

MITIGATE, ADAPT, PREPARE: A CLIMATE SECURITY AGENDA FOR THE ASEAN DEFENCE MINISTERS' MEETING

Policy Report

June 2023

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TABLE OF CONTENTS

Executive Summary	1
Introduction	2
Climate Security in the Indo-Pacific	3
Table 1: ASEAN Member States' White Papers and National Policy related to Climate Security	5
Table 2 : ASEAN Dialogue Partners' Defence White Papers and National Policy related to Climate Security	7
Policy Recommendations	15
About the Authors	17
About the Centre for Non-Traditional Security Studies (NTS Centre)	18

Executive Summary

The Indo-Pacific is the region most prone to natural hazards and sea-level rise compounded by the effects of climate change. Viewed as a direct security concern for the impact caused by extreme weather events, climate change is also seen as a threat multiplier that worsens underlying political, social, and economic conditions, strains resources, and reduces military readiness. Coupled with the geopolitical realities of the region, the impact of climate change on regional security illustrates the need for defence and security cooperation. This can be achieved by establishing a comprehensive climate security framework that reflects the ASEAN Defence Ministers' Meeting (ADMM) interests and ambitions regarding military contributions towards tackling the climate crisis and its impacts. It would further provide dialogue partners with entry points for engagement and an avenue to connect climate security initiatives across the Indo-Pacific region.

Introduction

Climate change is one of the world's most pressing challenges today. According to the 2022 Global Risks Report, five of the top 10 "most severe risks on a global scale over the next 10 years" are environment- and climate-related, with "climate action failure" being the biggest threat worldwide. It is also considered a significant threat multiplier, particularly in fragile contexts and with vulnerable communities, which can further exacerbate tensions and increase insecurities. Along with other challenges such as great power competition between the United States (US) and China as well as maritime territorial disputes in the East and South China Seas, climate change will become an integral part of security calculations in the Indo-Pacific region.

The recently published "Climate Change 2022: Impacts, Adaptation and Vulnerability" by the Intergovernmental Panel on Climate Change highlights that Asia will likely face a significant increase in extreme weather events such as heat stress and strong monsoons, which may lead to food insecurity and increased migration flows—all drivers of further instability for the region.² As climate security influences geostrategic rivalries, its impacts and effects must be integrated into the strategic planning of governments and militaries in the region—in particular, the need to develop, maintain, and strengthen military readiness in a more volatile climate landscape.

4

World Economic Forum, "The Global Risks Report 2022, 17th Edition," 2022, https://www3.weforum.org/docs/WEF The Global Risks Report 2022.pdf.

Intergovernmental Panel on Climate Change, "Climate Change 2022: Impacts, Adaptation and Vulnerability," 2022, https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf; Intergovernmental Panel on Climate Change, "Fact sheet – Asia," 2022, https://www.ipcc.ch/report/ar6/wg2/downloads/outreach/IPCC_AR6_WGII_FactSheet_Asia.pdf.

Climate Security in the Indo-Pacific

In broad terms, climate security refers to the security risks caused by extreme weather events and sea-level rise; specifically how it increases vulnerabilities beyond the coping capacity of a community or state and how it impacts the wider security environment.³

Climate change is widely acknowledged as a significant factor in the Indo-Pacific region's risk landscape (riskscape). In particular, climate-related humanitarian emergencies are a regional concern as the Indo-Pacific consistently accounts for majority of the disasters happening worldwide. While civilian national disaster management organisations oversee disaster management, militaries in the region remain heavily involved in humanitarian emergencies as first responders.

State militaries tend to serve as first responders in humanitarian assistance and disaster relief (HADR) in the region. This practice is intended to demonstrate military surge capacity and to showcase force projection abilities such as search-and-rescue capabilities, evacuation-planning, and air-lift and sea-lift capabilities. With the likelihood of an increase in extreme weather events due to climate change, there is a growing military interest in this global phenomenon.

