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Experiences and Policy Responses to the Security Impacts of Climate Change in The United States, The European Union, Australia, and Vietnam

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Abstract
Drawing on an analysis of policy implementation in response to security challenges posed by climate change in three case studies-namely the United States, the European Union, and Australia-this article identifies key lessons that may be applicable to Vietnam. In addition, the paper discusses Vietnam's own experiences and proposes potential solutions to address the security impacts of climate change.

Keywords: Climate, Climate Change, Impacts, Security

1. Introduction

Climate change first emerged as a security concern within environmental movements during the 1960s. In this period, public awareness, as well as that of scientists and policymakers, regarding environmental issues increased significantly, particularly in the United States. In the U.S., environmental concerns gained prominence through governmental and non-governmental institutions, public campaigns, and legislative initiatives. Although many scientists have demonstrated that climate change constitutes one of the most severe non-traditional security challenges-capable of exacerbating traditional security threats-most countries around the world have, until recently, primarily approached climate change from environmental and developmental perspectives.

In recent years, however, certain states and international organizations have shifted their perception and approach, increasingly framing climate change as a security issue-commonly referred to as climate security or environmental security. Consequently, these actors have formulated policies to address the impacts of climate change on political security, with a particular emphasis on national security.

This study examines the experiences of three cases-the United States, the European Union, and Australia-in responding to the security implications of climate change, while also considering Vietnam's responses to climate-induced security challenges.

2. Climate Security in U.S. Policy

Beyond debates, the issue of climate security has been integrated into U.S. policy through three distinct stages.

The first stage, spanning from the initial recognition of the issue in the 1970s until the early 2000s, was characterized by three dimensions: (1) the dominance of scientific debates and the recognition of climate change; (2) the gradual but cautious emergence of climate change as a potential threat to U.S. national security; and (3) the limited involvement of the U.S. national security establishment, particularly the Department of Defense (DoD). A notable example of this period was the enactment of the National Climate Program Act in 1978.

The second stage, from the early 2000s until Donald Trump assumed office on January 20, 2017, was marked by four major features: (1) growing acceptance and consolidation of climate change as a legitimate security consideration within U.S. national security policy; (2) the issuance of executive orders and federal as well as state legislation requiring the incorporation of climate security considerations; (3) the publication of strategies, reports, and directives by the Department of Defense, which prompted U.S. armed forces to engage in adaptation and mitigation measures in response to climate-related security concerns; and (4) the Bush administration's overall reluctance to securitize the issue-especially after the 9/11 attacks-contrasted with the reversal of this stance under President Obama. A pivotal moment was the 2003 Pentagon report (An Abrupt Climate Change Scenario and Its Implications for United States National Security), which warned that climate change could

trigger resource scarcity, mass migration, and geopolitical instability, potentially leading to armed conflict and even war.

Between 2007 and 2010, climate security gained increasing attention in reports by policy advisory groups such as the Center for Naval Analyses (CNA) and the CNA Military Advisory Board (MAB). The influential 2007 CNA report, National Security and the Threat of Climate Change, broke the silence on the link between climate change and security, followed by a series of similar publications from other research institutions. Under President Obama, climate change was incorporated into legacy planning and military preparedness strategies, addressing both the risks of severe disasters and the vulnerability of military infrastructure. In 2014, the CNA MAB released another report urging immediate action on climate change, though Republican lawmakers in Washington pushed back, attempting to steer the military away from climate considerations in planning. That same year, the Intergovernmental Panel on Climate Change (IPCC) included a discussion of security in its Fifth Assessment Report-though framed more in terms of human security than national security.

The CNA report (2007) conceptualized climate change as a "threat multiplier." It argued: "In the national and international security environment, climate change presents hostile and stress-inducing factors. At the simplest level, it has the potential to generate prolonged natural and man-made disasters at scales beyond what we see today. The consequences could exacerbate political instability in places where social demands exceed the capacity of governments to cope"[1]. From this perspective, the U.S. military needed to integrate climate risks into its planning, particularly in terms of infrastructure vulnerability and operational readiness amid extreme weather events. The CNA also noted the potential benefits of renewable energy adoption in military operations, such as the use of solar power to reduce dependence on fossil fuels-though this position was met with skepticism by traditional environmentalists critical of the military's large-scale exercises and environmental footprint.

