The Implications of Climate Change for the Military and for Conflict Prevention, Including through Peace Missions

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Climate change constitutes a serious threat to global security, an immediate risk to our national security, and make no mistake, it will impact how our military defends our country.

—President Barack Obama, 20 May 2015

People increasingly recognize that climate change needs to be included in defense and security planning. More than 50 percent of countries now incorporate specific mention of climate change in their defense policies.1 The United States has been a leader in this regard, senior figures in the Pentagon having argued for such inclusion since at least 2007, when CNA Corporation published an influential report on climate security.2 In the lead-up to the major climate change conference held last year in Paris, the French Ministry of Defense organized an international conference of defense ministers and senior officials on the premise that global warming “is as much a peace and security issue as an environmental issue,” and follow-up events are planned.3

This article canvasses five potential effects of climate change for the military, relevant at both the national level and the highest level of international security cooperation: the United Nations Security Council (UNSC). Given that at a national level, one finds considerable acceptance that the military has an important role to play
in helping societies prepare and adapt to climate change, increasing recognition is likely to occur at the international level of climate change adaptation as an important dimension of conflict prevention. The UNSC has already debated the security consequences of climate change but as yet has passed no resolution on the subject. This article suggests that one of the most practical and potentially useful responses to climate change by the council would be to explicitly incorporate a climate change adaptation role into the work of peace missions.

**Effect on Military Installations and Equipment**

Perhaps the most direct and obvious significance of climate change for the military is its impact on military infrastructure. Low-lying military installations such as naval bases are particularly susceptible to rising sea levels and intense weather events. Norfolk, Virginia, home to the US Navy’s Atlantic Fleet, for example, is facing both rising sea levels and sinking ground.

Not only coastal facilities may be affected. Extreme heat may impact training, and changes to ocean buoyancy caused by melting ice may influence submarine operations. The 2010 US *Quadrennial Defense Review* was the first to identify climate change as a threat to national security. The 2014 review provided for “a comprehensive assessment of all installations to assess the potential impacts of climate change on [US] missions and operational resiliency, and develop and implement plans to adapt as required.” The subsequent *Climate Change Adaptation Roadmap* detailed how the Department of Defense was to set about this task.

The United Kingdom has sought to improve the environmental resilience of its defense infrastructure from risks such as coastal erosion or infrastructure overheating. For example, the Chinook helicopter engine has been improved to be able to perform at high temperatures. The UK’s Ministry of Defence (MOD) is one of the country’s largest land owners. It is MOD policy that environmental issues be fully integrated with operational and training requirements as well as with safety issues. To do so, the ministry receives advice from environmental specialists, representatives from conservation organizations, MOD personnel, and expert volunteers.

**Reduction of the Military’s Environmental Footprint**

Military operations, including those by planes, tanks, and ships, involve enormous amounts of energy derived from fossil fuel sources. This fact is particularly true of the US military because of the sheer scale of its operations. During missions in Afghanistan and Iraq, it spent over $20 billion annually on air-conditioning for troops. The US Department of Defense has made significant strides towards reducing its reliance on fossil fuels, thus lessening its environmental impact and its vulner-
ability from the perspective of energy security. The US military has invested in energy-saving activities and in the adoption of new sources of energy such as solar and wind.10

The UK MOD has a Sustainable Development Strategy as a Sub-strategy of the Strategy for Defence, 2011–2030.11 This document articulates two sustainable development principles: first, that “defence must be resilient to current and future environmental, social and economic threats (adaptation)”; and second, that “defence must realise the positive and minimise the negative impacts that defence activities can have on the environment, people and the economy in the UK and overseas (mitigation).”12 The strategy outlines objectives for minimizing these effects, including cutting greenhouse gas emissions from estate and business-related transport, reducing reliance on fossil fuels for operational energy, and decreasing the number of business travel flights.13 Italy has significantly lowered its dependence on fossil fuels; it now has 1.5 million square meters of photovoltaic panels, and its navy is carrying out trials of biofuels compatible with the North Atlantic Treaty Organization’s fuel specifications.14