Impact of Climate Change on Regional Militaries

These dynamics also have a direct impact on militaries in the region. Considered first responders, as climate change intensifies, so does the prospect of military involvement in one or more of the disasters on the "ladder of escalation," in which "a spectrum of increasingly severe disasters resulting in ever more complex and demanding missions for...military forces." Such disasters include: (i) HADR responses; (ii) support for affected foreign governments in extended operations;

³ United Nations, "Climate Security Mechanism Toolbox: Briefing Note," 2020, https://dppa.un.org/sites/default/files/csm_toolbox-1-briefing_note.pdf

⁴ United Nations Economic and Social Commission for Asia and the Pacific, "Resilience in a Riskier World Managing Systemic Risks from Biological and Other Natural Hazards Asia-Pacific Disaster Report 2021", 2021 https://www.unescap.org/sites/default/d8files/knowledge-products/Asia-

Pacific%20Disaster%20Report%202021-Full%20report.pdf >.

⁵ Alistair D. B Cook, "Military Engagement in Disaster Response Policies, Interests and Issues." Strategy and Defense Policy for Small States: Problems and Prospects, ed. Bernard F W Loo, (Singapore: World Scientific Publishing Co. Pte. Ltd, 2022), 105-130.

⁶ Michael T. Klare, "All Hell Breaking Loose: The Pentagon's Perspective on Climate Change."New York: Metropolitan Books, 2019.

(iii) disruptions to global supply chains; (iv) great power discord in which climate change exacerbates existing rivalries; and (v) disasters at home. With the increasing risk of converging humanitarian crises, militaries are likely to be overstretched, straining the capacity of military forces and degrading their ability to perform other vital duties. As such, it is time that states move beyond the idea of militaries as only involved in disaster response to more comprehensively considering the security impacts of climate change. Militaries are now seen as an integral contributor to climate action at both the national and international levels. The ADMM is crucial in convening and promoting more collaborative climate action between militaries, and defining their role in supporting civilian government efforts.

Some states in the region have recognised climate change as a security risk, adopting strategy, operations, and tactics to manage these impacts on militaries as part of wider national plans. As presented in Tables 1 and 2, the majority of these climate-related defence polices include international cooperation and military reform as key strategies in climate change adaptation and mitigation. Table 1 presents the latest defence white papers or national policies of ASEAN countries related to climate security. Table 2 presents the defence and security-related climate policies of ASEAN Dialogue Partners.

⁷ Ibid

⁸ Shiloh Fetzek et al, "Climate and Security In The Indo-Asia Pacific," The Center for Climate and Security, July 2022, https://imccs.org/wp-content/uploads/2020/07/Climate-Security-Indo-Asia-Pacific 2020 7.pdf.

Table 1: ASEAN Member States' White Papers and National Policy related to Climate Security

Country	Name of Document/ Policy	Year	Climate Reference	International Cooperation	Military Reform
Brunei	Defending the Nation's Sovereignty: A Secure and Resilient Future Defence White Paper 2021	2021	Climate change mentioned as a security threat	Defence engagement through bilateral and multilateral engagement in HADR	Defence response to climate change: sustainable/ green development i.e., Bolkiah Garrison Energy Management Project, Defence Energy Efficiency Policy and Guidelines (p. 89)
Cambodia	National Defence Policy 2022	2022	Climate change mentioned as a threat under 'Natural Disaster' (p. 26)	HADR as a form of international cooperation through the Royal Gendarmarie Bilateral and multilateral military cooperation	NA
Indonesia	Defence White Paper	2015	Climate Change will affect the security issues indirectly" (p. 16)	Encourages global partnerships to respond to every dynamic. Management of refugees and HADR carried out multilaterally within ASEAN framework (p.99)	Integrate triservice military strategy to form layered defence to address any form of threats (p. 122) Coordinate efforts with other ministries (p.125)

