

PART 3

Adaptation

Climate Change and the Role of the Military in Crisis Management and Disaster Response

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Abstract

Armed forces have long played a role in crisis management and disaster response. Yet, as the effects of climate change become increasingly widespread and disruptive, civilian authorities are more likely to be overwhelmed by the impact of these events and request military support. This chapter proposes three changes in military contributions as it takes on a larger role in responding to crises and disasters. The military needs to shift from a security to a humanitarian mindset, from autonomous to civil-military operations, and from crisis response to improving resilience. The concluding sections reflect on the normative and practical implications of the proposed changes and offer a research agenda.

Keywords: crisis management, disaster response, climate change, security, military, humanitarian aid.

10.1 Introduction

Climate change poses one of the greatest challenges of our times. The global rise in temperatures has far-reaching consequences for the natural equilibrium and, by extension, for human welfare. One of the most disconcerting consequences of climate change is that natural hazards will continue to increase in scale and frequency, making crises and disasters more likely. Catastrophic wildfires and extreme rainfall, for instance, are becoming more common and cause ever more damage. Coastal and inland floods are also intensified by climate change and are now increasingly severe (IPCC, 2022). And even though tropical cyclones may reduce in number, they are increasingly powerful and have potentially devastating effects, as storm surge risks are on the rise (Walsh et al., 2016).

Natural hazards, however, do not cause crises and disasters on their own. Hazards only turn into crises or disasters when communities are vulnerable to their impact. The main cause of a crisis is therefore not the natural event, but the social structures and political decisions that have rendered people vulnerable to those events in the first place. By extension, climate change does not cause disasters, but

poor preparation, societal marginalisation, and widespread poverty do (Chmutina & Von Meding, 2019; Kelman, 2020; O'Keefe et al., 1976; Raju et al., 2022). Such social processes render people more exposed to the impact of climate change effects and less able 'to anticipate, cope with, resist and recover from the impact of a natural hazard' (Wisner et al., 2004, p. 11).

In response to the disastrous effects of human-induced climate change on vulnerable communities, countries are increasingly deploying their armed forces (Brzoska, 2015). Armed forces bring several capabilities that are complementary to those of civilian crisis organisations and that have proven useful in the aftermath of disasters. Navy ships have transferred large quantities of goods to hurricane-struck areas, the Army has activated its personnel to reinforce dykes and evacuate communities at risk of flooding, and Air Force helicopters are crucial for gaining an informational picture of a disaster's impact (Canyon et al., 2017; Kalkman, 2023; McGrady et al., 2010). There is therefore clearly a functional need for military contributions, because civilian crisis organisations often lack the required capacities, particularly in large-scale disaster events. In addition, there are good reasons for armed forces to get involved as well. Crisis management activities, including humanitarian aid and disaster relief (HADR) missions, boost the military image in the public eye and are generally good for personnel morale. Such civil support operations clearly are in the interest of military organisations too (Edmunds, 2006; Malešič, 2015). Thus, it should come as no surprise that armed forces have recently played a crucial role in the response to various major crises and disasters, including tropical cyclones, floods, and wildfires (Botha, 2018; Canyon et al., 2017; Moynihan, 2012). Armed forces are even deployed in response to the rise of climate refugees, either to search and rescue those at risk or to fortify and enforce border control measures (Smith, 2007).

As of yet, the military literature seems primarily preoccupied with the geopolitical and security implications of climate change, while the consequences for civil support operations by armed forces have received only limited attention. Instead, we explore the evolving role of armed forces in crisis management and disaster response, as human-induced climate change continues to wreak havoc on vulnerable communities. Rather than a comprehensive literature review, this chapter aims to explore these changing roles and contributions of armed forces in a climate changed world on the basis of a selection of relevant publications.

This chapter proceeds with a discussion of the current roles of armed forces in crisis management and disaster response, before exploring potential future roles and contributions. In the main section, we argue for three changes in military contributions, stating that the organisation needs to shift from a security to a humanitarian mindset, from autonomous to civil-military operations, and from crisis response to improving resilience. The following section offers some reflections

and practical implications of the ideas in this chapter, while a final section provides a research agenda.

10.2 Roles of Armed Forces in Crisis Management and Disaster Response

Over the last few decades, the role of armed forces in responding to crises and disasters has increased significantly. While military deployments in this domain used to be exceptional, there has been a noticeable rise since the end of the Cold War with countries deploying their armed forces for a range of new activities, reflecting a shift away from territorial defense towards civil support operations (Clarke, 2013; Edmunds, 2006). Of late, military personnel, logistics, and information-gathering capacities have frequently been requested by civilian authorities in times of need and are often both available and of high quality (Kapucu, 2011; Osborne, 2006). There have even been calls to give armed forces a leading position during large-scale emergencies out of a presumption of superior leadership skills (Banks, 2006), although this remains contentious.

In practice, a large variety of tasks may be allocated to armed forces in times of emergency (Schnabel & Krupanski, 2012), such as the responsibility to evacuate (soon to be) affected areas, search and rescue duties, the provision of relief goods, or maintaining public order. Covid-19 also triggered novel military contributions, including the deployment of military medical personnel to serve in public health-care, the creation of new medical facilities, and the enforcement of lockdowns (Kalkman, 2021). Military activities during crises and disasters, clearly, are diverse and often substantial.