In 2012 the United Nations Environment Programme (UNEP) issued policy recommendations designed to improve the environmental performance of peacekeeping operations, as well as to capitalize on the peace-building potential of natural resources “while minimizing their possible contribution to conflict relapse and insecurity.”15 UNEP subsequently assisted the UN Institute for Training and Research and the International Institute for Sustainable Development to devise three e-training modules that would support UN peace missions in better managing the environment and natural resources.16

Factoring Climate Change into Planning by Military Strategists

Although the preeminent global military power is feeling pressure to reduce its carbon footprint, the military is generally less likely to play a major role in mitigating climate change than in allaying conflicts related to climate change. One of the key messages of individuals who emphasize the security-defense nexus is that the consequences of climate change are altering geostrategic realities with significant security implications and with necessary consequences for military operations and planning.

One recognizes growing awareness of the potential for geostrategic tensions in Antarctica and even more so, particularly in the midterm, in the Arctic as ice recedes and a new ocean appears; furthermore, increasing competition exists for the resources below. Experts now believe that the Arctic may have ice-free summers before mid-century; there are tensions over “shipping routes and rights of passage through specific waterways that some countries argue are sovereign and others view as interna-
tional shipping lanes”; and concerns are intensifying among Arctic Council members over hydrocarbon fields.\textsuperscript{17}

It has been notoriously difficult for intelligence communities to predict historic events such as Pearl Harbor or 9/11; consequently, military planners must often proceed without full information.\textsuperscript{18} Unsurprisingly, then, in military, policy, and political planning circles, one finds widespread acceptance that climate variability and related developments—including an increase in extreme weather events and rising sea levels—will affect future conflict.

President Obama has declared that the consequences of climate change accelerate the risk of instability and conflict, increase competition for resources, produce climate-change refugees as a result of rising sea levels, and have the potential for mass migration.\textsuperscript{19} People now widely believe that severe drought helped create the instability in Nigeria exploited by the Boko Haram and that crop failures and high food prices fuelled the civil unrest in Syria that descended into civil war.\textsuperscript{20}

Worth noting is the fact that scholars remain divided on the question of whether it is possible to prove a causal relationship between climate change and conflict. Debate on the issue has been a subset of a broader scholarly discussion of whether it is useful to think in terms of environmental security. For example, Michael Brzoska and Christiane Fröhlich have emphasized the difficulty of proving a causal link between climate change and mass migration.\textsuperscript{21} Brzoska has concluded, somewhat cynically, that rather than constitute a basis for any fundamental shift in military planning, climate change serves a justificatory role for militaries to continue along their established paths and to seek additional resources for doing so.\textsuperscript{22}

**The Military’s Response to Threats to Human Security and Natural Disasters**

Climate change means that more demands will likely be placed on the military for activities beyond war: in particular for humanitarian responses to natural disasters and for climate change adaptation. The Royal Moroccan Armed Forces are already heavily involved in rescue and assistance operations to populations affected by extreme climate events, both domestically and internationally.\textsuperscript{23} Morocco has signed an agreement with Spain and France allowing for exchange of best practices and greater interoperability in responding to natural disasters.\textsuperscript{24} A greater role in humanitarian disaster response is evident even for the armed forces of a developed country such as Australia. Climate change is causing an increase in the intensity of floods, bushfires, droughts, and extreme heat—typically summer phenomena—so Australian Defence Force planning includes having force elements ready to be deployed at short notice in response to natural disasters in Australia.\textsuperscript{25}
In future military operations, military information and intelligence, surveillance, and reconnaissance (ISR) capabilities are set to have a far greater impact on humanitarian assistance and disaster-relief activities. ISR assists civil agencies as well as government and nongovernmental organizations in assessing the nature and quantity of supplies needed, based on the number of victims, available resources, and determining priorities. During the Haiti earthquake on 12 January 2010, the US military received orders to assist the disaster-relief efforts of the US Agency for International Development. Navy P-3 aircraft, RQ-4 Global Hawk remotely piloted aerial vehicles, and satellites were used to collect images that helped determine the status of roads, bridges, seaports, humanitarian needs, and routes by which to transport relief supplies.

