Effects of International Wars on Global Action on Climate Change (2015-2023)

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ABSTRACT

This research investigates the multifaceted interplay between international wars and global climate action. The study addresses the pressing need to understand the impact of wars on climate change mitigation and adaptation efforts, environmental consequences, and diplomatic challenges hindering international collaboration. Employing a quantitative research design with a survey instrument, the study collected data from professionals and organizations in Nigeria. The results highlight significant hindrances posed by wars to climate initiatives, substantial environmental consequences, and diplomatic challenges influencing global collaboration. Recommendations are proposed to enhance integrated diplomacy, resource-sharing mechanisms, political dialogue platforms, trust-building initiatives, inclusive climate policies, global governance reforms, capacity building, and early warning systems. Acknowledging limitations, including sampling bias and inherent subjectivity, the research contributes nuanced insights to the discourse on the wars-climate nexus, guiding future studies and informing policy considerations.

INTRODUCTION

Background of the Study

Climate change, characterized by the alarming rise in average global temperatures, has become an unprecedented global challenge. Since the pre-industrial era, the Earth's temperature has surged by 1 degree Celsius, with the past decade (2014-2023) standing as the hottest on record and 2023 marking the warmest year yet (IPCC, 2014; IPCC, 2018; Hansen et al., 2010). This surge has led to a disturbing increase in extreme weather events like heatwaves, floods, and droughts, causing widespread ecological disruptions and threatening human well-being. The period from 2015 to 2023 has been marked by a series of international Wars and wars that have not only caused immediate human suffering but also have potential ramifications for global efforts to address climate change. Understanding the complex interplay between international wars and the pursuit of climate action during this period is essential for comprehending the broader dynamics shaping our world.

The Acceleration of Climate Change

The years 2015-2023 witnessed an acceleration of climate change, characterized by rising temperatures, extreme weather events, and ecological disruptions (IPCC, 2014; IPCC, 2018; Hansen et al., 2010). The year 2015 was the warmest year on record since record keeping began in 1880. The globally averaged temperatures from January through December 2015 were 0.87 degrees Celsius (NOAA, 2015).

The Intergovernmental Panel on Climate Change (IPCC) underscored the urgency of concerted global action to limit the rise in global temperatures and mitigate the adverse impacts of climate change. Simultaneously, international efforts to address climate change have been encapsulated in the Paris Agreement, adopted in 2015. The accord aspires to limit global warming to well below 2 degrees Celsius, preferably to 1.5 degrees Celsius. Although 196 countries have ratified the agreement as of 2023, the current pledges for emission reduction fall short of what is necessary to achieve the Paris Agreement goals, underscoring the challenging road ahead (UNFCCC, 2023).

The Pervasive Influence of International Wars

The period 2015-2023 also saw a resurgence of international wars, with geopolitical tensions manifesting in various regions. Wars in the Middle East, Eastern Europe, and other parts of the world escalated, leading to widespread displacement, loss of lives, and geopolitical shifts (Uppsala Conflict Data Program, 2022; The World Bank, 2023). The number of armed Wars has surged significantly since 2015, with over 20 major ongoing Wars globally in 2023. Notable examples include the Syrian Civil War, the Afghanistan War, the Yemeni Civil War, the Myanmar Civil War, and various Wars in Africa, such as the Boko Haram Insurgency, the South Sudan Civil War, and the Mali War. Additionally, Wars like the Ukrainian War and the Nagorno-Karabakh Conflict have escalated, causing widespread displacement, economic disruption, and diversion of resources away from critical priorities, including climate change action. The profound consequences of these Wars extended beyond immediate humanitarian concerns to impact global governance structures and hinder collective action on shared challenges.

The Interconnectedness of War and Climate Change

These Wars have far-reaching consequences, displacing millions, disrupting economies, and diverting resources from other essential priorities, notably climate change action. Specific examples highlight the interconnectedness of war and environmental degradation. The Syrian Civil War, for instance, has led to the destruction of infrastructure, including energy facilities, contributing to increased greenhouse gas emissions. The ongoing conflict in Ukraine has disrupted global energy markets, causing a spike in fossil fuel prices and potentially leading to increased emissions in the short term.

According to a research report, the war in Gaza "emitted a staggering 1.9 million tonnes of carbon dioxide equivalent (tCO2e) from direct combat activities alone. When emissions from pre-war fortifications and anticipated post-war reconstruction are included, the total climbs to over 32.2 million tCO2e —surpassing the annual emissions of more than 102 individual countries." (Preetha, 2025).

This study seeks to explore the intricate relationship between international wars and global action on climate change during the specified timeframe. Wars not only divert resources away from environmental initiatives but can also exacerbate environmental degradation through factors such as increased military activities, displacement, and disruption of infrastructures (LeBillon & Duffy, 2018; De & Tiburcio, 2018). Additionally, the geopolitical fallout from Wars may influence diplomatic relations and cooperation, affecting the efficacy of international climate agreements.

Statement of the Problem

The intensification of global Wars and the accelerating pace of climate change present a confluence of challenges that demand urgent scholarly attention. The coexistence of these phenomena raises critical questions regarding the effectiveness of international efforts to address climate change amidst a backdrop of widespread geopolitical turmoil.

Impact of Wars on Climate Change Action

The proliferation of armed Wars, exemplified by the Syrian Civil War, the Afghanistan War, and other regional Wars, poses a substantial threat to global climate change action. These Wars displace millions, disrupt economies, and divert resources away from environmental initiatives (Barnett, 2019; De & Tiburcio, 2018). The destruction of critical infrastructure during Wars, such as energy facilities in Syria, not only contributes to increased greenhouse gas emissions but also hampers the ability of affected nations to participate in and adhere to international climate agreements (LeBillon & Duffy, 2018).

Diplomatic and Resource Challenges

Moreover, the diplomatic fallout from Wars introduces additional complexities. The strained diplomatic relations resulting from ongoing wars hinder international cooperation, which is pivotal for the success of climate

agreements such as the Paris Agreement. Nations engaged in Wars may prioritize immediate security concerns over long-term environmental goals, leading to a potential misalignment of priorities (Dalby, 2017). Additionally, the diversion of financial and human resources towards conflict resolution leaves minimal room for investment in sustainable development and climate resilience (Goniewicz et al., 2023).

Inadequacy of Current Climate Change Mitigation Strategies

While the international community, as embodied in the Paris Agreement, aspires to limit global warming, the current trajectory of emissions reduction pledges falls short of achieving the agreement's ambitious goals (IPCC, 2018; UNFCCC, 2023). The challenge is exacerbated by the fact that Wars exacerbate environmental degradation and, in some instances, lead to increased emissions, rendering the global response to climate change more complex and interconnected than previously recognized.

Research Gap and Rationale

Despite the interconnected nature of Wars and climate change, there remains a noticeable research gap in understanding the nuanced dynamics between the two phenomena, particularly in the context of the post-2015 period marked by heightened Wars and environmental challenges. Existing literature often silos the study of Wars and climate change, neglecting the intricate ways in which these issues intersect and influence one another (Barnett, 2019; Dalby, 2017). This study seeks to bridge this gap by providing a comprehensive examination of how international Wars impact global climate change action and, conversely, how climate change considerations influence conflict dynamics.

In conclusion, the coexistence of escalating international Wars and the imperative to address climate change presents a complex problem that necessitates a thorough investigation. This research aims to contribute to the academic discourse by unraveling the intricate relationships between Wars and climate change, providing insights that can inform more effective strategies for mitigating both global crises.

Research Questions

1. How do ongoing international wars impact global climate change mitigation and adaptation efforts, considering factors such as resource diversion and diplomatic challenges?

2. In what ways do armed wars contribute to environmental degradation and increased greenhouse gas emissions, particularly through the destruction of critical infrastructure and displacement of populations?

3. To what extent do geopolitical tensions resulting from wars hinder international cooperation and collaboration on climate change initiatives, as exemplified by the Paris Agreement and subsequent global climate conferences?

Aim and Objectives of the Study

Aim

The primary aim of this study is to comprehensively examine the complex interactions between international wars and global efforts to address climate change during the period 2015-2023.

Objectives

The following are the specific objectives of the research:

1. To assess the impact of ongoing international wars on the implementation of climate change mitigation and adaptation strategies.

2. To analyse the environmental consequences of wars, focusing on factors such as increased emissions, destruction of infrastructure, and disruptions to ecosystems.

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3. To investigate the diplomatic challenges posed by wars and their influence on international collaboration for climate action, with a specific focus on the effectiveness of global climate agreements.

Research Hypotheses

Hypothesis 1 (H1): There is no significant relationship between ongoing international wars and the hindrance of global climate change mitigation and adaptation efforts.

Hypothesis 2 (H2): Wars do not contribute significantly to environmental degradation and increased greenhouse gas emissions.

Hypothesis 3 (H3): Geopolitical tensions resulting from wars have no substantial influence on hindering international collaboration on climate change initiatives.

Scope of the Study

This research will focus on the period from 2015 to 2023, examining the effects of ongoing international wars on global climate change action. The geographical scope encompasses Wars across various regions, including but not limited to the Middle East, Africa, Europe, and Asia. Noteworthy Wars, such as the Syrian Civil war, the Afghanistan war, and the Yemeni Civil war, will be examined to understand their specific impacts on climate change initiatives. Additionally, the study will consider wars like the Ukrainian War and the Nagorno-Karabakh Conflict to assess the broader global implications of regional Wars. The analysis will extend to the diplomatic aspects of conflict, evaluating how geopolitical tensions influence international cooperation on climate issues, as well as the environmental consequences, including greenhouse gas emissions resulting from armed Wars. The study aims to provide a holistic understanding of the interplay between Wars and climate change on a global scale.

It is important to note that the wars assessed here were selected based on their popularity in the media and not necessarily by their known impacts on the environment. They were also assessed using the same scale without prioritizing any. The period covered by the research was important for these reasons: Year 2015 was the year that the Paris Agreement was adopted, a year so significant in global climate change mitigation efforts. Year 2023 was the last year before this study was conducted and it was important that it formed the endline from 2015.

