

Acting Collectively: Why Climate Change Calls for Innovative Military Contributions and Collaboration

Femke Remmits and Michel Rademaker

One of the key topics during the NATO Summit held in Brussels on June 14, 2021 concerned the security implications of climate change. Even though NATO Allies are individually responsible for adapting to climate change impacts, there is consensus that the Alliance must also act collectively. Global warming impacts the security of the Alliance and its Member States and results in significant military implications for NATO on tactical, operational, and military-strategic levels. Realizing this, the Allied Leaders of the 30 member countries endorsed NATO's Climate Change and Security Action Plan which sets out the framework to increase both NATO's and member states' awareness of the substantial security impacts of climate change and develop transparent adaptation and mitigation measures.¹

The NATO Climate Change and Security Action Plan represents the organization's first plan to protect and enhance the resilience of its military installations, capabilities, operations, and missions in the face of climate change. In the Brussels Summit Communiqué, the Heads of State and Government of the 30 NATO Allies stated their strong commitment to Article 5 of the 1951 Washington Treaty and agreed on the objective for NATO becoming "the leading international organisation when it comes to understanding and adapting to the impact of climate change on security."² This article explores why and how multilateral military cooperation has a critical role to play in a comprehensive response to climate change and its adverse impacts.

GLOBAL WARMING: A BURDEN AND THREAT MULTIPLIER

Human-induced global warming – confirmed once more by the latest IPCC report – is causing global and regional changes in climate and weather patterns.³ The past year already demonstrated signs of what can be expected: record high temperatures, prolonged periods of drought, more ravaging wildfires, heavy precipitation, extensive flooding, and devastating hurricane and tropical cyclone seasons. By aggravating the frequency, scale, and intensity with which such extreme weather events are striking human life and infrastructures, climate change increas-

es the risk of natural disasters. Where extreme weather events overburden the capacity of societies to adequately deal with them, they have the potential to cause widespread mortality, morbidity, and destruction.⁴

Even though climate change does not directly lead to national security threats, changing climate and weather patterns can act as 'burden multipliers', operating as drivers or catalysts of insecurities in human society. Through extensive destruction and disruption of vital ecosystems, resources, infrastructure, and services, extreme weather events generate water and food scarcity, critical health issues, and severe loss in livelihoods. In already resource-scarce environments, climate-induced disasters can fuel competition over resources. This security risk is greatest for societies that rely on resource-dependent economic sectors. Where natural disasters occur in societies governed by fragile institutions, unwilling or unable to provide their populations with essential basic services, natural hazards cause soaring socioeconomic inequality, aggravate social dissatisfaction, and undermine government legitimacy.⁵

Once climate-induced disasters overwhelm the capacity of governments to deal with existing drivers of instability and insecurity, the impacts of climate change can trans-