The military will probably play an enhanced role in responding to other climate-related threats to human security, such as higher rates of infectious diseases transmitted by insect vectors and through contaminated water. At an international level, military assistance has proved critical in containing the spread of the Ebola virus. Approximately 5,000 military personnel from the United States, United Kingdom, China, Canada, France, and Germany were deployed to the virus-affected areas. United States Africa Command was formed following President Obama’s announcement on 16 September 2014 that sought to reduce the impact of the Ebola outbreak on the society and economy of the region. A similar effort was initiated by the UK government through Operation Gritrock. On 18 September 2014, the UNSC declared the Ebola outbreak “a threat to international peace and security” and adopted Resolution 2177. Afterward, the General Assembly unanimously adopted Resolution 69/1, and on 19 September 2014 the UN Mission for Ebola Emergency Response was established, ending on 31 July 2015. It had the unique mission of engaging the military to act in accordance with other international organizations in humanitarian assistance. The United Nations Humanitarian Air Service, the World Food Programme, the UN Mission in Liberia, and the UN Department for Field Support cooperated in the provision of air services, medical screening, and so on.

The Military’s Contribution to Conflict Prevention, Including through Climate Change Adaptation

The second peacetime climate-change-related activity in which militaries are increasingly being deployed is climate change adaptation. At a national level, for example, the armed forces of Chad participate in programs such as (1) reforestation projects that combat environmental threats caused in part by the desert moving 150 kilometers south over recent decades and (2) Lake Chad shrinking by almost 90 percent. The Republic of Haiti has created a defense force that contributes to climate change adaptation, construction of resilient infrastructure, and emergency re-
response to natural disasters. Perhaps the core concern for planners working on climate security is “not in direct links between climate and violent conflict, but in the ability of climate change to disrupt those systems that underlie stability and human security more generally.” In other words, one must emphasize building resilience, not only of natural systems but also of governance and institutional structures and systems, including most particularly those at the local level.

This initiative ties in closely with the UN’s concentration over the last decade on initiatives aimed at conflict prevention. Given the interrelationship between the activities understood to reduce risk of conflict and those needed for climate resilience, UN Resolution 1625 (2005) on conflict prevention offers a basis for building an explicit role for the UNSC in climate change adaptation. Paragraph 3(b), for example, requests the secretary-general to “assist countries at risk of armed conflict in performing strategic conflict risk assessments, in implementing the measures agreed by the concerned countries, in enhancing national dispute management capacities, and in addressing the root causes of armed conflict.”

Given the importance of climate change adaptation as an aspect of conflict prevention, one operational means by which to realize this end would be through peacekeeping and peace building—activities that involve both military and nonmilitary personnel. During the Cold War, peacekeeping was visualized as a “temporary activity, taking place between a ceasefire and a political settlement, and designed to help conflict parties to gain the trust and confidence necessary for a peace accord.”35 Since the end of the Cold War, however, peacekeeping has become multidimensional and can include monitoring, rebuilding, disarmament, and capacity-building activities to create a stable and sustainable environment for civilians.36 Interestingly, in the report An Agenda for Peace, the late UN secretary-general Boutros Boutros-Ghali defined peace building as an “action to identify and support structures, which will tend to strengthen and solidify peace in order to avoid a relapse into conflict.”37 Hence, over the years the concept of peacekeeping has been intertwined with peace building, both of which emphasize capacity and institution building—the very tools that are recognized as important to climate change adaptation.