The second stage was further distinguished by active government engagement through executive directives [2], presidential memoranda [3], congressional hearings, and intelligence community assessments. Within the Department of Defense, the National Defense Authorization Act (2008) directed the military to evaluate climate impacts, acting as a catalyst for the inclusion of climate change in the U.S. National Security Strategy (2010) and the Quadrennial Defense Review (QDR). The 2010 NSS explicitly recognized climate change as an urgent and severe security threat that could trigger refugee crises, resource conflicts, famine, catastrophic natural disasters, and global land degradation[4]. Similarly, the 2010 QDR emphasized the need to adapt military assets and capabilities to climate risks and called for a comprehensive climate risk assessment[5]. These themes were reinforced in subsequent documents, including the 2014 QDR and the 2015 NSS.

The third stage of U.S. climate security policy began with the Trump administration. During this period, paradoxically, the U.S. military remained among the most active armed forces globally in addressing climate change, even as political leadership deprioritized the issue.

From the 1970s onward, U.S. policy documents acknowledged climate change as a security issue. However, it was not until the 2000s that climate concerns were systematically incorporated into military planning. Under President George W. Bush, climate priorities were largely subordinated to energy security objectives aimed at strengthening the U.S. economy. Bush framed climate change as a global challenge rather than a national security threat, expressing skepticism toward binding United Nations agreements that might disadvantage the U.S. Although the DoD highlighted the need to address climate risks, Bush refrained from securitizing the issue or pursuing urgent measures. Broader congressional hearings and intelligence assessments on the matter did not materialize until at least 2006, when pressure from policy think tanks began to mount. By 2007, the idea of climate change as a "threat multiplier" to instability and U.S. strategic interests gained traction. The 2008 NSS referenced the "need to address climate change," and Bush signed the National Defense Authorization Act, which required the DoD to address climate issues in the 2010 NSS and QDR.

President Barack Obama's election in 2009 marked a decisive turning point. Obama identified climate change as a serious national and global security challenge and tasked key cabinet members, including the Secretary of Defense and the intelligence community, with addressing it. He expanded the climate security agenda through executive authority and legislative initiatives, issuing a series of executive orders directing the DoD toward stronger climate action. From 2009 onward, the U.S. military-particularly the Navy-responded robustly through roadmaps, strategies, and adaptation measures, with emphasis on reducing fossil fuel dependence, enhancing Arctic readiness, and addressing vulnerabilities in domestic and overseas bases. By 2014, climate change was recognized as posing immediate risks to U.S. national security, though responses were still framed primarily around infrastructure resilience and energy security.

In summary, while the United States has recognized climate change as a security issue with implications for national security, its policies have predominantly focused on safeguarding military infrastructure, equipment, and energy security. Broader security challenges posed by climate change-such as risks of conflict, war, mass displacement,

[1] Author translated from CNA Corporation (2007), National security and the threat of climate change, Alxexandria, p. 6.

[2] Barack Obama (2009), *Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance,* Washington, DC: White House.
Barack Obama (2013), *Executive Order 13653: Preparing the United States for the Impacts of Climate Change,* Washington, DC: White House.
Barack Obama (2015), *Executive Order 13693: Planning for Federal Sustainability in the Next Decade,* Washington, DC: White House.

[3] Barack Obama (2016), *Presidential Memorandum: Climate Change and National Security,* Washington, DC: White House.

[4] White House (2010), *The National Security Strategy of the United States of America*, White House. Washington, DC: Government of the United States of America, p. 47.

[5] US DoD (2010), Quadrennial Defense Review, Washington, DC: Department of Defense, Pg. 85.

and resource scarcity-have yet to be fully integrated into U.S. security policy responses.

3. Climate Security in EU Policy

For the European Union (EU), although the organization and its individual member states are often regarded as global leaders in climate action, it was not until 2003 that the EU formally recognized climate change as a security issue and incorporated it into its official security agenda. At the member-state level, references to climate change in military documents-such as national defense white papers-remain rare and limited. For example, France's 2013 White Paper on Defence and National Security mentions climate change only once in 137 pages, with a vague statement noting that "the clear regional consequences of global warming in the coming decades remain highly uncertain.[6]"

Germany, by contrast, has been praised for its efforts to convene the second major UN Security Council debate on climate security in 2011 and for its broader leadership. However, the security implications of climate change and the role of military forces in addressing them remain underdeveloped. Germany's 2016 White Paper on Security Policy and the Future of the Bundeswehr identified climate change as having "profound and present implications" and noted that it was "increasingly relevant to security policy and indirectly to Germany.[7]" Nevertheless, while Germany's security institutions have more actively engaged with climate change, the issue remains a relatively low priority, with substantive progress likely to unfold only in the coming years.

