be constrained by political considerations and power dynamics. While the UN strives to facilitate neutral and inclusive dialogue, geopolitical interests and local power struggles can influence the mediation process. This can limit the effectiveness of negotiations and the implementation of agreements, particularly in cases where powerful actors resist compromise or where there is a lack of political will to address underlying issues.

The UN also faces limitations in addressing the underlying causes of climate-induced conflicts. While early warning systems and mediation can help manage and resolve disputes, they do not directly address the root causes of environmental stressors or the broader impacts of climate change. For instance, without significant efforts to address resource depletion, economic inequality, and environmental degradation, the underlying issues that fuel conflict may persist, leading to recurring tensions and disputes.

Humanitarian Aid in Climate-Induced Crises

One of the foremost ways the UN addresses climate-induced conflicts is through emergency humanitarian aid. The World Food Programme (WFP) is at the forefront of this effort, providing essential food assistance to communities affected by extreme weather events, such as droughts, floods, and hurricanes. The WFP's interventions include distributing emergency food rations, nutritional supplements, and cash-based transfers to ensure that populations receive adequate sustenance during crises. The agency's logistical expertise is crucial in delivering aid to remote and challenging areas where traditional methods of assistance might falter ¹²

Similarly, the UN High Commissioner for Refugees (UNHCR) focuses on the protection and support of individuals displaced by climate change-related disasters. This includes refugees, internally displaced persons (IDPs), and stateless individuals who lose their homes and livelihoods due to environmental factors. The UNHCR provides not only shelter and medical care but also psychosocial support to help individuals cope with the trauma of displacement.

¹² <https://www.wfp.org/climate-action#:~:text=WFP%20enables%20communities%20to%20withstand,developed%20or%20supported%20by%20WFP.>

The agency's work extends to facilitating durable solutions by collaborating with host communities and governments to integrate displaced populations and secure their rights.¹³

Addressing climate-induced conflicts through emergency humanitarian aid presents several significant challenges and limitations though. One of the primary hurdles is access and logistics. Delivering aid to remote or conflict-affected areas can be extremely difficult due to geographical barriers such as rugged terrain or damaged infrastructure, as well as natural disasters like floods or earthquakes that further complicate access. Security risks also pose a substantial challenge; in conflict zones or unstable regions, security concerns can endanger both humanitarian workers and recipients, impeding aid delivery.

Resource constraints are another major issue. Humanitarian operations often suffer from insufficient funding, which can strain financial resources and lead to gaps in aid coverage and delays. Even when funding is available, logistical limitations such as poor transportation options, limited infrastructure, and supply chain disruptions can hinder the efficient distribution of aid. Coordination among various UN agencies, non-governmental organizations (NGOs), and local actors is essential but can be problematic. Misalignment or lack of communication between these entities can result in duplications, inefficiencies, or gaps in the aid provided. Additionally, bureaucratic hurdles, such as administrative processes and the need for permissions from local authorities, can delay the implementation of aid programs.

Sustainability and effectiveness are also key concerns. Emergency aid often focuses on immediate relief rather than long-term solutions, which can sometimes neglect the importance of building sustainable solutions to address the underlying causes of displacement and conflict. Prolonged reliance on emergency aid can create dependency among affected populations, potentially undermining efforts to develop self-sufficient and resilient communities. Cultural and social dynamics further complicate the situation. Humanitarian interventions must be sensitive to local cultures and traditions, as misunderstandings or lack of cultural awareness can lead to resistance or ineffective aid delivery. Additionally, aid distribution can sometimes exacerbate existing social tensions or inequalities, fuelling conflicts within communities.

Finally, the impact of climate change on aid operations presents its own set of challenges. The increasing frequency and intensity of climate-related disasters can overwhelm existing humanitarian systems and resources, making it difficult to keep up with rising demands. As climate change alters risk profiles, traditional methods of disaster response may need to be adapted, requiring ongoing assessment and adjustment of strategies, which can be resource-intensive and complex.

POLICY RECOMMENDATIONS FOR CLIMATE SECURITY

¹³ <https://www.unhcr.org/what-we-do/build-better-futures/climate-change-and-displacement>

Addressing climate security necessitates a wide-ranged policy approach that covers both mitigation and adaptation strategies. Strengthening global climate agreements is imperative; this involves enhancing national commitments through more ambitious Nationally Determined Contributions (NDCs) and increasing financial support for adaptation and mitigation efforts in developing countries, particularly via mechanisms like the Green Climate Fund. Promoting renewable energy and energy efficiency is crucial, which can be achieved by subsidizing renewable energy projects and implementing stringent energy efficiency standards for buildings, vehicles, and industrial processes.

Furthermore, investing in climate-resilient infrastructure is essential to withstand climate-related hazards. This includes upgrading infrastructure to handle extreme weather events and promoting green infrastructure, such as wetlands and urban green spaces, to bolster resilience and mitigate urban heat islands. Integrating climate risk into national security strategies is also vital; this involves incorporating climate risk assessments into security planning and adapting military infrastructure and operations to address climate-induced challenges.

Supporting climate migration policies through the establishment of legal frameworks for climate migrants and fostering regional cooperation is necessary to manage cross-border migration and support affected communities. Additionally, sustainable agriculture and land use practices should be encouraged, including promoting sustainable agricultural practices and investing in reforestation and afforestation projects to sequester carbon and restore ecosystems.

Enhancing climate change education and public awareness through public campaigns and integrating climate science into school curricula is crucial for fostering a knowledgeable and proactive future generation. Supporting climate research and innovation by increasing funding for research on climate impacts, mitigation technologies, and adaptation strategies, as well as encouraging innovation through public-private partnerships, is also essential.

Finally, strengthening local and indigenous community engagement by involving these communities in climate planning and decision-making processes, and incorporating traditional knowledge into adaptation and mitigation strategies, is critical. Promoting international collaboration and governance through enhanced coordination among international organizations like the UNFCCC and IPCC, and supporting global research initiatives and data-sharing, will further contribute to addressing the various challenges of climate security.

CONCLUSIONS

The connection between climate change and global security is both complex and urgent. As climate change leads to more frequent and severe weather events, resource shortages, forced migration, and health problems, the stability of nations and international relations is increasingly threatened. The United Nations plays a key role in managing these risks through agreements like the Paris Agreement, early warning systems, diplomatic mediation, and humanitarian aid. Yet, there are still major challenges, such as the need for stronger

enforcement of commitments, better coordination, and tackling the root causes of climate-related conflicts.

To improve climate security, a comprehensive approach is essential. This includes strengthening global agreements, investing in infrastructure that can withstand extreme weather, and promoting sustainable practices. Effective policies should integrate climate risks into national security plans, support frameworks for managing climate migration, and encourage international cooperation. Addressing climate change requires collaborative efforts, combining scientific research, innovation, and local knowledge to build resilience and maintain stability in a changing climate.

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