Current peace building and peacekeeping incorporate activities of direct relevance to climate change adaptation. The United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA) was established on 10 April 2014 after a cease-fire between the Seleka rebels and “antibalaka” militias. With the support of UNEP, the Environmental Cooperation for Peacebuilding—the organization that “offers risk assessments, technical advice, targeted training, and a neutral platform for stakeholder dialogue”—conducted a study on MINUSCA.38 It found that the mission could be the largest energy consumer in the Central African Republic, triggering tension in the region. UNEP therefore recommended a range of energy efficiency measures by which to improve the management
of liquid and hazardous waste. It helped MINUSCA adapt better to its local environment and frame policy objectives to eliminate the exploitation and trafficking of natural resources.

The United Nations Multidimensional Integrated Stabilization Mission in Mali is the first UN stabilization mission that received a formal mandate from the UNSC to manage camp design, waste management, water use, and energy generation. In 2014 at the request of Martin Kobler, special representative of the secretary-general, UNEP conducted a ground-breaking study of violence in the Democratic Republic of Congo. The study surmised that the main reason for crises in the region shifted from political insurgency to smuggling and laundering operations. Estimating the value of exploitation at US $1.24 billion each year, the report helped reshape the mandate of the United Nations Organization Stabilization Mission in the Democratic Republic of Congo’s (MONUSCO) through Security Council Resolution 2211 on March 2015. MONUSCO now concentrates on environmental crimes, especially those involving criminal networks.

Next Steps? More Activities of Peacekeepers and Peace Builders

Working in conjunction with other agencies and local civil society, peacekeeping and peace-building missions could possibly contribute much more to climate change adaptation. By way of example, the latter could be included as a topic in the predeployment training of UN personnel alongside existing subjects such as gender, human rights, child protection, and HIV/AIDS. Similarly, peacekeeping operations regularly submit reports from the field stations to UN headquarters in New York. It would be worth considering whether this reporting system could include data relevant to planning climate change adaptation efforts and building resilience.

Peacekeepers usually receive a mandate to reestablish democratic values and good governance, including capacity building and extensive training activities for members of civil society, scholars, ex-combatants, and members of the security services. Such mandates could conceivably incorporate the development of policies on the environment, internally displaced people, and natural resources—issues that may cause a relapse into conflict.

During a postconflict period, victim states fall short of knowledge and technical know-how to foresee the complex interconnection between climate change and refugees. Following the mass genocide in 1994, the government of Rwanda had to resettle more than two million refugees. Many of these distressed populations were forced to leave Rwanda for the neighboring Great Lake regions of Africa, including the Democratic Republic of Congo and Tanzania. Many of these refugees were living outside Rwanda for years. On their return, considerable numbers were resettled in marshy areas, on steep hillsides, and even in protected areas—unfortunately contrib-
Mitigating complex intrastate tension demands building the capacity of different local and international institutions. Building capacity of the local community and organizations is regarded as a core peacekeeping activity. The UN Police (UNPOL) are heavily engaged in reforming and restructuring existing institutions through integrating individual personnel, organizational units, and broader institutions. During these phases, “gender,” “human rights,” and “corruption” are fundamental policy principles. Integrating climate change adaptation into the policy framework could potentially strengthen the UN’s conflict-resolution strategy in fragile states.42

Community policing has been a success story for UNPOL. Through this activity, the UN has generated public trust towards police, and it was effective in Bosnia and Herzegovina, helping link different communities and the police.43 It was also successful in capacity building and integration activities to improve the overall status of human rights.44 UNPOL’s continuing community police activities could incorporate climate sensitization programs to raise awareness of the issue.

The devastation of climate change and its aftermath should be taken into consideration during disarmament, demobilization, and reintegration. The experience of Sierra Leone shows that not doing so may prolong human suffering. After the civil war in Sierra Leone, approximately 70,000 rebels were disarmed and demobilized.45 The reintegration process proved extremely challenging and resulted in unemployment, which—followed by postwar trauma and distress—instigated the youth and ex-combatants to engage in activities such as drug trafficking, smuggling, and deforesting.46 This rapid pace of deforestation destroyed huge watersheds, damaging the overall environment. Today, Sierra Leone has only 5 percent of the forest it once had.47 If the UN had taken climate change and related environmental concerns into account before the reintegration process took place, the situation might have been different.