A similar pattern can be observed across Europe in national security strategies and in NATO documents. Despite numerous debates and public statements by European political leaders highlighting the security implications of climate change, these have not been fully translated into corresponding national security strategies or military doctrines.

The United Kingdom presents a somewhat different case. The UK Ministry of Defence (MoD) has proactively incorporated climate change into its planning processes. This is reflected in several publications, including the Climate Change Strategy (2010) and the Climate Change Delivery Plan, as well as the appointment of Rear Admiral Neil Morisetti as Special Representative for Climate and Energy Security. Numerous adaptation and mitigation initiatives have also been launched. Climate change received substantive attention in the National Security Strategy and Strategic Defence and Security Review (2015), which described it as "one of the greatest long-term challenges to the future of our planet"[8].

Nonetheless, the overall trajectory of policy discourse on climate security in both the UK and the EU peaked around the Copenhagen Conference (2009-2010) and, after 2011, received only limited attention in security and defense planning. Climate change has subsequently become a lower priority on the European political agenda, overshadowed by more immediate concerns such as large-scale migration, transnational terrorism, racism, cyber threats, and the challenge posed by a resurgent Russia. In 2016, the UK government's preoccupation with Brexit further constrained its ability to address the multifaceted complexities of climate change.

4. Climate Change in Australia's Policy Framework

In Australia, climate change was not considered a security issue until 2007. Prior to this, under the center-right government of Prime Minister John Howard, climate change was treated as a marginal concern, detached from security agendas. This perception shifted with the election of a center-left government in 2007, which elevated climate change to a top policy priority. As a result, climate change was recognized as a security issue and incorporated into key strategic defense documents. When securitized, climate change was framed through three lenses: (1) a global and regional security issue; (2) a non-traditional security concern; and (3) a national security challenge. Notably, human security and environmental security were not emphasized. In contrast, under a non-securitized framework, climate change was largely perceived as: (1) a global issue; (2) an economic concern; and (3) a matter of energy and resources.

Australia's approach to climate change and climate security has been shaped significantly by domestic political dynamics. A comprehensive study of prime ministerial programs by Michael Durant Thomas reveals stark divergences between center-right and center-left politics, particularly between the tenure of Prime Minister John Howard (1996-2007, Liberal Party) and those of Prime Ministers Kevin Rudd (2007-2010) and Julia Gillard (2010-2013, Labor Party). For Howard, climate change was primarily framed as an economic issue-linked to energy policy-rather than a security threat. Consequently, Howard never treated climate change as an urgent matter. Thomas argues that Howard's belief in climate change as a long-term issue requiring gradual responses explains his reluctance to securitize it. This is evidenced by the complete absence of climate change references-whether as a security risk, challenge, or threat-in any major national defense or strategic policy documents during his premiership[9].

Under Rudd and Gillard, climate change was still predominantly discussed in non-security terms-appearing 180 times as a non-security issue compared to only 28

[6] Ministry of Defense (2013), White Paper on Defense and National Security, Ministry of Defense. France: French Government, Tr. 44, Accessed July 18, 2021, at: https://otan.delegfrance.org/White-Paper-on-Defence-andNational-Security

[7] German Government (2016), White Paper: On German Security Policy and The Future of the Bundeswehr, Ministry of Defense. Berlin: Federal Ministry of Defense. Tr. 42, Accessed July 18, 2021, at: https://issat.dcaf.ch/Learn/Resource-Library/Other-Documents/The-2016-German-White-Paper-StrategicReview-and-Way-Ahead

[8] HM Government (2015), National Security Strategy and Strategic Defense and Security Review 2015, London: HM Government, Pg. 65, Accessed July 19, 2021, at: https://www.gov.uk/government/publications/nationalsecurity-strategy-and-strategic-defense-and-security-review-2015

[9] Michael Durant Thomas (2017), The securitization of climate change: Australia and United States' military responses (2003 – 2013), The Anthropocene: politik – economics – society – science, No. 10, P. 100.

instances where it was framed as a security concern. In non-security contexts, both leaders emphasized climate change as fundamentally a global, economic, and regulatory issue[10]. Within the 28 security-related references, climate change was sometimes framed as an "emerging" or "new" security challenge, occasionally linked to national security discourse. Although limited in political speeches and documents, climate security did receive operational and tactical attention within the Australian Defence Force (ADF). Thomas's research demonstrates that within defense operations, climate change was framed as a global and regional security issue (seven mentions), a non-traditional and emerging security concern (nine mentions), and a converging security issue (seven mentions). It was explicitly referenced as a national security concern on four occasions[11].