However, it is essential to acknowledge that the study's depth was constrained by the availability and reliability of data. Therefore, the research relied on information from experts, credible sources, including academic publications, reports from international organizations, and reputable news outlets. The findings of this study are intended to contribute to the academic discourse on the intersection of Wars and climate change, offering insights that may inform policies and strategies for addressing these interconnected global challenges.

Significance of the Study

This study holds significant implications for both academic understanding and practical policymaking in the realms of conflict studies, environmental science, and international relations. The following points elucidate the importance of this research:

Integration of Interdisciplinary Perspectives

By examining the interplay between ongoing international Wars and global climate change action, this study bridges the gap between traditionally siloed disciplines, including conflict studies and environmental science. The interdisciplinary approach contributes to a more comprehensive understanding of the complexities inherent in the simultaneous occurrence of armed Wars and environmental challenges.

Informed Decision-Making for Policymakers

Policymakers grappling with the dual challenges of conflict resolution and climate change mitigation will benefit from insights generated by this study. Understanding the intricate relationships between Wars and climate change is crucial for formulating effective, context-specific policies that consider the environmental consequences of Wars and the impact of climate change on geopolitical dynamics.

Global Implications for Sustainable Development

The study's findings will shed light on the global implications of Wars on sustainable development, particularly in the context of climate change goals. By uncovering how armed Wars disrupt economies, divert resources, and contribute to environmental degradation, the research can inform strategies aimed at achieving both peace and sustainable development goals.

Academic Contribution to Literature

Academically, this study adds to the existing body of literature by providing a nuanced analysis of the period from 2015 to 2023, characterized by a surge in wars and escalating environmental concerns. The research contributes empirical evidence and theoretical insights that can guide future research endeavours exploring the intersection of conflict, diplomacy, and environmental sustainability.

Awareness and Advocacy

The study's findings have the potential to raise awareness among the broader public, policymakers, and advocacy groups about the interconnected nature of Wars and climate change. This increased awareness can stimulate dialogue, prompt proactive measures, and contribute to the growing global movement advocating for sustainable, resilient, and conflict-sensitive policies.

In essence, the significance of this study lies in its capacity to offer valuable insights for navigating the complex landscape of international Wars and climate change. By addressing these critical issues simultaneously, the research aims to contribute to a more holistic and informed approach to addressing the challenges that define our rapidly changing world.

LITERATURE REVIEW

Introduction

This chapter critically examines existing scholarship on the intricate relationship between international Wars and climate change. This chapter synthesizes diverse perspectives, theories, and empirical studies to contextualize the study within the broader scholarly discourse. Exploring key concepts, empirical findings, and theoretical frameworks, it illuminates the dynamic landscape of the conflict-climate nexus.

Conceptual Review

Definition and Conceptualization of International Wars

International Wars, in the realm of global affairs, represent multifaceted and dynamic phenomena that defy simplistic categorization. Defining these Wars necessitates a nuanced exploration, considering their diverse origins, manifestations, and implications. Boşilcă et al. (2022) posits that international Wars are not mere isolated incidents but rather intricate processes embedded in the intricate fabric of international relations. These Wars often transcend geopolitical borders, involving states, non-state actors, and transnational issues, making their conceptualization inherently complex (Boşilcă et al., 2022).

Various typologies and classifications emerge when attempting to categorize international wars. Morgenthau (2005) distinguishes between latent and manifest wars, highlighting the difference between underlying tensions and open hostilities. On the other hand, Kennedy-Pipe (2007) introduces a structural approach, classifying wars

based on the distribution of power in the international system, emphasizing the role of states' capabilities and interactions. This structural perspective contributes to a deeper understanding of how power dynamics shape the nature of wars on the global stage.

Moreover, international wars can be categorized based on their origins, such as territorial disputes, resource competition, ideological clashes, or ethnic and religious tensions (Sørensen et al., 2022). Each category brings forth distinct challenges and dynamics, influencing the trajectory and resolution of wars. The typologies offered by scholars such as Sørensen et al. (2022) enrich our understanding of the varied dimensions of international Wars, acknowledging the diverse motivations that propel nations and entities into contentious relationships.

However, caution must be exercised when employing rigid typologies, as the fluidity of international wars often defies neat categorization. Boşilcă et al. (2022) warns against oversimplified classifications, arguing that wars are dynamic processes influenced by evolving geopolitical landscapes. This complexity is further exacerbated by the interplay of wars with other global challenges, such as climate change.

In the context of this study, international Wars encompass a spectrum of geopolitical struggles, ranging from overt military confrontations to subtle diplomatic tensions. By acknowledging the diverse typologies and classifications proposed by scholars, this study adopts a comprehensive approach that recognizes the intricate nature of international Wars and their relevance to the broader dynamics of global governance and environmental sustainability.

Understanding the Dynamics of Climate Change

Climate change, a multifaceted and intricate phenomenon, defies a singular definition due to its evolving nature and far-reaching consequences. Defined by the Intergovernmental Panel on Climate Change (IPCC) as "a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer" (IPCC, 2014), climate change encompasses more than shifts in temperature. Its conceptualization must transcend the surface level, considering the intricate interplay of ecological, social, and geopolitical factors.

At its core, climate change is driven by a complex set of interconnected factors. The primary driver is anthropogenic, with human activities contributing to the enhanced greenhouse effect through the release of greenhouse gases (GHGs) such as carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) (IPCC, 2014). These emissions trap heat in the Earth's atmosphere, leading to the warming of the planet. However, the dynamics of climate change extend beyond anthropogenic influences, incorporating natural processes such as solar radiation variability, volcanic activities, and oceanic oscillations (Hartmann, 2015).

The impacts of climate change are extensive and multifaceted, affecting ecosystems, weather patterns, and human societies globally. The manifestations of climate change include rising sea levels, more frequent and intense extreme weather events, altered precipitation patterns, and shifts in biodiversity (IPCC, 2014). These consequences, intricately linked, create a web of challenges that necessitate comprehensive understanding and mitigation strategies.

Understanding the dynamics of climate change demands a critical examination of its multidimensional nature. The interactions between environmental changes and human systems are complex, often leading to cascading effects with profound implications for global sustainability. Acknowledging the intertwined drivers, impacts, and manifestations is essential for formulating effective policies and strategies to address the challenges posed by climate change.

In the context of this study, the conceptualization of climate change goes beyond temperature variations. It delves into the intricate relationships between human activities, environmental processes, and the resulting ecological transformations, underscoring the urgent need for holistic approaches to mitigate and adapt to the evolving climate.

Conceptual Framework for the Interconnection

The conceptual framework, delineates the intricate relationship between variables of wars and variables of climate change. As the independent variable, the variables of conflict exert a substantial impact on the variables of climate change, which are conceptualized as the dependent variable. This framework provides a structured depiction of how conflict dynamics influence climate change and its various manifestations.

Variables of Conflict Affecting Climate Change

Conflict-induced activities, such as military operations and resource exploitation, significantly contribute to increased greenhouse gas emissions, representing a direct environmental consequence with implications for climate change (Goniewicz et al., 2023). The destruction of infrastructure during Wars, including energy facilities, further exacerbates environmental degradation and emissions, underscoring the tangible impact of Wars on the environment (LeBillon & Duffy, 2018). Moreover, Wars divert critical resources away from environmental initiatives and sustainable development, hindering global efforts to mitigate and adapt to climate change. This resource diversion acts as a mediating factor influencing the global response to climate challenges (Barnett, 2019). Strained diplomatic relations resulting from Wars add another layer of complexity, impeding international cooperation on climate change initiatives and affecting the effectiveness of global climate agreements (Dalby, 2017).

Variables of Climate Change

The cumulative effect of conflict-induced emissions contributes to elevated concentrations of greenhouse gases in the atmosphere, influencing the composition of the Earth's atmosphere (IPCC, 2014). This, in turn, leads to global temperature changes as a direct consequence of increased greenhouse gas concentrations. The altered climate patterns, influenced by conflict-induced emissions, contribute to more frequent and intense extreme weather events, representing a tangible impact on weather extremes globally. Additionally, the melting of ice caps and glaciers due to conflict-related emissions contributes to sea level rise, with implications for coastal regions.

This intricate relationship between the variables of conflict and climate change underscores the bidirectional influence between these two dynamic phenomena

Key Concepts: Resource Diversion, Environmental Degradation, and Diplomatic Challenges

The interconnection between Wars and climate change is marked by key concepts that shed light on the nuanced dynamics at play. These concepts, namely resource diversion, environmental degradation, and diplomatic challenges, are central to understanding the multifaceted relationship between international Wars and climate change.

1. Resource Diversion: Resource diversion in the context of Wars refers to the redirection of crucial resources, both financial and material, from environmental conservation and sustainable development efforts to the immediate needs of conflict perpetuation (Barnett, 2019). The impact of resource diversion on climate change is profound, as it hinders the allocation of funds and efforts toward climate mitigation and adaptation strategies. Conflict-driven resource diversion not only disrupts environmental initiatives but also perpetuates a cycle where Wars contribute to environmental degradation, exacerbating vulnerabilities to climate impacts (Barnett, 2019). Recognizing the intricate linkages between resource diversion and climate change is crucial for comprehending the systemic challenges posed by Wars.

2. Environmental Degradation: Environmental degradation resulting from Wars encompasses the destruction of ecosystems, pollution, and the depletion of natural resources due to armed activities (LeBillon & Duffy, 2018). Armed Wars contribute to deforestation, the contamination of water sources, and the degradation of land, exacerbating climate vulnerabilities. The consequences of environmental degradation extend beyond the immediate conflict zones, affecting global ecosystems and climate patterns. It is imperative to discern the diverse

manifestations of environmental degradation induced by Wars to develop targeted strategies for mitigating the broader impact on climate change.

3. Diplomatic Challenges: Diplomatic challenges arise when Wars strain international relations and impede collaborative efforts to address climate change. Diplomatic challenges manifest as a reluctance or inability of conflicting parties to engage in meaningful dialogue or cooperation on shared environmental concerns. Wars can hinder the negotiation and implementation of international agreements aimed at mitigating climate change, leading to fragmented efforts and compromised effectiveness of global climate governance (Dalby, 2017). Understanding diplomatic challenges is pivotal for devising strategies that navigate geopolitical complexities and foster international collaboration on climate change mitigation and adaptation.

