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Climate Change, the Laws of War and the Military

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KAREN HULME, MAR 14 2012

There is scarcely an area of international law that remains untouched by the phenomenon of climate change and the undeniable challenges that coping with its effects has created. International environmental regulation was, of course, the first area of law to react, developing notions such as 'common but differentiated responsibility' and expanding on fledgling concepts such as the precautionary principle. But the projected scale and intensity of its impacts and the mammoth task the international community has in trying to mitigate and adapt to climate change are unrivalled in the history of international environmental law. Mitigation efforts to date have been painfully slow and inadequate, and this pace of (in)action does not look set to quicken in the near future with delegates consistently returning empty-handed from climate negotiations. In large part due to the influence of the climate change deniers of the 1980s and 1990s it was only slowly realized that climate change was unlike any other environmental problem the international community had faced. That the effects of climate change would impact on every dimension of international law is now still only being realized. One area in particular where more research is required concerns the laws of war – what has been (and will be) the impact of climate change on the military and the laws of war?

The topic of this article is the impact of climate change on the laws of war and the military. The article will address how climate change is affecting military operations and planning, as well as how the laws of war (the laws applicable during wartime) may need to be amended in order to protect those facilities and components such as forests and flood defences that societies will be so reliant upon in the future to protect us from the harshness of climate change impacts. Before we move onto the issue of the laws of war, it is worth noting the peacetime actions that militaries have undertaken with regard to mitigating their contribution to climate change.

Reducing the Military's Carbon Footprint in Peacetime

A strong technological capability is the objective of most militaries, with the US being undoubtedly the most hi-tech military in the world. Hi-tech weaponry and aircraft brings a hefty carbon footprint – for example an aircraft using approximately 4,000 litres of jet fuel/hour would produce over 10,000 kg of carbon dioxide/hour.[1] On the other hand, the US military has also been at the forefront of efforts to 'green' its activities by adopting clean energy generation at its domestic military bases (see Sheets). Even simple steps such as installing metered electricity in its barracks have helped to reduce its carbon emissions. The US military was also undoubtedly the first to recognize that the impacts of climate change would have a very real effect on military infrastructure, especially on its navy if rising sea levels created difficulties or even dangers for its vessels to enter harbour. Others too have now followed suit, with the British Ministry of Defence producing its 2005 *Sustainable Development and Environment Manual* which detailed how, by switching from plastic bottled water to Tetrapac-style cartons, it could reduce the resultant carbon dioxide emissions by 334 tons per year – based on the annual supply of bottled water to 5,500 troops.[2] Similarly, for the same group of 5,500 troops the *Manual* suggests that "using plastic cutlery over 1 year accounts for 550 tons of carbon dioxide emissions, whereas, the use of durable cutlery, for a similar period, could account for as little as 2 tons"(para.13).

Should we prepare for Climate Change as a Weapon of War?

Back in the 1970s the US experimented with hi-tech environmental manipulation warfare in the form of cloud seeding; could such tactics now be given even greater destructive power with an alliance with climate change

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events?

Envisaged in the 1970s as an instrument to outlaw such emerging and potentially disastrous techniques, the modern impression of the 1976 ENMOD Convention (United Nations Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques) undoubtedly strays into the realm of absurdity. The explanations provided for the negotiation of the Convention, given at the same time as its adoption, cite, for example, that it aimed to prohibit the intentional explosion of a nuclear device so as to cause a tsunami or earthquake which would impact the enemy's territory and wreak havoc on its population. More likely scenarios included the smaller-scale use of such weather manipulating techniques as rain-making designed to flood the enemy supply routes or forward advance positions. If used on a sufficiently small scale, such techniques do remain a lawful option today – even with the ENMOD Convention in place.[3] . While rain making is clearly one very real possibility, the opposite is also true: that of whisking clouds away from a military base or position in order to improve conditions for friendly troops – a tactic referred to as a 'force multiplier'.

Yet, this is probably not a tactic we are likely to witness on the battlefield in conjunction with climate change any time soon. While the technological capability is undoubtedly already available, as witnessed in the Russian and Chinese use of cloud-busting in peacetime, such tactics in warfare are probably just too imprecise and unwieldy to have any real advantage over the use of other weaponry. Worthy of mention at this point is the possibility that a customary prohibition[4] has formed regarding the use of the environment as a 'weapon'. This view is held by the joint authors of the 2005 Customary International Humanitarian Law Study.

The following sections will outline some possibilities for future climate change impacted warfare as well as the potential associated impacts on the military.

Future War: Targeting Climate Adaptation Infrastructure

The current laws of war, of course, require of the military that they direct their military operations only against military objectives and so far as possible spare the civilian population and civilian property. Thus, the laws require that any necessary destruction is directed at installations that provide military utility for the enemy – and thus the destruction of which would provide military advantage for the attacker. Power stations and oil facilities providing fuel for the military are undoubtedly the major concern here. The existing laws of war do provide some protections to nuclear and hydroelectric power stations although that protection is not absolute. Yet such protection is not on the basis of their climate adaptation benefits, but rather the massively destructive forces that damage to such installations would unleash on an indiscriminate basis. Mankind has outlawed such techniques as far as possible while recognizing the legality of an attack on these facilities if necessity demands it, notably in the sense that enemy use of the facility was sustained and substantial (i.e. use in regular, significant and direct support of military operations). It seems that the international community is willing to protect such facilities as far as it possibly can whilst still maintaining the realities of war. Clearly an absolute immunity from attack could serve as an open invitation to abuse by the defending party. There is no such protection for oil facilities at present, but the international outcry and condemnation following the Israeli bombing in 2006 of oil storage tanks at the Jiyeh power station in Lebanon may indicate a greater global conscience at the environmental destruction in an era of climate change impacts.