In terms of operational and tactical responses, the ADF launched several climate-related initiatives, particularly following the election of the Rudd government in 2007. These included: (1) the Climate Change Initiative (2008-present); (2) the Global Change and Strategic Defence Geospatial Research Program (2011-present); and (3) the Climate Change Adaptation and Mitigation Research Program (2011-2013). Efforts focused on emission reduction-such as energy conservation, waste management, and limiting vehicular use-through simple measures like switching off lights, computers, and office equipment, carpooling, duplex printing, and water-efficient home practices. Other measures involved raising situational awareness, strengthening impact assessments, enhancing energy resilience, reinforcing security strategies, and anticipating future challenges for defense capabilities. ADF responses also included climate identification research, developing indicators to forecast extreme environmental events, and preparing for disasters such as floods, bushfires, and cyclones.

Following the 2013 election, the center-right government of Tony Abbott dismantled many climate policies established under Rudd and Gillard. These included repealing the Clean Energy Future Act, appointing climate skeptic Dick Warburton to review renewable energy targets, abolishing the Climate Commission as an independent advisory body, and initiating efforts to eliminate the Clean Energy Finance Corporation and the Australian Renewable Energy Agency. Malcolm Turnbull's rise to Prime Minister in 2015 initially signaled a more climate-conscious agenda. However, his political capital weakened after the 2016 federal election, limiting his ability to pass legislation. Right-wing factions within the Liberal-National coalition continued to oppose climate action, constraining his policy agenda. While Turnbull ratified the Paris Agreement, he simultaneously supported the development of the Adani coal mine in Queensland-one of the largest proposed coal projects globally.

Overall, climate security in Australia has developed unevenly, reflecting discontinuities shaped by partisan politics. On one hand, media outlets and policy think tanks increasingly framed climate change as a national security issue and a call to action. Key publications by the Australian Strategic Policy Institute (2013), the Centre for Policy Development (2015), and the Climate Council (2015) advanced this discourse. These institutions also hosted the first Australian Climate Security Forum, which convened leading climate and security experts from both domestic and international contexts. Furthermore, Australia engaged in international collaborations, such as the Washington-based Center for Climate and Security, which established the Asia-Pacific Climate Security Working Group that included Australian scholars, NGOs, and policy advisors. On the other hand, climate security received limited attention within the Department of Defence and broader security institutions. Apart from the VCDF Global Change Program integrating climate considerations into strategic thinking, and incremental Royal Australian Navy initiatives on biofuel adoption, few substantial measures emerged. Two classified defense reports-in 2013 on sea-level rise adaptation strategies for military bases and in 2014 on base resilience to flooding, bushfires, and storms-remained inaccessible to state and local governments, private enterprises, and the wider public, hindering comprehensive integration. As such, the ADF continued to approach climate risks through a narrow, compartmentalized lens, isolated from broader efforts to enhance societal resilience.

Thus, Australia-similar to the United States-has shown limited concern toward the security challenges posed by climate change. While climate change is mentioned in certain policy and strategic documents, such references are neither substantial nor systematic. The framing of climate change as a national security challenge has only emerged in recent years. Security-oriented responses remain primarily limited to mitigation and adaptation measures, such as renewable energy use in military operations and energy efficiency practices. Neither Australia nor the United States has adequately prepared for potential scenarios in which climate change might generate political instability, refugee flows, social unrest, or armed conflict.

From the comparative analysis of U.S., EU, and Australian policies on climate-security challenges, several lessons can be drawn for Vietnam: (1) it is essential to examine the impacts of climate change on Vietnam's military infrastructure and equipment; (2) greater attention should be given to its effects on operational capacities, an area neglected by the U.S., EU, and Australia; (3) Vietnam's armed forces should adopt adaptation and mitigation measures, including energy efficiency and renewable energy integration, in combat and operational contexts; and (4) contingency planning should address potential scenarios involving conflict, war, refugee crises, and political or social instability induced by climate change. As a severe non-traditional security challenge with far-reaching implications, climate change also has the potential to trigger secondary security crises. Therefore, developing comprehensive climate response strategies to safeguard political and national security is imperative for Vietnam today.