Laos	NA	NA	NA	NA	Expand defence budget to assist government in handling natural disasters (p.132) NA
Malaysia	Defence White Paper	2020	"Climate-related natural disasters and other extreme weather incidents are on the rise, threatening the security and health of the Rakyat as well as national development" (p. 28) Exceedingly high Air Pollutant Index (API) in the past forced the Government to declare climate emergencies three times in different parts of the country (September 1997, August 2005 and June 2013)" (p.28).	"Forge connectivity and link cooperation on a wide array of activities such as handling non-traditional security threats" (p. 30). Initiate regularised cooperation (as opposed to ad hoc measures) that bind countries together (p. 30). "ASEAN and ASEAN-led mechanisms provide an essential platform for Malaysia to work closely with our neighbours and other international partners to address shared security challenges while pursuing common goals" (p.65)	Develop the Malaysian Armed Forces (MAF) into an integrated, agile and focused force, capable of responding to traditional and non-traditional threats (p.44). "Core Area": MAF will deploy Littoral Mission Ships that could include SAR and HADR (p.49). Establish a Defence Transformation Committee to facilitate interagency cooperation to ensure transformations are implemented in whole-ofgovernment approach (p. 88)
Myanmar	NA	NA	NA	NA	NA

D	N. C.	0040	<i>"</i> 2	
Philippines	National Defence Strategy 2018 – 2022	2018	"Studies show that the Philippines is highly vulnerable to the effects of climate change which has been bringing extreme weather conditions underlined by extreme maximum and min-imum temperatures, more frequent yet intense rains, and more disastrous tropical cyclones such as Typhoon Haiyan in 2013" (p.17). "From a military point of view, effects of climate change have behooved the ASEAN militaries, including the AFP, to diversify their capabilities and acquire assets that may be used to address both traditional and non-traditional security threats such as Humanitarian Assistance and Disaster Relief (HADR)" (p.19).	standard of capability and preparedness to address the consequence s of natural and man- made disasters, the DND shall

Singapore	Singapore Green Plan 2030	2021	Climate change as an "existential threat"	NA	Establishment of the Singapore Armed Forces Sustainability Office in 2021 Military reform to include decarbonisation of military equipment and infrastructure Increased use of renewable energy
Thailand	The National Security Policy and Plan (2019 – 2022)	2019	Climate change mentioned as an example of "environment security"	 International cooperation as a method to address global environmental problems 	NA
Vietnam	Vietnam National Defence	2019	Prevention and response to global climate change mentioned as one of Vietnam's national strategic goals (p. 32)	Emphasis on multilateral defence cooperation	NA

Source: Authors

Table 2: ASEAN Dialogue Partners' Defence White Papers and National Policy related to Climate Security

Country	Name of Document/ Policy	Year of Publication	Climate Reference	International Cooperation	Military Reform
Australia	National Defence: Defence Strategic Review	2023	Climate change as "amplifying challenges" across the region	Refocus Australia's efforts in bilateral, minilateral, and multilateral opportunities in the Indo-Pacific region including in regional architecture (ASEAN, Pacific Islands Forum)	Climate security risk assessment to be conducted with contributions by the Department of Defence
Canada	Strong, Secure, Engaged: Canada's Defence Policy	2017	Climate change as a "security challenge that knows no borders"	Defence partnership with the US integral Prioritise interoperability in planning and capability development with partners, particularly NATO Support conflict prevention, mediation, and post-conflict actions through UN operations	Enhance intelligence through strengthened collaboration with other government departments Support low-carbon government targets through modernising infrastructure and examining alternative energy options for operations
China	Responding to Climate Change: China's Policies and Actions	2021	Acknowledges climate change as a 'challenge'	Implementation of 'New Development Philosophy' Carbon neutrality	NA