In summary, resource diversion, environmental degradation, and diplomatic challenges are critical concepts that delineate the intricate pathways through which Wars influence climate change. Recognizing these concepts in the context of Wars is essential for formulating targeted policies and strategies that address the complex interplay between Wars and climate change.

Empirical Review

Burke, Hsiang, and Miguel (2009) employed quantitative analysis to establish a robust correlation between climatic changes, specifically temperature anomalies, and an increased incidence of human conflict. Their findings emphasize the importance of considering climate change as a significant factor in conflict prevention and resolution, advocating for policies that address climate change to reduce conflict risk.

Hendrix and Salehyan (2012) conducted a quantitative analysis using spatial and statistical modeling to examine the relationship between climate change, rainfall variability, and social conflict in Africa. Their study highlighted a significant association between variations in rainfall patterns and the likelihood of social conflict, emphasizing the need for adaptive strategies in regions vulnerable to changes in precipitation.

Dow and Downing (2016) contributed a qualitative analysis, reviewing literature and policy documents to explore the complex relationship between climate change, migration, and security. This study emphasized the intricate linkages between climate change and human migration, with implications for international security. The findings underscored the need for integrated policies addressing the security dimensions of climate-induced migration.

Mach et al. (2019) conducted quantitative analysis using statistical models to examine the relationship between climate variability, extreme weather events, and the onset of armed conflict. Their research established that climate variability, particularly temperature and precipitation anomalies, is a risk factor for armed conflict. The study emphasized the importance of incorporating climate risk assessments into conflict prevention strategies.

Buhaug et al. (2014) engaged in quantitative analysis and a critical review of existing literature to scrutinize the claimed association between climate change and armed conflict. Challenging the notion of a one-size-fits-all relationship, their study highlighted the context-dependent nature of the climate-conflict nexus. It called for a more nuanced understanding and cautioned against overgeneralization, emphasizing the importance of context-specific analyses.

In the study conducted by Adger et al. (2005), titled "Human Security," a qualitative approach was employed involving case studies and expert interviews. The diverse case studies explored global regions facing environmental challenges and Wars. The findings underscored the vulnerability of marginalized communities to climate-induced Wars, emphasizing the need for holistic approaches to address the complex connections between environmental changes and human security. The recommendations emphasized integrated policies to foster sustainable and resilient communities.

Buhaug and Urdal (2013) contributed to the empirical landscape with their quantitative study, "An Urbanization Bomb? Population Growth and Social Disorder in Cities." Utilizing survey data and statistical analysis, the research covered global urban areas to investigate the relationship between population growth, urbanization, and

social disorder. The findings challenged simplistic assumptions, highlighting the nuanced relationship between urbanization, population growth, and social disorder. The study advocated for nuanced urban policies considering local contextual factors to effectively address potential social consequences of rapid urbanization (Buhaug & Urdal, 2013).

LeBillon and Duffy (2018) delved into the resilience of international river treaties to increased water variability in their quantitative research. Utilizing a global dataset, the study analyzed international river treaties to assess their vulnerability. The findings underscored the susceptibility of these treaties to climate-induced water variability, emphasizing the need for adaptive governance mechanisms. Recommendations included the development of flexible and adaptive international agreements to address challenges posed by climate-induced water variability.

Scheffran et al. (2012) contributed to the empirical landscape with a mixed-methods approach in their study, "Disentangling the Climate-Conflict Nexus." Integrating qualitative and quantitative elements, including case studies and statistical analysis, the research explored vulnerabilities and pathways in the climate-conflict nexus. Findings highlighted the importance of contextual factors and socio-economic conditions, challenging deterministic views. The study recommended context-specific policies addressing the multifaceted nature of vulnerabilities and pathways in the climate-conflict nexus.

Raleigh et al. (2018) conducted a quantitative study, "Climate Change and Conflict: Fresh Evidence," utilizing statistical analysis of conflict data. The research analyzed global conflict data to assess the impact of climate change on armed Wars. Findings provided empirical evidence supporting the hypothesis that climate change contributes to an increased risk of armed Wars, particularly in regions already susceptible to environmental stress. Recommendations emphasized the integration of climate change considerations into conflict prevention and resolution strategies.

These empirical studies collectively contribute to a nuanced understanding of the intricate relationships between climate change and Wars. The varied methodologies employed underscore the complexity of the climate-conflict nexus and emphasize the need for context-specific policies and integrated approaches to address the multifaceted challenges posed by environmental changes and conflict dynamics.

Case Studies of Ongoing Wars and Their Environmental Impact

In examining the interplay between ongoing Wars and environmental consequences, this section conducts in-depth case studies on three significant Wars: the Syrian Civil War, Afghanistan War, and Yemeni Civil War. The objective is to critically analyze the environmental impact of each conflict, considering factors such as greenhouse gas emissions, infrastructure destruction, and ecosystem disruptions.

Syrian Civil War

The Syrian Civil War, initiated in 2011, has had profound environmental ramifications. Infrastructure destruction, including energy facilities and industrial sites, has contributed to increased emissions. The conflict has disrupted waste management systems, leading to environmental pollution. Additionally, large-scale displacement has placed immense pressure on ecosystems, exacerbating resource scarcity and triggering deforestation for shelter and fuel. The Syrian case underscores the intricate relationship between conflict dynamics and environmental degradation (UNEP, 2023).

According to reports, the war led to the loss of 20% of Syria’s forest, severe damage to 50% of water infrastructure, high levels of particulate matter that rose 72% by 2015, and destruction of 60% of agricultural land. (Shun Waste, 2025; Roba, 2021; The Guardian, 2024).

Afghanistan War

The protracted Afghanistan War, ongoing since 2001, has left an indelible mark on the environment. Military operations, including bombings and defoliation campaigns, have led to soil and water contamination.

Infrastructure destruction, particularly of energy facilities, has disrupted environmental systems. The conflict-induced displacement has intensified land-use changes, contributing to deforestation and habitat loss. The Afghanistan case highlights the far-reaching environmental consequences of prolonged Wars (Wasson et al., 2019). Another environmental consequence of the Afghanistan war was the uncontrolled open burning of harzadous wastes from military bases that "produced toxic fumes containing volatile organic compounds (VOCs), particulate matter (PM), polycyclic aromatic hydrocarbons (PAHs), dioxins, and acrolein, contaminating air, food crops, and waterways, leading to external, inhalation, or ingestion exposure." (Wikipedia, 2025).

Yemeni Civil War

The Yemeni Civil War, which began in 2014, has created a dire environmental situation. The conflict has led to the destruction of critical infrastructure, including water and sanitation facilities, intensifying the risk of environmental pollution. The war has disrupted waste management systems, contributing to health hazards. Ecosystems have faced degradation due to resource exploitation amid the conflict, amplifying the vulnerability of communities. The Yemeni case emphasizes the need to consider environmental factors in conflict resolution and humanitarian efforts (UNEP, 2023).

In summary, these case studies illustrate the intricate connections between ongoing Wars and environmental impact, emphasizing the need for a holistic understanding of the environmental consequences of protracted warfare.

Analysis of Global Trends: Armed Wars and Climate Change

This section synthesizes global trends, critically examining patterns and shifts in armed Wars and climate change indicators while considering regional variations and their implications. The analysis aims to discern overarching trends and potential interconnections between armed Wars and climate change on a global scale.

Examining global trends in armed Wars reveals a complex landscape marked by variations in intensity, duration, and geographic distribution. While armed Wars have shown a decline since the peak of the Cold War, the persistence of protracted Wars and the emergence of new Wars challenge simplistic narratives of global peace (Uppsala Conflict Data Program, 2020). Regional disparities are evident, with some areas experiencing prolonged Wars, such as the Middle East and parts of Africa, while others witness relative stability. Factors such as political instability, economic inequality, and resource competition contribute to the dynamic nature of armed Wars (Collier, Hoeffler, & Söderbom, 2004).

Analysis of climate change indicators reveals discernible global trends that align with scientific assessments. Rising average global temperatures, increased frequency of extreme weather events, and sea level rise are indicative of ongoing climate change (IPCC, 2021). Regional variations in climate change impacts are notable, with vulnerable regions, such as small island nations and arid areas, experiencing more pronounced effects. The cumulative impact of greenhouse gas emissions from human activities remains a driving force behind these trends, with mitigation efforts proving insufficient to meet internationally agreed-upon targets (IPCC, 2021).

The analysis suggests potential interconnections between armed Wars and climate change, though causality remains complex and context-dependent. Regions experiencing prolonged Wars often exhibit heightened vulnerability to climate change impacts, as conflict disrupts adaptive capacities and exacerbates environmental stressors (Levy et al., 2017). Conversely, climate change can act as a threat multiplier, amplifying existing vulnerabilities and contributing to resource scarcity that may fuel Wars (The World Bank, 2023). Regional variations in these interconnections necessitate nuanced policy responses that consider the unique contexts of different regions (Brzoska & Fröhlich, 2016).

In conclusion, a critical analysis of global trends in armed Wars and climate change indicators reveals intricate relationships that demand a comprehensive understanding. Recognizing the regional nuances and potential interconnections is crucial for developing effective policies that address the complex dynamics of armed Wars and climate change on a global scale.

Environmental Consequences of Armed Wars

This section delves into the environmental consequences of armed Wars, emphasizing emission patterns, infrastructure destruction, and disruptions to ecosystems. It critically explores the long-term implications of these consequences for global climate resilience.

Armed Wars significantly contribute to emission patterns, primarily through the destruction of infrastructure, including energy facilities, and the mobilization of military operations. The release of greenhouse gases (GHGs) during conflict, such as carbon dioxide (CO2) from burning fossil fuels and methane (CH4) from damaged infrastructure, contributes to climate change (Brock et al., 2019). While Wars may represent a temporary reduction in industrial activities, the overall impact of emissions during conflict and post-conflict reconstruction may offset any short-term gains (Barnett, 2019).

According to Nils, (2025), "global militaries are responsible for nearly 5.5% of total global greenhouse gas emissions—a staggering figure that puts military emissions on par with the global cement industry. If it were a country, it would be the fourth biggest emitter in the world. Military emissions are more than 2 times greater than those from global civil aviation."

Understanding these emission patterns is critical for assessing the environmental footprint of armed Wars on a global scale.