5. Vietnam's Experience in Addressing the Security Implications of Climate Change

Vietnam is widely recognized as one of the countries most severely affected by climate change. Consequently, in recent years, climate change has become an urgent and pressing issue for the country. In Vietnam, climate change is not only considered a matter of development, economy, and environment but also a global challenge and a serious non-traditional security threat. From developmental, economic, and environmental perspectives, Vietnam has formulated numerous strategies, policies, and measures to adapt to

[10] Michael Durant Thomas (2017), Cited document, p.

[11] Michael Durant Thomas (2017), Cited document, p. 127.

climate change. However, from a security standpoint, strategies and solutions to address climate-induced security challenges remain relatively limited.

From the perspective of national defense and security, climate change exerts significant impacts on Vietnam's security and defense landscape. In its 2019 Defense White Paper, the Ministry of National Defense identified climate change as one of the complex global issues [12]and described it as a "frequent challenge to Vietnam's national defense and security [13] ." Accordingly, Vietnam affirmed that "Preventing, combating, and responding to global climate change is a national strategic objective. Vietnam prioritizes policies that promote the use of clean energy, reduce greenhouse gas emissions, and mitigate the harmful effects of sea-level rise[14]."

Although climate change is regarded as a non-traditional security issue, in practice, most solutions for adaptation and mitigation remain embedded within Vietnam's broader climate adaptation strategies. For example, to ensure national defense and security in the context of climate change, the Resolution of the 7th Plenum of the 11th Party Central Committee on "Proactive Response to Climate Change, Strengthening Resource Management, and Environmental Protection" emphasized the integration of climate change adaptation, resource management, and environmental protection objectives into development planning across sectors and socio-economic regions, while ensuring local and national defense and security. The resolution also mandated "proactive contingency planning for worst-case scenarios that may affect production, livelihoods, and national defense and security, alongside enhancing capacities in search and rescue operations, disaster prevention, and disease control".

From overarching policy frameworks to practical implementation, the Party, the State, and the Ministry of National Defense have issued several resolutions and regulations addressing disaster prevention, emergency response, and climate change adaptation. These include the Resolution of the 7th Plenum of the 11th Party Central Committee on "Proactive Response to Climate Change, Strengthening Resource Management, and Environmental Protection"; Government Decree No. 30/2017/ND-CP on "Organizing and Operating Disaster and Emergency Response and Search and Rescue"; and Resolution No. 689-NQ/QUTW of the Central Military Commission on "Disaster Prevention, Response, and Rescue to 2020 and Beyond".

In practice, the military and security forces play a pivotal role in confronting the impacts of climate change, particularly in disaster response and post-disaster recovery operations. Their activities have largely centered on search and rescue missions and natural disaster management. Beyond threats to human security, climate change also poses risks of broader security challenges, such as conflict, war, refugee crises, and competition over water resources. However, Vietnam has not yet developed specific scenarios or solutions to address these potential threats.

Moreover, hostile forces have exploited climate-related issues to distort the Party's and State's policies, incite public discontent, and undermine political security in Vietnam. To counter such challenges, the Party and State have embedded measures into Resolution No. 35-NQ/TW of the Politburo on "Strengthening the Protection of the Party's Ideological Foundations and Combating Wrongful and Hostile Views in the New Situation." This resolution underscores the importance of addressing attempts to weaponize climate change narratives against political stability, social order, and national security.

6. Conclusion

Although climate change has been recognized as a serious non-traditional security challenge and a global issue, Vietnam's responses to security risks arising from climate change have not yet been concretized into distinct strategies and solutions. Instead, they remain largely integrated within broader climate adaptation measures from developmental, economic, and environmental perspectives. This reality highlights the urgent need for the Party, the State, and the Ministry of National Defense as well as the Ministry of Public Security to develop specific security scenarios linked to climate change, thereby ensuring proactive and tailored responses.

The urgency of this task is amplified by the fact that Vietnam is among the countries most heavily affected by climate change and is simultaneously facing ongoing maritime disputes. Rising sea levels, coastal erosion, and seawater intrusion into inland areas could potentially alter baseline determinations, thereby intensifying maritime and territorial disputes. Consequently, in order to safeguard political security in general and national security in particular, Vietnam must design and implement targeted measures that directly address the security dimensions of climate change.

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