Total Risk of Droughts

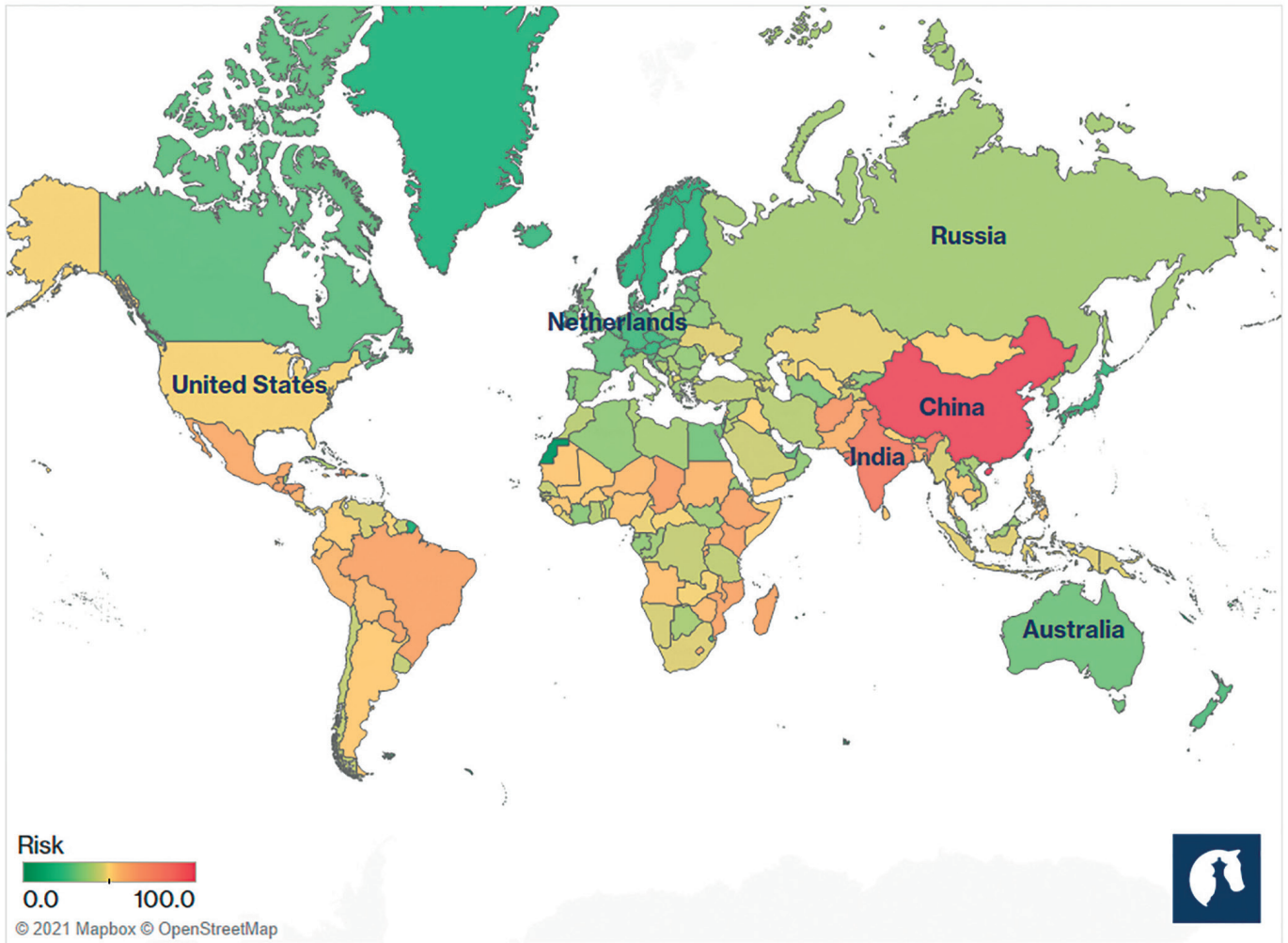


Figure 1. This heatmap, based on the HCSS’ Climate Security Risk Index, indicates the relative climate security risks from droughts. HCSS’ data-driven risk methodology and assessment focuses on the risks to national security generated by climate-related disasters. The accompanying Climate Security Assessment report includes heatmaps and risk matrices on various types of natural hazards (source: HCSS)

form into ‘threat multipliers’ that contribute to social and political unrest, exacerbate state fragility, produce mass migration, or even trigger violence and conflict. Among other variables, research has identified the prolonged drought in Syria between 2006 and 2010 as a contributing factor to the onset of the violence that culminated in the Syrian civil war.⁶ The combination of declining agricultural productivity, food insecurity and insufficient government responses in the country are also asserted to have produced fertile ground for Islamic State to gain support and recruit combatants among deprived local populations in northeast Syria.⁷ In East and West Africa, sustained droughts occasionally cause violent clashes between herding and farming communities who seek to ensure access to resources and protect their livelihoods.⁸ Such dynamics are likely to increase in the future and can potentially arise in regions beyond the Middle East and Central Africa, as revealed by *The Hague Centre for Strategic Studies’* (HCSS) Climate Security Assessment (see Figure 1).⁹

WHAT CAN MILITARIES DO?