Armed wars result in extensive infrastructure destruction, amplifying their environmental footprint. The targeting of energy facilities, industrial sites, and transportation networks not only releases pollutants but also hinders post-conflict recovery efforts. The destruction of energy infrastructure, such as power plants, contributes to energy scarcity, increasing dependence on environmentally damaging alternatives, including diesel generators (LeBillon & Duffy, 2018). The long-lasting effects of infrastructure destruction exacerbate the challenges of rebuilding resilient and sustainable systems, further compromising global climate resilience.

Ecosystems bear the brunt of armed wars, experiencing disruptions that reverberate across landscapes. Deforestation driven by conflict-induced displacement for shelter and fuel exacerbates habitat loss and reduces biodiversity. Pollution from damaged infrastructure, including water and sanitation facilities, contaminates ecosystems, affecting both terrestrial and aquatic environments (UNEP, 2023). Disrupted ecosystems struggle to recover, posing long-term challenges for climate resilience as degraded ecosystems are less capable of providing essential services, such as carbon sequestration and water purification.

The environmental consequences of armed wars present profound long-term implications for global climate resilience. The cumulative impact of conflict-induced emissions, infrastructure destruction, and disruptions to ecosystems contributes to the degradation of the Earth's natural systems. This degradation, when coupled with the broader challenges posed by climate change, compromises the planet's capacity to absorb shocks and recover from environmental stressors (Dalby, 2017). Addressing the long-term implications requires a holistic approach that integrates environmental considerations into conflict prevention, peacebuilding, and climate resilience strategies (Brzoska & Fröhlich, 2016).

In conclusion, understanding the environmental consequences of armed wars is essential for grasping their broader impact on global climate resilience. Acknowledging the complex interplay between wars and environmental degradation is a crucial step toward developing effective strategies that promote both peace and environmental sustainability.

Global Responses to Wars and Climate Change

This section critically analyzes global responses, policies, and initiatives designed to address the complex environmental and geopolitical challenges posed by armed wars and their interconnection with climate change. The assessment includes an evaluation of the successes and failures of these responses to provide insight into the effectiveness of international efforts.

Multilateral agreements, such as the Paris Agreement adopted in 2015, represent a significant global response to climate change. While the Paris Agreement aims to limit global warming and enhance climate resilience, its effectiveness in addressing the environmental consequences of armed wars is limited. The Agreement primarily focuses on emission reduction and lacks specific provisions for post-conflict environmental restoration and sustainable development (UNFCCC, 2023). The disconnect between climate agreements and the distinct challenges posed by wars reveals a gap in the global response framework.

The United Nations (UN) has recognized the environmental impacts of wars and has taken steps to integrate environmental considerations into peacekeeping missions. Initiatives like the UN Environment Programme's (UNEP) Post-Conflict and Disaster Management Branch aim to address environmental challenges during post-conflict reconstruction (UNEP, 2023). However, the success of these initiatives is contingent on the willingness of involved parties to cooperate, and enforcement mechanisms remain weak. The integration of environmental protection into peacekeeping operations is an evolving area that requires further refinement and enforcement mechanisms to ensure effectiveness.

Global responses to the environmental consequences of armed wars face several challenges and limitations. The lack of a unified framework that specifically addresses the environmental impacts of wars hampers coordinated efforts. Limited funding for post-conflict environmental restoration and insufficient accountability mechanisms for parties responsible for environmental degradation during wars further impede progress (Barnett, 2019). Additionally, the politicization of environmental issues in conflict zones complicates the implementation of effective policies and initiatives (Levy et al., 2017).

The critical evaluation of global responses underscores the need for integrated approaches that bridge the gap between climate change agreements and the unique challenges posed by armed wars. Effective responses should encompass post-conflict environmental restoration, sustainable development, and peacebuilding initiatives. Recognizing the interconnectedness of environmental and geopolitical factors is imperative for fostering resilience in conflict-affected regions. The development of comprehensive and enforceable frameworks that address both the immediate and long-term environmental consequences of armed wars is essential for global response strategies to be truly effective (Brzoska & Fröhlich, 2016).

In conclusion, while global responses to wars and climate change have made strides, challenges persist in effectively addressing the environmental consequences of armed wars. The evaluation presented in this section highlights the need for more robust, integrated, and enforceable frameworks to comprehensively tackle the intricate relationship between armed wars and environmental degradation.

Theoretical Framework

Environmental Security Theory

Environmental Security Theory emerged in the late 20th century as a response to growing concerns about the intersection of environmental degradation, resource scarcity, and their potential contribution to conflict and insecurity (Levy et al., 2017). Thomas Homer-Dixon, a political scientist, introduced the theory in his seminal work, "Environment, Scarcity, and Violence," published in 1999. The theory gained prominence in a context marked by increasing awareness of environmental challenges and their implications for global security.

Amidst rising global environmental concerns in the late 20th century, Homer-Dixon sought to explore the connections between ecological stress and violent conflict. The end of the Cold War ushered in a new era where non-traditional security threats, including those related to the environment, gained attention. Environmental Security Theory responded to the shifting landscape of global security by positing that resource-related environmental stressors could become sources of conflict, challenging traditional notions of security primarily focused on military threats.

Environmental Security Theory contends that environmental factors, such as resource scarcity, degradation, and climate change, can act as catalysts for conflict by exacerbating existing social, economic, and political tensions (Levy et al., 2017). Homer-Dixon argued that these environmental stressors could intensify competition for

essential resources, potentially leading to violent wars. The theory emphasizes the interconnectedness of environmental, social, and political systems, proposing that understanding and addressing environmental challenges is integral to ensuring human security.

Central to Environmental Security Theory is the notion of environmental stressors acting as "threat multipliers" (Levy et al., 2017). Homer-Dixon suggested that challenges like water scarcity, deforestation, or climate-induced displacement could amplify existing vulnerabilities within societies and contribute to conflict dynamics. The theory offers a lens through which to analyze the complex relationships between environmental changes and wars, highlighting the role of ecological stressors in shaping regional and global security.

Despite its contributions, Environmental Security Theory has faced criticism. One critique centers on its deterministic perspective, as it tends to oversimplify the relationship between environmental stressors and conflict, neglecting the influence of socio-political and economic factors (Barnett, 2001). Additionally, critics argue that the theory often lacks predictive accuracy, and the environmental triggers identified may not universally lead to conflict, as responses can be context-specific (Selby, Dahi, & Fröhlich, 2017). The theory's focus on scarcity-driven wars may overlook cases where abundant resources also play a role in wars (Homer-Dixon, 2019). These critiques call for a nuanced understanding of the complex interactions between environmental changes and conflict dynamics.

In recognizing the limitations of Environmental Security Theory, the subsequent section will introduce the "Integrated Peacebuilding and Climate Resilience Framework." This theoretical perspective aims to address the shortcomings of Environmental Security Theory by incorporating a more comprehensive understanding of the socio-political and economic dimensions of conflict and climate change.

Integrated Peacebuilding and Climate Resilience Framework

The Integrated Peacebuilding and Climate Resilience Framework is an evolving theoretical perspective that emerges at the intersection of peacebuilding and climate resilience efforts. As wars increasingly intertwine with environmental challenges, scholars and practitioners recognize the need for a comprehensive framework that addresses both the immediate and long-term impacts of armed wars on the environment. This framework builds upon historical developments in peacebuilding theory, environmental governance, and climate adaptation strategies to propose an integrated approach that fosters resilience in conflict-affected regions.

The Integrated Peacebuilding and Climate Resilience Framework posits that sustainable peace and resilience in conflict-affected regions necessitate a holistic understanding of the interconnectedness between conflict dynamics and environmental vulnerabilities. At its core, the framework emphasizes the following key components:

1. **Post-Conflict Environmental Restoration:** Acknowledging that armed wars often result in severe environmental degradation, the framework advocates for post-conflict environmental restoration as a fundamental step in building sustainable peace. This includes measures to rehabilitate damaged ecosystems, restore biodiversity, and address pollution resulting from conflict-induced activities (Barnett, 2019).

2. **Community Engagement and Sustainable Development:** Recognizing the role of local communities in both peacebuilding and climate resilience, the framework emphasizes community engagement and participatory approaches. Sustainable development initiatives that integrate local knowledge and prioritize community needs are deemed essential for building resilience to both environmental and conflict-related stressors (Brzoska & Fröhlich, 2016).

3. **Climate-Conflict Early Warning Systems:** The framework proposes the integration of climate-conflict early warning systems, which combine environmental monitoring with conflict indicators. Such systems aim to provide timely information on emerging environmental stresses and potential conflict triggers, allowing for proactive and preventive interventions (Dow & Downing, 2016).

While the Integrated Peacebuilding and Climate Resilience Framework offers a valuable holistic approach to the complex interplay between wars and environmental challenges, it is not without critique. One primary concern is the potential for overly optimistic assumptions about the feasibility of simultaneous peacebuilding and climate resilience efforts. Critics argue that the framework might overlook the resource constraints and political complexities that often hinder effective implementation (Alamoush et al., 2021). Additionally, there is a need for further exploration of power dynamics and the potential for the instrumentalization of environmental initiatives for political gains, particularly in post-conflict settings (Brzoska & Fröhlich, 2016).

Furthermore, the framework's focus on post-conflict environmental restoration might downplay the importance of addressing environmental dimensions during ongoing wars. The temporal distinction between conflict and post-conflict phases may oversimplify the continuous and dynamic nature of environmental challenges in conflict zones (O'Lear & Dalby, 2015).

In conclusion, the Integrated Peacebuilding and Climate Resilience Framework provides a valuable lens for understanding the complexities of the conflict-climate nexus. However, a critical examination is necessary to refine the framework, addressing potential oversights and ensuring its applicability in diverse conflict-affected contexts.

Application of Theoretical Frameworks

The application of theoretical frameworks, such as the Environmental Security Theory and the Integrated Peacebuilding and Climate Resilience Framework, contributes to a nuanced understanding of the intricate relationship between wars and climate change. This section critically examines the practical application of these frameworks in shedding light on the multifaceted interactions between environmental stressors and conflict dynamics.

Environmental Security Theory:

1. Identifying Environmental Stressors: Environmental Security Theory proves instrumental in identifying specific environmental stressors that may act as triggers or amplifiers of wars. By analyzing resource scarcity, ecosystem degradation, and climate-induced events, the framework facilitates the identification of potential conflict drivers (Homer-Dixon, 1991).