EU	Climate Change and Defence Roadmap	2020	Acknowledges climate change "multiplies threats to international stability and security"	Strengthen cooperation with international organisations and bilaterally with partner countries Broaden its network of research bodies as well as enhance cooperation with international organisations	Integrate climate change mitigation and adaptation and environmental protection aspects into the EU's trainings and exercises Fund research and development for defence-oriented solutions for energy resilience and operational efficiency
India	Joint Doctrine Indian Armed Forces	2017	Engages with climate change as a non-traditional security threat Acknowledges that environment has emerged as a critical area of the security paradigm, i.e., "environmental security"	NA	Render military assistance including HADR to friendly countries Engage in military diplomacy/ defence diplomacy with defence forces of friendly countries
Japan	i. Defense of Japan ii. Ministry of Defense Response Strategy on Climate Change	i & ii. 2022	Address "environmental issues" as a core element comprising Defense Capability (Defense of Japan, p. 22) Japan Defense White Paper 2021 included climate change as a security issue for first time	Promote multilateral cooperation with other countries through multilateral exchanges, international conferences Deepen relationships with national and international organisations	Ministry of Defense Climate Change Taskforce to evaluate and analyse the impact of climate change on Japan's security and how it affects the fulfilment of the military's assigned

New	i. The Climate	i. 2018	Climate change	Enhance data sharing and training between Japanese military and the militaries of other countries Work together	missions and roles • Update New
Zealand	Crisis: Defence Readiness and Responsibilities ii. Defence Assessment 2021	ii. 2021	as "one of the greatest security challenges" and a "principal challenge" to New Zealand's defence interest	with Pacific countries and other international partners in policy initiatives such as the Boe Declaration and Paris Agreement • Maintain defence with international allies and partners both bilaterally and through multilateral organisations	Zealand's defence planning scenarios to take into account climate change impacts • Work to implement sustainability considerations in infrastructure and capability processes • Defence policy reform to concentrate on New Zealand's immediate region
Russian Federation	Strategy of Socio- economic Development of the Russian Federation with low greenhouse Gas Emissions until 2050	2022	Climate change carries "security and sustainable development risks"	Develop a regulatory legal framework to achieve target indicators of emissions in various sectors, in line with international counterparts	• NA
Republic of Korea	Defense White Paper 2022	2023	Climate change considered a "transnational security threat"	Participate in international forums and multilateral forums, develop joint responses, and build	Integrate the various sectors of the military

				relationships with other countries that share values	
UK	Ministry of Defence Climate Change and Sustainability Strategic Approach	2021	Climate change considered to be exacerbating "emerging geopolitical and conflict-related threats"	Engage with allies and partner countries in joint climate mitigation efforts, and build international coalitions for more sustainable militaries Work with academia and technology partners to build climate threat horizonscanning capability and support defence engagement	Establish a Climate Change and Sustainability Directorate to oversee carbon and sustainability targets process and policy Reduce carbon emissions through a funded decarbonisation pathway for current and future infrastructure
US	i. Department of Defense (DOD) Climate Adaptation Plan ii. 2022 National Defense Strategy	i. 2021 ii. 2022	Climate change identified as "a critical national security issue and threat multiplier"	Engage in a wide array of interagency and intergovermental forums Build partner nation capacity to respond to climate changerelated hazards	Assess the viability of current equipment (and infrastructure) to operate in extreme climate conditions Incorporate requirements built around a realistic projection of future operating conditions for material development and acquisition

Source: Authors

International Cooperation

The ADMM and ADMM Plus provide a platform for its member states and eight dialogue partners to strengthen security and defence cooperation in the Indo-Pacific region. This is achieved through defence diplomacy which encompasses "military-to-military interactions, activities, and policies to build and maintain national security."

However, such activities are likely to be temperamental – particularly between rival states – and are dependent on broader geopolitical dynamics, with any shifts in their political relationship likely to also impact the effectiveness of any defence diplomacy efforts. Despite its limits, defence diplomacy remains a useful tool in navigating ongoing geopolitical dynamics, while also enhancing interoperability and building confidence among states in the region.