The increasing risks extreme weather events pose to human environments will require more and more from military organizations and personnel. To societies that have insufficient disaster-relief and crisis-management mechanisms in place, large-scale extreme weather events pose a critical security threat by themselves that often require military humanitarian assistance. Militaries possess a wide range of unique resources and capabilities with which they can effectively contribute to risk-reduction strategies and disaster management. Military competences like monitoring and early warning, remote-sensing, strategic anticipation, situational awareness, and foresight activities can be leveraged to support disaster prevention, preparedness, and mitigation. The United States Army is already using climate modelling to determine where and how they build military installations. Together with Microsoft, the U.S. Army is now testing how its coastal storm-modelling system, CSTORM-M, operates in Microsoft’s Azure cloud environment which would increase

its scalability and allow it to run new, never-before-deployed simulations of coastal sea rise. Military forces can support governmental and non-governmental humanitarian organizations with strategic-response planning to mitigate the most catastrophic impacts from natural hazards and prevent them from developing into large-scale natural disasters. During disaster-response and emergency-relief efforts, militaries can provide rapid assessments of the specific type and quantity of relief supplies needed, organize central planning, determine priorities, support contingency planning and damage control, and operate as an interface for various relief operations. Military reconnaissance, surveillance, and intelligence capacities can support search and rescue operations. Military experts in health and engineering can provide critical medical care and restore vital infrastructure. With their expertise in communication, resource mobilization, transportation and logistics during crisis situations, military personnel can quickly set up temporary 'safe havens', evacuation systems, and sea- and airlift transportation.

Military forces already play an important role in the humanitarian assistance and disaster relief (HADR) community of countries in the Indo-Asia-Pacific region. Despite the United Nations stipulation that military forces should be deployed only as a last resort during natural disasters,¹⁰ the demand for military forces as first responders during HADR operations is likely to become more common in other regions as well. In countries that must deal with multiple and compounding effects of changing weather patterns, local, sub-national, and national resources and actors in the domestic disaster management community will be increasingly overwhelmed by the growing and emerging challenges induced by climate change.

The increasing pressures climate change security threats pose to human societies also call for the extension of military involvement from disaster response to pre- and post-disaster management. Although there are various challenges and concerns associated with increased military involvement beyond the immediate disaster-response phase, the pressing threats from climate change impacts demand that militaries step up their engagement. While bearing in mind the delicacy of their contribution in the humanitarian domain, defense departments and military leaders should more proactively think about how they plan to contribute their unique capacities to disaster prevention and preparation. Traditional military capabilities need to be leveraged in innovative ways to help societies prevent, prepare for, and mitigate the adverse impacts of climate change, but also to support post-disaster efforts.

Natural disasters and climate-induced humanitarian crises develop into a key area of military deployment when

they spill over into higher-order security risks, including critical threats to vital resources and infrastructure, forced mass displacement, migration, social and political instability, intrastate violence, or conflict. These dynamics transform climate-induced weather events and disasters into an increasingly transboundary security challenge that requires military attention during post-disaster recovery and reconstruction. Beyond the early days of disaster relief and aftercare, the need for military support will rise in the form of extended humanitarian assistance to support and protect disaster-affected populations, humanitarian intervention to prevent or halt social and political instability, and preventive peacekeeping missions to maintain stability and security.