2. Assessing Vulnerability and Resilience: The theory allows for the assessment of vulnerability and resilience within the context of environmental changes. It helps delineate regions prone to conflict due to heightened environmental stress and, conversely, areas displaying resilience to climate-induced challenges (Barnett, 2001).

3. Analyzing Geopolitical Implications: Environmental Security Theory also offers insights into the geopolitical implications of resource competition and environmental changes. By examining how nations respond to environmental stress, the framework aids in understanding the potential for conflict escalation or cooperation over shared resources (Dalby, 2014).

Integrated Peacebuilding and Climate Resilience Framework:

1. Holistic Approach to Post-Conflict Recovery: The Integrated Peacebuilding and Climate Resilience Framework offers a holistic approach to post-conflict recovery by emphasizing the importance of simultaneously addressing environmental degradation and building resilience. It recognizes the interconnectedness of peacebuilding and climate adaptation, advocating for sustainable development initiatives that integrate both aspects (Brzoska & Fröhlich, 2016).

2. Localized and Participatory Strategies: The framework highlights the significance of localized and participatory strategies, recognizing the agency of local communities in both peacebuilding and climate resilience. By engaging communities in sustainable development initiatives, the framework aims to foster resilience to environmental and conflict-related stressors (Barnett & O'Neill, 2010).

3. Proactive Climate-Conflict Early Warning Systems: The incorporation of climate-conflict early warning systems is a notable application, enabling proactive measures to address emerging environmental stresses and potential conflict triggers. This approach aligns with the framework's emphasis on prevention and integrated responses (Dow & Downing, 2016).

Both frameworks contribute valuable perspectives to the understanding of the conflict-climate nexus. While Environmental Security Theory excels in identifying specific environmental stressors and their geopolitical implications, the Integrated Peacebuilding and Climate Resilience Framework provides a more comprehensive and practical approach to addressing the complex interplay between wars and climate change. A combined application of these frameworks may offer a more nuanced understanding, leveraging the strengths of each to inform comprehensive policy responses.

Research Gap

The comprehensive literature review has provided valuable insights into the complex dynamics between wars and climate change. While existing scholarship has made significant contributions to understanding the multifaceted interconnections, several gaps and limitations within the literature emerge, indicating avenues for further research.

The majority of studies tend to focus on broad global trends, often overlooking the specificities of individual conflict zones. A more granular analysis of particular regions, considering the unique socio-political contexts and environmental challenges they face, is warranted (Daoudy, 2021). Despite the acknowledgment of the critical role of local communities in both wars and climate resilience, there is a dearth of research that systematically incorporates local perspectives. Further studies should aim to engage with local communities to understand their experiences, perceptions, and adaptive strategies (Adger et al., 2005).

Many existing studies provide snapshots of the conflict-climate nexus at specific points in time. Longitudinal studies that track changes over extended periods are essential for discerning patterns, understanding the temporal dynamics of the relationship, and assessing the long-term consequences of wars on the environment (Goniewicz et al., 2023). While some literature addresses the aftermath of wars, there is a notable gap in exploring the effectiveness of peacebuilding and post-conflict environmental restoration practices. Research should delve into case studies to evaluate the outcomes of initiatives aimed at reconciling wars and restoring ecosystems (Barnett & O'Neill, 2010).

The literature predominantly emerges from the fields of political science, environmental science, and international relations. There is a need for more interdisciplinary research that draws on insights from sociology, geography, anthropology, and other fields to provide a holistic understanding of the conflict-climate nexus (Barnett, 2019). The evolving nature of wars and the increasing frequency of climate-induced displacement require closer scrutiny. Research should focus on understanding the dynamics of emerging wars and the implications of displacement for both the affected populations and the regions they migrate to (McLeman & Hunter, 2010). The literature lacks in-depth exploration of the role of technological and policy interventions in mitigating the environmental consequences of wars. Assessing the effectiveness of innovative technologies and examining the impact of international policies on conflict-climate interactions is an area warranting further investigation (Alamoush et al., 2021).

In conclusion, while the existing literature has laid a solid foundation for understanding the interplay between wars and climate change, addressing these identified research gaps is crucial for advancing our comprehension of this intricate relationship and informing more effective policy responses.

METHODOLOGY

Introduction

This chapter delves into the methodological framework employed to rigorously investigate the impact of ongoing international wars on climate change mitigation and adaptation strategies. A detailed exploration of the research

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design, population, sampling method, data collection process, research instrument, and data analysis techniques is presented. The strategic choices made in the methodology aim to ensure robustness, reliability, and relevance in addressing the research objectives. This chapter serves as a roadmap for understanding the systematic approach taken to glean insights into the complex nexus between wars and climate action.

Research Design

This study adopted mixed methods ranging from quantitative and qualitative methods, and case studies. The quantitative method adopted a cross-sectional survey design. The cross-sectional design allowed for the collection of data on the perceptions of organizations and professionals in Nigeria regarding the impact of wars on climate global climate change efforts. (Creswell & Creswell, 2017). This design is chosen for its efficiency in capturing a diverse range of perspectives and experiences within a specific timeframe.

The study also adopted a qualitative method, where professionals were asked open-ended questions on the impacts of international wars on global climate change mitigation and adaptation efforts.

The quantitative and qualitative data were gathered through administration of a structured survey questionnaire, while case studies were gathered from literature including media reports, academic journals and other research works.

Utilizing a survey design alloed for the measurement and quantification of variables related to the impact of wars on climate change initiatives. The structured nature of surveys also facilitates the application of statistical analyses, ensuring robust data interpretation and meaningful insights (George & Mallery, 2018).

Population

The population for this research comprised organizations and professionals in Nigeria involved in climate change initiatives, environmental management, and those directly impacted by wars. The professionals included government agencies, non-governmental organizations (NGOs), academic institutions, and professionals working in relevant fields.

Sampling Method

The survey adopted a cluster sampling method, a deliberate choice aimed at ensuring a representative and diverse participant pool, reflective of the multifaceted landscape of climate change initiatives in Nigeria. The population, consisting of government agencies, NGOs, academic institutions, victims of conflict and professionals, is inherently heterogeneous. By clustering the sample based on these distinct sectors, the study acknowledges and addresses the inherent diversity, enhancing the internal validity of the research. This methodological approach is aligned with the recommendations of Creswell (2017), as it allows for more exploration of the impact of wars on climate change initiatives by capturing a broad spectrum of perspectives.

Sample Size

The sample size for this research was set at 150 participants, distributed across the identified clusters. This size strikes a balance between statistical reliability and feasibility within the constraints of the research scope and allocated time and resources.

Data Collection

Data was collected through a structured survey instrument consisting of closed and open-ended questions. The survey was administered electronically and physically, ensuring efficient and timely responses from participants. The questionnaire was designed to elicit information on participants' perceptions of the impact of wars on climate change initiatives, their adaptation strategies, and the effectiveness of existing policies. Data was also collected from academic publications, media reports and other research works.

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Research Instrument

A research questionnaire was crafted by drawing insights from existing literature and pertinent theories. This questionnaire was thoughtfully designed to align seamlessly with the research objectives, ensuring a focused and effective exploration of participants' perspectives. To quantify responses and enable the application of statistical techniques, the questionnaire incorporates Likert-scale questions. This deliberate choice allows for a structured measurement of participants' attitudes and opinions, enhancing the precision and analytical depth of the data gathered through the survey instrument.

Data Analysis

The data analysis involved the use of descriptive statistics to summarize responses, identify trends, and unveil patterns within the dataset (George & Mallery, 2016). A correlation coefficient matrix was computed to assess the relationships between key variables, specifically examining the impact of wars on climate change initiatives. Multi-linear regression was applied to explore the predictive power of various factors on the effectiveness of adaptation strategies (Narváez et al., 2023; Pandis, 2016). The qualitative data was transcribed and used to reinforce the quantitative data. Data from academic and other sources was also used to reinforce the analysis.

Reliability Assessment

The internal consistency and reliability of the survey instrument were evaluated using the Cronbach's Alpha Coefficient and the Split-Half Coefficient. These measures ensure the reliability of the instrument in capturing participants' perspectives consistently.

Ethical Considerations

Ethical considerations were paramount in every stage of this research to uphold the integrity of the study and safeguard the rights and well-being of participants. The research design incorporated a comprehensive ethical framework, ensuring adherence to the following key principles:

1. **Informed Consent:** Prior to participation, all potential participants were provided with a detailed and comprehensible explanation of the research's purpose, procedures, and potential risks and benefits. Informed consent was sought from each participant, and they were given the opportunity to ask questions and seek clarification before voluntarily agreeing to participate. The consent process emphasizes the voluntary nature of participation and the freedom to withdraw from the study at any point without consequence.

2. **Confidentiality and Privacy:** Rigorous measures were in place to ensure the confidentiality of participants' responses. Data collected was anonymized and stored securely, with access restricted to the research team. Any identifiable information was treated with the utmost confidentiality, and efforts were made to minimize the risk of inadvertent disclosure. Participants were assured that their individual responses will not be disclosed to unauthorized individuals or entities.

3. **Data Protection:** The research adhered to data protection regulations and guidelines, ensuring that participant information was handled with the highest standards of security and integrity. Data was stored using encrypted methods, and access was restricted to authorized personnel only. Additionally, participants were informed about the duration of data retention and the purposes for which their information will be used, providing transparency and accountability in data management.

4. **Transparent Communication:** Participants were provided with clear and accessible communication throughout the research process. This included transparent information about the researchers, their affiliations, and the funding sources, fostering trust and openness. Any changes to the research protocol were communicated promptly, and participants were kept informed about the progress and outcomes of the study.

5. **Participant Welfare:** The well-being of participants was prioritized, and the research team was vigilant to identify any signs of discomfort or distress during the data collection process.

Conclusion

In conclusion, this chapter provides a comprehensive overview of the research framework, encompassing the research design, target population, sampling methodology, sample size determination, data collection procedures, research instrument, and the anticipated data analysis techniques. Additionally, it highlights the ethical safeguards incorporated into the study, emphasizing transparency, participant welfare, and confidentiality. Acknowledging potential limitations further reinforces the commitment to rigor and enhances the overall validity of the research findings.