Added to the list of facilities gaining wartime protection are dykes (or flood defences more generally), and following the devastation wrought by Hurricane Katrina their importance for coping with climate change impacts, such as rising tides, is probably second to none. Again, the wartime protection of dykes came not as a result of recent awareness of climate change but as the result of ancient wartime usages of dyke-busting (and dam-busting) techniques in drowning the enemy. It was the inhumanity and indiscriminateness of such a tactic that caused its ban, yet the fact that the prohibition is already in place will surely benefit populations in future conflicts taking place in a climate-changed world.

It will become ever more imperative that facilities which are shielding vulnerable populations from dangerous climate impacts are protected from the effects of war. For example, we might expect flood defences, dams, clean energy generators and early warning systems, as well as scarce water resources and foodstuffs to be protected by

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international conventions. Tackling the legitimacy of attacking forests (where the enemy uses the forest as cover and so turns it into a military objective) is also likely to become increasingly more imperative.

In the sense of restricting warfare to military objectives, much of the job has already been done. However building regulation itself is only half the challenge: ensuring compliance being the other, more problematic half. As a consequence there is still some way to go in ensuring that the facilities needed in combating climate change do not become targets – and thereby proxy-weapons – of war.

The Effect of Climate Change during Warfare

In the future we are more likely to witness cases where the devastation wrought on populations by armed conflict is experienced simultaneously with a climate change impact, such as tsunamis or flooding. Recent experience from Aceh (Indonesia), Sri Lanka and Colombia demonstrates that such double tragedies are all too real. The challenges for the military in such situations will be in maintaining a level of battlespace control and management – not simply of its own forces who might be caught up in the disaster and lacking a working command structure as a result – but also of the population whose situation will be getting direr by the hour. Occupied territories will fall within the responsibility of the military occupier and hence their needs must also be ensured, in the sense of, amongst other things, adequate food, shelter and medical supplies. More than likely in these circumstances a ceasefire or truce will need to be negotiated – possibly temporarily, possibly more permanently (as occurred in the case of Sri Lanka) – and the military forces of both sides to the conflict (thus including the rebels) will need to be prepared to pull together to combat the devastation. For example, imagine trying to cope with the Japanese earthquake of 2011 and the resultant nuclear radiation leak in the midst of conflict. Chaos, confusion and additional human vulnerability and suffering will thus compound any conflict situation and militaries will need to be prepared to face such an eventuality. It is clear that civil society, in the form of the International Committee of the Red Cross (ICRC), already has strategies in place for coping with natural disasters both in peacetime and during conflict. More military engagement with such existing strategies would be a very concrete first step. This author urges that over the next few years militaries establish their own responses or plans, and engage with the ICRC and others to establish agreed ‘conflict and disaster response guidelines’.

Consequently, as militaries recognize the challenges posed by these dynamics, it will be in their preparations that the projected impacts of climate change will first be addressed. To an extent this is already evident, as militaries begin to contemplate and plan how to respond to perceived threats. Rising sea levels and more frequent or violent winds and storms will have foreseeable consequences for naval forces. Flooding may cause problems for manoeuvres and for training, while increases in temperatures could mean greater incidence of disease among forces engaged in operations. More pertinently, armed forces might be drawn into more frequent combat operations, which result from the adverse effects of climate change such as large-scale migrations or conflicts over resources or adverse climate conditions. Indeed, in its policy document entitled *Joint Operations for the 21st Century*, the Australian Defence Force (ADF) outlines “climate change and the impacts of global demography” as new security challenges to be faced. The Report also predicts that as a consequence of climate change the ADF will become more involved in stabilising failing states rather than fighting conventional wars.

Yet, while the broader threats of climate change impacts to military operations and the military itself have been contemplated and are gradually being acted upon, it is not clear that the military is seriously analyzing the laws of war with a view to increasing or clarifying the wartime protection of invaluable facilities and resources. These dual aspects of military and legal preparedness need to be top priorities in contemplating future war.

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Karen Hulme is the author of ‘Climate Change and International Humanitarian Law’ in Rayfuse and Scott (eds), *International Law in the Era of Climate Change*, forthcoming November 2012.

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[1] Interview with Mr. David Sheets, US Army Environmental Policy Institute, interview, 16 July 2007.

[2] *Sustainable Development and Environment* Manual, Chapter 19, p.5, para.12. The Manual is currently in the process of being revised and is not available online.

[3] This is so because the Convention contains a prohibited threshold of damage, that while set at a low threshold, is not so low as to qualify as an absolute prohibition. Consequently, under the Convention the environmental damage caused by the environmental modification (eg the man-made tsunami) must not exceed damage that is 'long-lasting, widespread **or** severe' – with long-lasting referring to damage lasting for just a season. Thus, a sufficiently small scale artificial storm or fog induced to disrupt enemy manoeuvres might actually remain lawful.

[4] Customary international law is the notion that acceptance of a particular rule has become so widespread amongst states that they are all bound by the rule irrespective of ratification of any treaty containing that rule.