Enhanced multinational military cooperation is inevitable. Disaster relief operations are inherently multi-agency efforts. The multitude of actors in international humanitarian assistance and disaster relief (HADR) operations can also hinder an efficient response and adequate assistance to the affected country. Effective HADR operations call for pre-established cooperative structures among military forces, including formal institutional arrangements

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and mechanisms that facilitate coordination, and exercises that have put these into practice. Examples include the CARICOM Disaster Relief Unit (CDRU) of the Caribbean Disaster Emergency Management Agency (CDEMA) and the Association of Southeast Asian Nations (ASEAN) Military Ready Group (AMRG). CDRU brings together military forces and the police and fire departments from eighteen Participating States from the Caribbean in disaster-response and emergency-relief operations. AMRG coordinates the multilateral deployment of ASEAN militaries in response to natural disasters in Southeast Asia. Such transnational disaster-response exercises should incorporate climate-security dynamics and challenges into their design.

Another critical component of effective multinational military HADR efforts involves efficient coordination and cooperation with international, national, and local public and private actors from the disaster risk-management community. Disaster response and relief operations are in principle led by national civilian actors. Robust relationships, mutual trust and interoperability strengthen multilateral responses. To enhance civil-military coopera-



The involvement of military forces in providing humanitarian assistance and disaster relief (HADR) is becoming increasingly prevalent. Depicted is a military deployment of the Dutch army during the recent floods in Limburg (photo: Brita Seifert / Shutterstock.com)

tion and coordination, multinational military partnerships need to reach out to governmental and non-governmental humanitarian actors as well as local civil society groups and commit to integrative pre- and post-disaster collaborations and approaches. Pre-disaster civil-military institutional arrangements and disaster management exercises lead to the identification of gaps in capabilities, resources, and coordination procedures, and further develop the preparedness of civil society for disasters. Such preparations should be regularly revised as local needs change over time.

Military post-disaster evaluations should review the coordination of operations with civil actors and develop evidence-based assessments of the efficiency of procedures considering local requirements. ASEAN has developed various agreements and mechanisms that organize regional military disaster response and disaster-response preparedness, with emphasis on civil-military coordination. The Rim of the Pacific (RIMPAC) exercise of 2018 is another example of a more integrated civil-military security effort. RIMPAC 2018 incorporated a HADR phase during which subject-matter experts from the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) were involved to ensure the exercise simulated

the complicated disaster-response environment including the challenges of civil-military coordination.¹¹

Existing multinational military partnerships and civil-military cooperative arrangements principally focus on disaster response and preparation for disaster responses. Only responding to climate security threats – or preparing to respond – will not be enough. Besides intensified multinational military engagement in the immediate pre- and post-disaster phases, there is more that militaries can, and should, do. Not only does it take several days for international military responses to mobilize in disaster-affected areas, but significant damage is also already done. Rather than focusing most efforts on fighting climate change's symptoms, innovative multinational military cooperation needs to address the source of these problems. The increasing security threats posed by climate change demand more proactive multinational military commitment to mitigate climate change impacts and prevent climate-induced disasters.

Climate modelling and climate-risk assessments are examples of preventive strategies in which joint military action can achieve more than individual efforts. Military climate modelling used to assess climate change impacts

on national military infrastructure and operations can be leveraged to support global climate change models. Consolidating a multinational military effort to monitor and assess climate variabilities and extreme weather conditions could lead to highly precise modelling of extreme weather events and enhance early warning. Military cooperation in monitoring and early warning, strategic assessments, and foresight activities can effectively contribute to mitigate or prevent the onset of large-scale climate-induced disasters. Such efforts should also actively engage and exchange with civilian research.

EMERGING CHALLENGES REQUIRE INNOVATIVE MILITARY APPROACHES

Joint humanitarian assistance and peacekeeping operations need to be aware of the complex climate-security dynamics in operational contexts and incorporate climate and security challenges into their planning and design. Fragile and conflict-affected states are disproportionately impacted by climate change. In addition to reactive conflict prevention, military partnerships should also contribute to the identification of drivers of instability and insecurity before climate change begins to act as a threat multiplier. This requires a shift in military strategic thinking from the largely reactive containment of insecurity to preventive approaches that deliver sustainable forms of security in countries critically exposed to global warming. A sustainable security approach engages and coordinates with international and regional organizations active in climate change and climate-security issues.