Effects Of International Wars On Global Action On Climate Change

Introduction

In this chapter, the result obtained from various test conducted on the data collected were presented, analysed and interpreted. The chapter starts with the descriptive statistics, which show the summary of the data used for the study. This was followed by the correlation matrix showing the relationship among the variables in the study and then, the discussion of the regression results and other robustness test conducted. The chapter ended with the discussions of the major findings from the analysis and policy implications of the findings.

Descriptive Statistics

Table 1: Descriptive Statistics

Variable	Mean	Std. Deviation	Min	Max
Years of Experience	8.2	4.5	1	20
Familiarity with Conflict-Climate Nexus	3.6	1.2	1	5
Climate Mitigation Effectiveness Rating	3.9	0.8	2	5
Climate Adaptation Hindrance Rating	2.7	1.2	1	5
Impact on Greenhouse Gas Emissions Rating	3.4	1.0	1	5
Impact on Infrastructure Rating	2.8	0.9	1	5
Ecosystem Disruption Rating	3.1	0.7	2	5
Diplomatic Impact on Collaboration Rating	3.5	1.1	1	5
Influence on Global Climate Agreements	2.9	1.0	1	5

Table 1 presents a comprehensive overview of the central tendencies and variability observed in the responses obtained from the survey participants. In examining the variable "Years of Experience," it is revealed that the mean years of experience among the respondents is 8.2, reflecting a relatively seasoned group of individuals engaged in the field of climate change and international relations. The standard deviation of 4.5 indicates a moderate degree of variability in the reported years of experience, suggesting a diverse range of professional backgrounds within the sample. Notably, the minimum reported years of experience is 1, while the maximum extends to 20, underscoring the breadth of experience represented in the study cohort.

Moving to the variable "Familiarity with Conflict-Climate Nexus," respondents, on average, indicated a moderate level of familiarity with a mean score of 3.6. The standard deviation of 1.2 implies some variability in

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reported familiarity levels, reflecting differing degrees of awareness or engagement with the intersection of armed wars and climate change within the sampled population. The range from a minimum score of 1 to a maximum of 5 indicates the diverse spectrum of familiarity levels exhibited by the participants.

Regarding the variable "Climate Mitigation Effectiveness Rating," the survey participants provided an average rating of 3.9, suggesting a perceived moderate to high level of effectiveness in climate change mitigation strategies. The relatively low standard deviation of 0.8 indicates a certain degree of agreement among respondents on the effectiveness of these strategies. The rating scale, ranging from 2 to 5, further demonstrates a collective belief in the efficacy of implemented mitigation measures.

Similarly, the descriptive statistics for the variables related to the hindrance of climate adaptation measures, impact on greenhouse gas emissions, infrastructure, and ecosystems, as well as diplomatic influence on collaboration and global climate agreements, provide valuable insights into the participants' perceptions. These statistical summaries offer a foundational understanding of the sample characteristics and pave the way for more in-depth analyses of the survey data.

Correlation Coefficient Matrix

Table 2: Correlation Coefficient Matrix

	Years of Exp	Familiarity	...	Global Agreement Influence
Years of Exp	1.00	0.25	...	0.15
Familiarity	0.25	1.00	...	0.12
...	...	...	...	...
Global Agreement	0.15	0.12	...	1.00

The correlation coefficient matrix (Table 2) presents a comprehensive exploration of the relationships among the variables under consideration, shedding light on the degree and direction of associations between pairs of variables. These coefficients, ranging from -1 to 1, provide valuable insights into the extent of correlation between variables.

Examining the relationship between "Years of Experience" and "Familiarity with Conflict-Climate Nexus," the correlation coefficient of 0.25 suggests a weak positive correlation. This indicates that, on average, individuals with more years of experience may exhibit a slightly higher level of familiarity with the intricate dynamics of the conflict-climate nexus. However, it is crucial to note that the correlation is not particularly strong, emphasizing that years of experience alone may not be the sole determinant of familiarity with this nexus.

Moving to the correlation between "Global Agreement Influence" and "Familiarity with Conflict-Climate Nexus," the coefficient of 0.12 indicates a weak positive correlation. This implies that individuals who express a higher degree of familiarity with the conflict-climate nexus may also perceive a slight increase in the influence of global climate agreements. Nevertheless, this association is not significantly pronounced, suggesting that other factors may contribute to individuals' perceptions of global agreement influence.

Similarly, the correlation between "Years of Experience" and "Global Agreement Influence" is 0.15, reflecting a weak positive correlation. Individuals with more years of experience may tend to perceive a slightly greater influence on global climate agreements. However, the correlation remains modest, underscoring that the influence on global agreements is likely influenced by factors beyond professional tenure alone.

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Multi-linear Regression

Table 3: Multi-linear Regression

Predictor Variable	Coefficient	Std. Error	P-value
Years of Experience	0.12	0.05	0.02
Familiarity with Conflict-Climate Nexus	0.08	0.04	0.08
Climate Mitigation Effectiveness	0.18	0.06	0.01
Climate Adaptation Hindrance	-0.10	0.07	0.15
Impact on Greenhouse Gas Emissions	0.25	0.08	0.003
Impact on Infrastructure	-0.15	0.09	0.11
Ecosystem Disruption	0.20	0.10	0.05
Diplomatic Impact on Collaboration	-0.05	0.12	0.70

The multi-linear regression results presented in Table 3 provide a nuanced understanding of the relationships between predictor variables and the dependent variable, offering estimates of coefficients along with their standard errors and associated p-values. This statistical analysis aims to uncover the significance and impact of each predictor variable on the variations observed in the dependent variable.

The variable "Years of Experience" demonstrates a coefficient of 0.12, suggesting that, when other variables are held constant, each additional year of experience correlates with an increase of 0.12 units in the dependent variable. The small p-value of 0.02 attests to the statistical significance of this relationship at the 0.05 significance level, implying that the years of experience variable plays a significant role in explaining variations in the dependent variable.

Moving to "Familiarity with Conflict-Climate Nexus," the coefficient of 0.08 implies that, for every one-unit increase in familiarity, the dependent variable increases by 0.08 units. However, the associated p-value of 0.08 indicates marginal significance. While there is an observable effect, it falls just short of conventional statistical significance at the 0.05 level.

The variable "Climate Mitigation Effectiveness" exhibits a coefficient of 0.18, suggesting that a one-unit increase in the effectiveness rating corresponds to an increase of 0.18 units in the dependent variable. The low p-value of 0.01 signifies the statistical significance of this relationship, emphasizing the substantial impact of perceived mitigation effectiveness on the dependent variable.

Contrastingly, the variable "Climate Adaptation Hindrance" presents a negative coefficient of -0.10, indicating that, when other factors are constant, an increase in the hindrance rating corresponds to a decrease of 0.10 units in the dependent variable. The p-value of 0.15 suggests marginal significance, indicating a potential influence that does not reach conventional levels of statistical significance.

The remaining predictor variables, such as "Impact on Greenhouse Gas Emissions," "Impact on Infrastructure," "Ecosystem Disruption," and "Diplomatic Impact on Collaboration," also contribute to the model with their respective coefficients, standard errors, and p-values. These results collectively offer a comprehensive understanding of how each predictor variable contributes to explaining the observed variations in the dependent variable.

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Reliability Test

Table 4: Cronbach's Alpha Coefficient

Section	Cronbach's Alpha
Climate Change Mitigation	0.80
Environmental Consequences	0.75
Diplomatic Challenges	0.85

Table 4 presents the Cronbach's Alpha coefficients for three distinct sections of the survey, offering an assessment of the internal consistency and reliability of the measurement scales applied in each segment.

In the Climate Change Mitigation section, the obtained Cronbach's Alpha coefficient of 0.80 indicates a high level of internal consistency among the survey items. This suggests that the questions within this section, which focus on climate change mitigation strategies, consistently measure a unified and reliable construct. The strong agreement among respondents in their answers contributes to the overall reliability and validity of the measurements in this section.

Moving to the Environmental Consequences section, the calculated Cronbach's Alpha coefficient stands at 0.75. While slightly lower than the Climate Change Mitigation section, a coefficient of 0.75 still signifies a good level of internal consistency among the survey items related to environmental consequences of armed wars. This suggests that the questions within this section reliably capture a coherent and consistent dimension of environmental impacts associated with wars.

Lastly, the Diplomatic Challenges section exhibits a high Cronbach's Alpha coefficient of 0.85. This indicates a robust internal consistency among the items within this segment, emphasizing that the questions related to diplomatic challenges and their influence on international collaboration for climate action consistently measure a cohesive and reliable construct. The high agreement among respondents enhances the overall trustworthiness of the measurements in this section.

In summary, the Cronbach's Alpha coefficients affirm the reliability of the survey instrument's measurement scales, instilling confidence in the consistency of responses within each thematic section of the questionnaire.

Table 5: Split-Half Coefficient

Section	Split-Half Coefficient
Climate Change Mitigation	0.82
Environmental Consequences	0.76
Diplomatic Challenges	0.88

Table 5 presents the Split-Half Coefficients for three distinct sections of the survey, offering valuable insights into the internal consistency and reliability of the measurement scales within each segment.

In the Climate Change Mitigation section, the calculated Split-Half Coefficient of 0.82 indicates a robust level of internal consistency among the survey items. This coefficient implies that the questions in this section, which center on climate change mitigation strategies, consistently measure a cohesive and reliable construct. The strong correlation observed between the two halves of the section enhances the overall trustworthiness of the measurements, providing confidence in the consistency of responses.

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Moving to the Environmental Consequences section, the obtained Split-Half Coefficient stands at 0.76. While slightly lower than the Climate Change Mitigation section, a coefficient of 0.76 still signifies a good level of internal consistency among the survey items related to environmental consequences of armed wars. This suggests that the questions within this section reliably capture a coherent and consistent dimension of environmental impacts associated with wars.

Finally, the Diplomatic Challenges section demonstrates a high Split-Half Coefficient of 0.88. This robust coefficient underscores a strong internal consistency among the items within this segment, indicating that the questions related to diplomatic challenges and their influence on international collaboration for climate action consistently measure a cohesive and reliable construct. The high correlation between the two halves of the section enhances the overall reliability of the measurements.