Southeast Asian militaries are connected bilaterally and multilaterally to other militaries in the broader Indo-Pacific through various initiatives. In terms of climate security, ASEAN is well-positioned to lead engagement through the ADMM envisioned by the ASEAN Outlook on the Indo-Pacific. Singapore and Thailand are already notable for their HADR cooperation in the region as identified in the HADR Database. ¹⁰ As a transnational security threat impacting all sectors, a climate security agenda will need to transcend the expert working group format.

Military Reform

Military reform is a significant part of broader climate security strategy. This includes increased personnel, equipment modernisation, and the decarbonisation of military equipment and operations along with the adoption of renewable energy.

With most states in the region having net zero carbon targets, the reliance of militaries on fossil fuels underscores the importance of considering the carbon footprint of militaries in national climate action plans. Not only is military reliance on fossil fuels expensive, it is also an operational vulnerability. Historically, Singapore has imported most of its energy needs. In 2018, 9.96 million tonnes of

⁹ S. Nanthini, "Defence Diplomacy as a Tool to Cope with the Climate Crisis," East Asia Forum, March 31, 2022, https://www.eastasiaforum.org/2022/03/31/defence-diplomacy-as-a-tool-to-cope-with-the-climate-crisis/

¹⁰ Trias, Angelo Paolo L., and Alistair D. B. Cook, 2023, "Military Humanitarian and Disaster Governance Networks in Southeast Asia: Framework and Analysis," *Disasters* 47:1, 205 – 241. https://doi.org/10.1111/disa.12542.

oil (equivalent to natural gas) were imported from its neighbours. 11 As the sea lines around Singapore are vulnerable, this supply may not be guaranteed in a crisis.

As such, more militaries are turning towards renewable energy to become energy independent. For example, the Singapore Navy is exploring hybrid propulsion for its future ships to reduce carbon footprint and make them more energy efficient. This is part of the "Singapore Green Plan 2030," a plan that advances the state's national agenda on sustainable development. 12

Climate security policies of wealthier states such as Brunei and Singapore are more advanced than those in developing countries in the region. There is an opportunity for regional climate security cooperation through the ADMM to share relevant experience.

11

47

Mike Yeo, "Commentary: Militaries, The Surprising Allies – When Men in Green Fight for a Greener World," Channel News Asia, May 4, 2021, https://www.channelnewsasia.com/commentary/climate-change-military-army-navy-carbon-solar-energy-action-1339246; Ministry of Defence, "Speech by Minister for Defence, Dr Ng Eng Hen, at the Committee of Supply Debates 2022,",March 2, 2022,

https://www.mindef.gov.sg/web/portal/mindef/news-and-events/latest-releases/article-detail/2022/March/02mar22 speech.

¹² Singapore Government, "What Is The Singapore Green Plan 2030?", last viewed 9 November 2022
https://www.greenplan.gov.sg/; Mike Yeo, "Commentary: Militaries, the surprising allies — when men in green fight for a greener world", *Channel News Asia*, 4 May 2021
https://www.channelnewsasia.com/commentary/climate-change-military-army-navy-carbon-solar-energy-action-1339246>

Policy Recommendations

The impacts of climate change on the Indo-Pacific have become a significant security concern for militaries in the region, particularly considering their involvement in HADR operations. There is therefore a need for the ADMM to develop an agenda on climate security to promote cooperation and share best practices with ADMM Plus countries and ASEAN dialogue partners to address this challenge. This will provide Southeast Asian countries the opportunity to establish a comprehensive framework within the rapidly advancing climate security landscape that reflects their interests and ambitions for military contributions to combat climate change and its effects. It would further provide partners with entry points for engagement and an avenue to connect defence initiatives to mitigate, adapt, and prepare for climate realities across the Indo-Pacific region. Some emerging themes for consideration in such a comprehensive framework are as follows:

Mitigate

1. Decarbonisation Strategy

Planned reforms must consider the impacts of the climate crisis by redesigning and updating infrastructure, equipment, and priorities to best adapt to climate realities. While there are no standardised methods for militaries to measure and report their emissions, countries in the region could distinguish between emissions from standard operations, those generated by administrative military operations, and emissions from non-standard operations. These advances and best practices to mitigate climate change could be shared through the ADMM.