Military intelligence can contribute to climate change threat assessments by leveraging its resources and unique analytical and collection capabilities to anticipate security threats shaped by climate change and extreme weather events. In-country experts can help to identify causal mechanisms between the onset of conflict and changing climate conditions in operational environments to pinpoint priorities for conflict intervention and post-conflict reconstruction missions. Cooperation among intelligence services is a delicate matter, but it is not unlikely or extraordinary. The transboundary security impacts of climate change will require globalized solutions, including from the intelligence community. Although focusing on climate security will require unprecedented thinking and new lines of communication from many military intelligence services, innovative cooperation is needed to meet the new security threats brought about by climate change.

Preventing or mitigating security threats from climate change can also be achieved by mitigating the impacts of climate change itself. Numerous defense departments have already committed themselves to mitigating global warming and have pledged to reduce greenhouse-gas

emissions (GHG). In addition to shifting to renewable energy sources and biofuels or transforming military infrastructures, vehicles, and equipment to make them carbon neutral, reducing the military ecological footprint requires fundamental changes in defense procurement and deployment underpinned by multinational agreements, global binding commitments to emission-reduction targets, and multinational dissemination of best practices.

Military cooperation in technological development is generally complicated by strategic, economic, legal, political, social and technical challenges. Still, military research, practices, and technological innovations that contribute to risk reduction and disaster prevention need to find their way to society. Extreme weather conditions and events also affect military planning and the execution of tasks, challenge the resilience of military installations, infrastructures, and equipment, and impair the efficiency of

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military capabilities.¹² To sustain and enhance operational readiness in the Arctic region – a region becoming more accessible due to climate change – the U.S. Army aims to develop more accurate North Slope Alaska shoreline-erosion and disruptive-weather-events prediction models as well as tools that make arctic infrastructure “aware” of permafrost fluctuations before costly failures occur.¹³ Military operational needs could drive the development of smarter infrastructure and equipment and stimulate green and sustainable technological innovations with civilian purposes. It wouldn’t be the first time that technological inventions were initiated by the defense industry.

ACTING COLLECTIVELY

Extending multinational military cooperation beyond the disaster-response phase to encompass all phases of climate-related disaster management will be one of the greatest challenges ahead. However, the transboundary and indiscriminative nature of climate change impacts on human and national security will be an ever more dangerous challenge if militaries around the world do not collaborate to face these threats. There is a lot that militaries can, but more importantly need to, accomplish together. Militaries need to step up their joint commitment to climate change mitigation and adaptation, especially given the specific capabilities militaries and international military cooperation can bring to global climate change responses. Focusing on efforts within existing partnerships,



In order to prepare civil society for natural disasters, military forces often engage in disaster management exercises as to identify gaps in capabilities, resources, and coordination procedures. Depicted are the navies of Indonesia, Chile, India and the United States during the Rim of the Pacific (RIMPAC) exercise of 2018. (photo: Flickr/ U.S. Pacific Fleet / CC BY-NC 2.0)

like NATO, will not be enough. The pledge of NATO's Action Plan to considerably reduce GHG emissions from military activities and installations does not include some of largest contributors to GHG emissions or the countries that suffer the most significant security impacts from global warming. To effectively address the growing security threats from global warming requires significant changes in military strategic thinking and compels military forces to leverage global relationships with traditional and untraditional partners.

Femke Remmits works as research secretary for the War Studies Research Centre of the Netherlands Defence Academy. Previously, she worked at The Hague Centre for Strategic Studies (HCSS) where she contributed to the Climate Security Risk Index and Assessment report.

Michel Rademaker is one of the co-founders and the deputy Director of HCSS. His fields of expertise include security strategy, policy, concepts and doctrines, geopolitical and economic security implications of climate change, raw materials and energy supply and serious gaming techniques.

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Mail the editor: redactie@atlcom.nl.

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