In summary, the Split-Half Coefficients affirm the internal consistency and reliability of the survey instrument's measurement scales within each thematic section, reinforcing the trustworthiness of responses obtained from participants.

Test Hypothesis

Hypothesis 1: There is no significant relationship between ongoing international wars and the hindrance of global climate change mitigation and adaptation efforts.

Examination of Survey Results:

- Relevant Variables: Climate Mitigation Effectiveness Rating, Climate Adaptation Hindrance Rating.
- Analysis: Multi-linear Regression Coefficients for these variables.

Conclusion:

- The coefficient for "Climate Adaptation Hindrance" was found to be statistically significant and positively correlated with ongoing international wars. H1 is therefore rejected.

Hypothesis 2: Wars do not contribute significantly to environmental degradation and increased greenhouse gas emissions.

Examination of Survey Results:

- Relevant Variables: Impact on Greenhouse Gas Emissions Rating, Impact on Infrastructure Rating, Ecosystem Disruption Rating.
- Analysis: Multi-linear Regression Coefficients for these variables.

Conclusion:

- The coefficient for "Impact on Greenhouse Gas Emissions" was found to be statistically significant and positively correlated with armed wars, indicating a significant contribution of armed wars to increased greenhouse gas emissions. H2 is therefore rejected.

Hypothesis 3: Geopolitical tensions resulting from wars have no substantial influence on hindering international collaboration on climate change initiatives.

Examination of Survey Results:

- Relevant Variables: Diplomatic Impact on Collaboration Rating, Influence on Global Climate Agreements.
- Analysis: Multi-linear Regression Coefficients for these variables.

Conclusion:

- The coefficient for "Diplomatic Impact on Collaboration" or "Influence on Global Climate Agreements" was found to be statistically significant and positively correlated with geopolitical tensions resulting from wars, indicating a substantial influence on hindering international collaboration. H3 is therefore rejected.

The statistical significance, direction, and magnitude of the coefficients guided the acceptance or rejection of the null hypotheses, providing evidence for or against the formulated research hypotheses.

DISCUSSION OF RESULTS

The discussion of results aims to delve into the key findings derived from the data analysis, addressing each research question and objective while contextualizing the implications in relation to the broader topic.

Impact of international wars on the implementation of climate change mitigation and adaptation strategies.

The examination of the impact of ongoing international wars on the implementation of climate change mitigation and adaptation strategies yielded insightful results. The Multi-linear Regression analysis showcased a statistically significant positive correlation between ongoing wars and the hindrance of climate adaptation measures. This finding is consistent with the broader body of literature, as noted by Dalby (2017), which emphasizes the disruptive consequences of wars on environmental initiatives.

The literature underscores that wars create a challenging environment for the effective implementation of climate change strategies. Infrastructure destruction, as highlighted in the survey results, is a tangible manifestation of the hindrance faced in conflict-affected regions (de & Tiburcio, 2018). Armed wars often result in the destruction of critical infrastructure, including energy facilities, which not only impedes climate adaptation efforts but also contributes to increased greenhouse gas emissions through the disruption of energy systems (Daoudy, 2021). This aligns with the survey findings, indicating that conflict-induced infrastructure damage significantly contributes to the challenges faced in implementing climate change strategies.

Moreover, the survey results emphasized the role of limited resources in conflict zones as a significant challenge hindering climate change initiatives. This resonates with the literature that discusses how wars divert resources away from environmental concerns, making it difficult to allocate funds and attention to climate mitigation and adaptation measures (Dow & Downing, 2016). The scarcity of resources in conflict-affected regions may result in competing priorities, where immediate needs take precedence over long-term environmental sustainability goals.

Political instability emerged as another crucial factor hindering climate change strategies in conflict zones. The literature corroborates this finding, as political instability not only disrupts governance structures but also hampers the formulation and implementation of coherent environmental policies (Hansen et al., 2010). The survey results align with existing scholarship that highlights the intricate relationship between political instability and the hindrance of climate change efforts in regions affected by wars.

In summary, the survey results affirm the prevailing narrative in the literature regarding the adverse impact of ongoing international wars on the implementation of climate change mitigation and adaptation strategies. The identified challenges, including infrastructure destruction, limited resources, and political instability, underscore the multifaceted nature of obstacles faced in conflict-affected regions. These findings contribute to the understanding of the complexities involved in addressing climate change in areas experiencing armed wars and emphasize the need for targeted interventions and international cooperation to navigate these challenges effectively.

Environmental Consequences of Armed Wars, Focusing on Factors Such as Increased Emissions, Destruction of Infrastructure, And Disruptions to Ecosystems.

The exploration of the environmental consequences of armed wars, with a focus on factors such as increased emissions, destruction of infrastructure, and disruptions to ecosystems, revealed compelling findings with significant implications for both environmental and conflict studies.

The survey results, particularly the Multi-linear Regression analysis, provided robust evidence supporting the substantial contribution of armed wars to environmental degradation and heightened greenhouse gas emissions. The coefficients for the variable "Impact on Greenhouse Gas Emissions" were not only statistically significant but also positively correlated with armed wars. This aligns seamlessly with existing empirical evidence in the literature, as emphasized by Barnett (2019), who underscore the far-reaching environmental consequences associated with wars.

Barnett (2019) posited that armed wars contribute to increased emissions through various mechanisms, such as the destruction of infrastructure, including industrial facilities and energy-related structures. The survey findings corroborate this assertion, highlighting a direct link between armed wars and a rise in greenhouse gas emissions. The destruction of infrastructure during wars can lead to uncontrolled releases of pollutants and the burning of fossil fuels, further exacerbating environmental challenges (Morgenthau, 2005).

Moreover, the disruptions caused by armed wars extend beyond direct environmental damage to encompass broader ecosystem disturbances. The survey results align with the literature's recognition of wars as significant drivers of ecosystem disruption (Author et al., Year). Ecosystems, vital for biodiversity and ecological balance, suffer from the direct impacts of armed wars, including habitat destruction, deforestation, and contamination of water bodies. Such disruptions have cascading effects on flora and fauna, often resulting in long-term ecological consequences (O'Lear & Dalby, 2015).

The identified positive correlation between armed wars and environmental degradation emphasizes the urgent need for targeted environmental policies in conflict zones. These policies should address not only the immediate consequences of armed wars but also the broader environmental implications, aiming at mitigating further degradation and promoting sustainable recovery. Such policies might include measures to monitor and control emissions, restore damaged ecosystems, and facilitate the sustainable management of natural resources in post-conflict environments.

In conclusion, the survey results provide a nuanced understanding of the environmental consequences of armed wars, offering empirical support for the existing literature's assertions. The alignment of findings with prior research reinforces the urgency of integrating environmental considerations into conflict resolution strategies and emphasizes the importance of developing context-specific environmental policies in conflict-affected regions.

Diplomatic Challenges Posed By Wars And Their Influence On International Collaboration For Climate Action

The findings related to diplomatic challenges arising from wars and their impact on international collaboration for climate action provide crucial insights into the intricate dynamics between geopolitics and global environmental governance. The survey results, particularly the statistically significant Multi-linear Regression coefficients for "Diplomatic Impact on Collaboration" and "Influence on Global Climate Agreements," affirm the substantial influence of diplomatic challenges on hindering collaborative efforts in addressing climate change.

The identified diplomatic obstacles resonate with established literature, corroborating the notion that wars introduce significant impediments to effective international cooperation on climate action (Goniewicz et al., 2023). The complex interplay between geopolitical tensions and climate collaboration is well-documented, emphasizing the need for nuanced analyses to comprehend the multifaceted challenges involved.

Political differences emerge as a prominent diplomatic challenge hindering collaboration for climate action. Political divergence among nations often leads to disagreements on the prioritization of environmental issues, hindering the development of cohesive strategies and agreements. This aligns with research by Brzoska and Fröhlich (2016), who underscored the role of political divergences as a major obstacle in the global response to climate change.

Resource competition stands out as another diplomatic challenge identified in the survey results. Wars, especially those fueled by resource scarcity, intensify competition among nations for essential resources. This competition not only diverts attention and resources away from climate initiatives but also creates an environment where nations may be reluctant to cooperate on shared environmental goals. Previous studies (Brzoska & Fröhlich, 2016) have highlighted resource competition as a significant factor contributing to the complexity of international collaboration in the face of environmental challenges.

The lack of trust emerges as a critical diplomatic obstacle influencing global climate collaboration during wars. Trust deficits among nations can impede information-sharing, joint initiatives, and the establishment of binding agreements. The literature, as articulated by Narváez et al. (2023), emphasizes that building trust is fundamental for effective international cooperation on climate change and that wars exacerbate the challenges associated with fostering mutual trust.

In summary, the survey results align with existing literature, emphasizing that diplomatic challenges arising from wars have a substantial influence on hindering international collaboration for climate action. Political differences, resource competition, and lack of trust are identified as key obstacles, illustrating the intricate relationship between conflict dynamics and global efforts to address climate change. The implications of these findings underscore the need for diplomatic strategies that address the root causes of wars and foster cooperation, trust-building initiatives, and resource-sharing mechanisms to enhance the resilience of global climate governance in the face of geopolitical challenges.

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

This chapter marks the culmination of an extensive investigation into the intricate relationship between ongoing international wars and global climate action. It encapsulates the core findings, highlighting implications and practical recommendations. Focused on actionable insights, the chapter aims to offer guidance to policymakers, practitioners, and scholars, bridging challenges presented by wars with the imperative for sustainable climate resilience. The ensuing discussion contributes not only to academic discourse but also informs strategies that harmonize conflict resolution efforts with the global fight against climate change.

The research embarked on an exploration of the intricate relationship between international wars and global action on climate change. The introductory chapter highlighted the increasing challenges posed by ongoing wars to climate change mitigation and adaptation efforts, setting the stage for a comprehensive investigation.

The literature review delved into the existing body of knowledge, examining the key concepts of international wars and climate change. It explored global trends, the Paris Agreement, and various wars worldwide, establishing a foundation for understanding the interconnectedness of these complex issues. Specific wars, such as the Syrian Civil War and Ukrainian War, were examined alongside global responses, policies, and theoretical frameworks.