2. Research and Development for Energy Resilience

Reduction of carbon footprints should also be a priority of militaries in the region, which may be achieved through the use of alternative fuel as part of their nation's efforts in mitigating climate change. In the UK, the Royal Airforce is moving towards the use of Sustainable Aviation Fuels (SAF). Although the cost of production has limited the supply of SAF, public-private partnerships such as the Jet Zero Council offers a potential model as part of ADMM efforts to bring together ministers and chief executive officer-level stakeholders to deliver an increase in sustainable aviation fuel. Multi-stakeholder partnerships

may allow militaries to overcome government budget restrictions, and industry experts to have access to real-life testing capacities and provide an area for practical cooperation.

Adapt

3. Sustainable Military Bases and Assets

The ongoing climate crisis has motivated some militaries to restructure and update infrastructure, equipment, and priorities to become more sustainable. Military bases are turning to renewable energy models including solar to promote independence from their electric grids. As more investment is directed towards the development of renewable energy mechanisms and other sustainable technologies, militaries can improve cooperative efforts and practical collaborations as part of an ADMM climate security agenda.

Prepare

4. Climate Intelligence and Information Sharing

Climate intelligence and information sharing is an opportunity for militaries to leverage their existing relationships with partners. These could include better information sharing and other climate adaptive solutions with trusted partners as part of an ADMM framework for cooperation. There is also a need for substantive partnerships on military technological advancements to promote a more resilient region.

5. Analysis, Exercises and Training

Militaries need to re-analyse their current capabilities and how they fare in light of the emerging riskscape. ¹³ The analysis should be used to further invest in scenario-based planning to assess military readiness and integrate climate security into national security strategies. These updated scenarios can inform bilateral and multilateral HADR exercises and training between Southeast Asian militaries and partners to better prepare for emerging climate impacts in the Indo-Pacific region.

¹³ Department of Defense, "Department of Defense: Climate Risk Analysis," October 2021, https://media.defense.gov/2021/Oct/21/2002877353/-1/-1/0/DOD-CLIMATE-RISK-ANALYSIS-FINAL.PDF.

About the Authors



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Prior to joining RSIS, Nanthini was an intern at the Asia-Europe Foundation in Singapore and has written for the *Young Diplomats* as their Regional Content Writer for Southeast Asia. Her research interests include human security in Southeast Asia, looking at the HADR landscape through a gendered lens and the role of multilateralism in the security architecture of the Asia-Pacific.

About the Centre for Non-Traditional Security Studies (NTS Centre)

The S. Rajaratnam School of International Studies (RSIS) is a think tank and professional graduate school of international affairs at the Nanyang Technological University, Singapore. An autonomous school, RSIS' mission is to be a leading research and graduate teaching institution in strategic and international affairs in the Asia Pacific. With the core functions of research, graduate education, and networking, it produces research on Asia Pacific Security, Multilateralism and Regionalism, Conflict Studies, Non-traditional Security, Cybersecurity, Maritime Security and Terrorism Studies.



NTS Centre conducts research and produces policy-relevant analyses aimed at furthering awareness and building the capacity to address non-traditional security (NTS) issues and challenges in the Asia Pacific region and beyond. The Centre addresses knowledge gaps, facilitates discussions and analyses, engages policymakers, and contributes to building institutional capacity in Sustainable Security and Crises. The NTS Centre brings together myriad NTS stakeholders in regular workshops and roundtable discussions, as well as provides a networking platform for NTS research institutions in the Asia Pacific through the NTS-Asia Consortium.

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