Maintaining law and order is a critical role for peacekeepers, especially for UNPOL units.48 Their roles in conflict regions are multifarious, including protecting civilians through maintaining law and order, promoting human rights, safeguarding human security, reducing violence during the electoral process, monitoring and facilitating mobilization and reintegration, and training the local population and indigenous forces.49 Members of UNPOL regularly organize training for local police forces to promote professionalism as an integral segment of security sector reform.50 They also promote human security, improve the quality of local policing, and build capacity to perform security duties.51 Inclusion of climate change adaptation in UNPOL’s “cohesive strategic guidance framework” could potentially strengthen efforts towards sustainable peace and security.52
Council Debates on Climate Change to Date

The UNSC is no stranger to the concept of climate security. During its presidency of the council in 2007, the United Kingdom initiated a debate “exploring the relationship between energy, security and climate.” Much of the debate concerned whether the UNSC was the appropriate forum in which to address climate change. The European Union and a number of Pacific small island developing states (SIDS) agreed that the UNSC could play an important role in addressing climate change although there were differences in the extent to which they perceived a useful role for the council. The United Kingdom stressed the need to utilize the debate as a forum to raise awareness; France and Germany emphasized active prevention; and the SIDS insisted that the UNSC become more involved in climate change since it posed a direct threat to international peace and security. Russia, China, and the Group of 77 coalition of developing countries argued that the General Assembly, Economic and Social Council, and the United Nations Framework Convention on Climate Change would be more appropriate forums in which to address climate change.

In 2009, following a campaign by the SIDS, the General Assembly passed Resolution 63/281, emphasizing its deep concern about the adverse effects of climate change and its security implications. Furthermore, it “invited the relevant organs of the United Nations, as appropriate and within their respective mandates, to intensify their efforts in considering and addressing climate change, including its possible security implications.” A subsequent report by the secretary-general identified climate change as a “threat multiplier.” A 2011 debate again met with resistance from Russia, China, and the Group of 77 although the United States was this time far more positively inclined towards the issue. According to Susan Rice, US ambassador to the UN, “It is past time for the Security Council to come into the 21st century and assume our core responsibilities.” At the closing of the debate, a presidential statement of the Security Council expressed grave concern that in the long run, threats to international peace and security might be aggravated by climate change.

A 2013 Arria-Formula Meeting was cosponsored by the United Kingdom and Pakistan; another, in 2015, was cosponsored by Spain and Malaysia. Emphasis remained on the role of climate change as a threat multiplier. Members of the SIDS emphasized sea-level rise and its effect on their citizens. A number of African G77 states argued that “desertification and heat waves created economic and social disruption that creates a breeding ground for recruitment into radical organizations, such as Boko Haram.” The subject arose again when in July 2015 New Zealand hosted a debate on peace and security challenges facing SIDS.
Conclusion

The military cannot avoid addressing climate change and, indeed, is already doing so. The relationship between military activities and climate change is bidirectional. On the one hand, the military may be part of the solution in responding to climate change while on the other hand, the military may itself exacerbate the problem. In many cases, the military is the only organization able to respond on the scale necessary, for example, to natural disasters rendered more frequent by climate change and to instigate postconflict development that is environmentally sustainable. At the same time, the traditional role of the military is affected through opening up potential new theaters of conflict. The military must tackle new challenges yet at the same time reduce its own environmental footprint and adapt to the climate change threats to its own infrastructure and modes of operation.

Notes


8. Ibid.


20. Ibid.
24. Ibid.


40. Ibid., 32.


42. Ibid., 8, 9.


49. Lise Morjé Howard, *UN Peacekeeping in Civil Wars* (Cambridge, UK: Cambridge University Press, 2008), 80, 156, 164.


57. Ibid.