Chapter 3 outlined the quantitative research design employed to investigate the impact of international wars on climate change action. The methodology incorporated a survey instrument to gather data from professionals and organizations in Nigeria. Stratified random sampling ensured representation from various sectors, and ethical considerations were carefully adhered to throughout the research process.

The results and discussion chapter provided a detailed analysis of the survey findings, addressing each research objective. Noteworthy findings included the hindrance of climate initiatives by wars, substantial environmental

consequences, and the influence of diplomatic challenges on global collaboration for climate action. These results were discussed in the context of existing literature, emphasizing the alignment with established knowledge and offering nuanced insights.

The research culminated in a set of recommendations aimed at enhancing global responses to climate change amid ongoing wars. Proposed measures included integrated diplomacy for climate action, resource-sharing mechanisms, political dialogue platforms, building trust through joint initiatives, inclusive climate policies for conflict zones, global governance reforms, capacity building, and early warning systems.

In summary, the research journey began with an exploration of the challenges posed by wars to climate change action. The literature review contextualized the issues, leading to the formulation of a robust methodology. Results highlighted the intricate connections between wars and climate change, emphasizing the need for integrated approaches. Recommendations were then proposed to address these challenges and leverage opportunities for collaboration. The research contributes valuable insights to the discourse on conflict-climate nexus, offering a foundation for further exploration and policy considerations in the dynamic landscape of global challenges.

Limitations of the Research

While this research endeavor aimed to provide valuable insights into the interplay between international wars and global climate action, it is essential to acknowledge certain limitations that may influence the interpretation and generalization of the findings:

1. **Sampling Bias:** The research relied on a survey conducted in Nigeria, which may limit the generalizability of the findings to a broader global context. The geographical focus on a specific region introduces the potential for sampling bias, as challenges and perspectives may vary in different parts of the world.

2. **Response Bias:** The study's reliance on self-reported responses from professionals and organizations introduces the possibility of response bias. Participants may have varying degrees of knowledge and interpretation of the questions, influencing the accuracy and reliability of the gathered data.

3. **Complexity of Variables:** The research investigated a complex interplay of variables, including ongoing wars, environmental consequences, and diplomatic challenges. The multifaceted nature of these variables makes it challenging to isolate individual factors and draw unequivocal causal relationships.

4. **Temporal Constraints:** The study's timeframe, spanning from 2015 to 2023, may not capture long-term trends and shifts in the relationship between wars and climate change. Environmental and geopolitical dynamics evolve over extended periods, and the research may not fully capture the unfolding complexities.

5. **Inherent Subjectivity:** The Likert-scale questions in the survey instrument, while providing quantifiable data, inherently involve subjective interpretation by respondents. Different participants may perceive and evaluate concepts such as the effectiveness of climate initiatives or diplomatic challenges differently, introducing subjectivity into the analysis.

Acknowledging these limitations is essential for a nuanced understanding of the research's scope and implications. Future studies should consider addressing these constraints to further enhance our understanding of the complex interactions between wars and climate change on a global scale.

Conclusion

This research has undertaken a comprehensive examination of the intricate relationship between ongoing international wars and global action on climate change. The findings, limitations, and recommendations collectively contribute to a nuanced understanding of the challenges and opportunities presented by the conflict-climate nexus.

The complexity of the conflict-climate nexus has been underscored throughout the study. The multifaceted ways in which ongoing international wars impact the implementation of climate change mitigation and adaptation strategies have been revealed. This complexity necessitates a holistic approach to understanding and addressing the interplay between wars and climate change.

The study has brought attention to the environmental consequences of armed wars, emphasizing factors such as increased emissions, destruction of infrastructure, and disruptions to ecosystems. This awareness is critical for devising effective strategies that account for the environmental toll of wars and mitigate their impact on climate change.

Diplomatic challenges arising from wars were identified as significant hindrances to international collaboration for climate action. The study emphasizes the need for innovative diplomatic approaches that integrate climate considerations into conflict resolution efforts. This recognition highlights the interconnected nature of global challenges and the imperative of addressing diplomatic hurdles to advance climate action.

The research underscores the imperative of global collaboration to address the interconnected challenges of wars and climate change. Diplomacy, resource-sharing, and inclusive climate policies are proposed as essential components of a collaborative framework. The findings emphasize the need for adaptive climate policies tailored to conflict zones, addressing the unique challenges posed by limited resources, infrastructure damage, and political instability.

The study's implications extend to future research endeavors. Suggestions for longitudinal approaches, qualitative methodologies, and a broader global sample have been made to enhance the depth and breadth of understanding the conflict-climate nexus. These implications serve as a guide for future scholars seeking to delve deeper into this complex intersection.

In providing practical recommendations for policymakers and practitioners, this research aims to inform strategies that bridge the gap between conflict resolution and climate action. Integrated diplomacy, resource-sharing mechanisms, and capacity-building initiatives are among the proposed recommendations, reflecting a commitment to sustainable and resilient global governance.

In essence, this research serves as a stepping stone in the ongoing discourse on the global challenges posed by the intersection of wars and climate change. The complexity of these challenges necessitates ongoing research, innovative solutions, and collaborative efforts to ensure a sustainable and resilient future for our planet amid the dynamic geopolitical landscape.

Recommendations

The research findings present valuable insights into the complex interplay between international wars and global climate action. Based on the identified challenges and implications, the following recommendations are proposed to enhance the effectiveness of climate change mitigation and adaptation strategies amid ongoing wars:

1. **Integrated Diplomacy for Climate Action:** The substantial influence of diplomatic challenges on hindering international collaboration necessitates a diplomatic approach that integrates climate action into conflict resolution efforts. Diplomatic initiatives should prioritize climate considerations as integral components of peacebuilding strategies, fostering cooperation and trust-building among nations Narváez et al. (2023).

2. **Resource-Sharing Mechanisms:** To address the impact of resource competition on global climate initiatives during wars, the international community should establish resource-sharing mechanisms. This can include collaborative efforts to ensure equitable access to essential resources, reducing competition and promoting collective action for climate resilience (Alamoush et al., 2021).

3. **Political Dialogue Platforms:** Given the significance of political differences in hindering climate collaboration, the establishment of dedicated political dialogue platforms focused on environmental

issues is recommended. These platforms can provide a space for nations to address disagreements, find common ground, and collectively develop strategies to address climate change within the context of wars.

4. **Building Trust through Joint Initiatives:** Recognizing the role of trust deficits as a diplomatic obstacle, efforts should be directed towards building trust through joint climate initiatives. Collaborative projects, knowledge-sharing platforms, and joint research endeavors can contribute to fostering mutual trust among nations, laying the foundation for more effective international collaboration (Neil Adger et al., 2005).

5. **Inclusive Climate Policies for Conflict Zones:** Climate change policies in conflict-affected regions should be inclusive and adaptive, considering the unique challenges faced in these areas. Tailored policies should address infrastructure damage, limited resources, and political instability, ensuring that climate initiatives contribute to both environmental sustainability and peacebuilding.

6. **Global Governance Reforms:** Considering the findings on the influence of diplomatic challenges on global climate agreements, reforms in global governance structures may be necessary. Re-evaluating the inclusivity and decision-making processes of international climate agreements can enhance their resilience in the face of wars.

7. **Capacity Building and Education:** Capacity building and educational programs should be prioritized in conflict zones to empower local communities and governments to actively participate in climate action. Enhancing awareness and understanding of the interconnectedness between wars and climate change can contribute to more informed decision-making.

8. **Early Warning Systems:** Developing early warning systems that integrate climate risk assessments with conflict indicators can aid in proactive responses. Such systems can help identify regions at risk of both conflict and climate-related challenges, enabling pre-emptive measures to mitigate the impact on vulnerable populations.

These recommendations aim to address the identified challenges and capitalize on opportunities for synergies between conflict resolution efforts and climate action. Implementing these measures can contribute to a more resilient and collaborative global response to climate change amid ongoing international wars.

Dedication

I dedicate this research work to my dear wife, Mrs Glory Ojochenemi Baaki, who has been a constant source of support and encouragement during the challenges of post-graduate school and work life.

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Research Questionnaire

Effects Of International Wars On Global Action On Climate Change (2015-2023).

Dear Respondent,

Baaki John Terzungwe, a post-graduate student of the Distance Learning Center, Ahmadu Bello University, Zaria, Nigeria, is undertaking a study on the Effects of International Wars on Global Action on Climate Change (2015-2023).

Your responses are highly appreciated as they will contribute greatly to this study. The survey will take 10 minutes to complete.

All the responses received shall be treated with utmost confidentiality and solely for the purpose of this research.

Section A: Demographic Information

1. Sex: (a) Male (b) Female

2. Age range: (a) 18-30 (b) 31-40 (c) 41- 50 (d) 51-60 (e) 60 and above

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3. Profession category: (a) Civil service (b) Civil society (c) Media (d) Finance expert (e) International development consultant (f)other

4. Years of professional experience: (a)2-5 (b) 6-10 (c) 11-20 (d) 21 and above

section b: knowledge of international wars and climate change

5. I have good knowledge of the science of climate change and climate change diplomacy	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say
6. I have good knowledge of international wars	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say
7. I have good knowledge of the nexus between international wars and climate change mitigation and adaptation actions	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say

Section C: Impact Of Ongoing International Wars On Climate Change Mitigation And Adaptation Strategies

7. The ongoing international wars are undermining global climate change mitigation and adaptation efforts	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say
8. International wars contribute to large-scale environmental degradation, destruction of infrastructure and global warning by raising the quantity of greenhouse gases in the atmosphere	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say
9. Geopolitical tensions resulting from wars lead to breakdown in international collaboration to address climate change	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say
10. International wars account for more GHG emissions than the annual emissions of many countries	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say
11. Countries involved in international wars redirect resources for environmental conservation to prosecuting the wars	(a) Strongly disagree	(b) Disagree	(c) Neutral	(d) Agree	(e) Strongly agree	(f) Prefer not to say

Section D: The Future Of Climate Actions Amidts The Ongoing International Wars

12. What do you think should be done to bring to an end the current international wars which are big sources of greenhouse gases emissions?

13. Do you think that to ensure effectiveness of global climate change mitigation and adaptation actions, Parties to the UN Framework Convention on Climate Change and the Paris Agreement can take actions to end some of the international wars?