The military role in times of emergency is expected to increase, as climate change leads to increased risks of destructive disasters (IPCC, 2022). Civilian crisis organisations are more likely to become overwhelmed by the impact of these disastrous events and request military support, particularly when repeated disasters (e.g. recurring extreme weather events, rising sea levels) progressively erode the civilian response capacities in communities. Thus, a core assumption in this chapter is that civilian and military organisations need to coordinate in responding to this global challenge, and that civil-military interactions are therefore key to effective crisis management and disaster response.

It is important to note that a greater role for armed forces in responding to crises and disasters is not always broadly supported. Military organisations, in fact, are not necessarily (perceived as) impartial organisations and their participation in humanitarian relief operations may well be met with skepticism in various contexts. In countries like Haiti and Zimbabwe, people have good reasons to be mistrustful of their armed forces, because their interventions may primarily serve

the purpose of suppressing social movements or silencing opposition candidates rather than providing relief to those in need (Hilhorst & Mena, 2021). Clearly, when there is general distrust towards the central government in a society, military contributions to crisis management and disaster response will be of limited use or may be altogether rejected by intended clients. Still, in many countries, armed forces can and do offer important capabilities for managing crises and responding to disasters.

In the remainder of this chapter, we focus specifically on armed forces and their role in mitigating the adverse effects of climate change-related crises and disasters. For military contributions to remain successful in this domain, the organisation would do well to start reviewing and revising its crisis mindset, operations, and approach.

10.3 The Need for Changing Military Contributions in Response to Climate Change

10.3.1 From a security to a humanitarian mindset

The armed forces are a security-oriented organisation. Being the primary organisation for the protection of territorial integrity and the international rule of law, armed forces are equipped and prepared for interventions that aim to counter security threats and defend their country's vested interests. By extension, new recruits are socialised and trained to develop security mindsets, making them conscious and aware of security risks as well as able to neutralise threats swiftly when necessary. This mindset is of instrumental importance in times of war and armed conflict, but may be an obstacle when the crisis is of a humanitarian nature. Since climate change primarily creates the conditions for humanitarian emergencies, effective military interventions will require a shift away from the familiar security mindset.

Difficulties in switching from a security to a humanitarian mindset have been reported during various disasters. Over a century ago, when San Francisco was consumed by earthquake-induced fires, the inhabitants were trying to fight the fires to save what remained of their city, but were seen as looters and security threats by deployed military personnel, who even went so far as to shoot innocent civilians in their desperate, misguided attempt to quell what they perceived as social unrest (Solnit, 2010). One hundred years later, the US military and the US government at large repeated this mistake after Hurricane Katrina struck New Orleans. Again, the disaster area was viewed from a security perspective with one general infamously likening New Orleans to Somalia and announcing a 'combat operation' to retake the city, even as thousands of disaster victims remained without water, food, medicine, and electricity (Chenelly, 2005).

The above examples reflect a ‘securitisation’ of the disasters, induced by the military using their security mindset to act in a disaster context. This is problematic, because armed forces may inadvertently end up doing more harm than good if they mistake a disaster for a security threat. Rather than providing much-needed first aid, overburdened supply lines serve to ship in security personnel and consume scarce resources needed by the local population. As a result, communities are likely to resent the armed forces or the government in general. For one, they feel treated as criminals rather than victims, and, even worse, they do not receive the most basic goods for survival (Tierney et al., 2006).

For effective military interventions in climate-change related crises and disasters, military personnel must be able to switch to a more humanitarian mindset. This requires a certain adaptive flexibility on the part of armed forces. Rather than extensive planning and intelligence-gathering, they need to assume that security risks after major emergencies are minimal, as confirmed in previous studies (Heide, 2004), and improvise a humanitarian response. The fact that this does not come easy to armed forces is reflected in the derogatory reference to ‘the military approach’ in disaster literature as representing an overly rigid and hierarchical way of responding to disasters (Dynes, 1994), but fortunately there are also more successful examples of military adaptive capacity enabling humanitarian relief operations in the aftermath of crises and disasters (Kalkman, 2023; Zijdeveld & Kalkman, 2023). Generally, it may be advisable to follow the example of humanitarian organisations in these situations: non-governmental organisations have more experience with operating in disaster-struck areas and are well aware of the merits (and limitations) of a humanitarian mindset when operating in an affected area.

10.3.2 From autonomous to civil-military operations

In many missions and operations, armed forces operate autonomously. The military actively tries to avoid being dependent on other organisations to maintain its ability to choose its own course and to adapt quickly when the environment has changed. In expeditionary contexts particularly, the reliability and trustworthiness of civilian agencies have been questioned, resulting in a preference for autonomous military operations. But armed forces are usually not allowed to operate by themselves in crisis and disaster areas. Only after a formal request for military assistance by civilian authorities, may troops be deployed. Even when deployed, military personnel typically remain subordinate to civilian authorities for as long as the response lasts. This means that civil-military collaboration is crucial to managing a disaster after a natural hazard, intensified by climate change, has struck a vulnerable population (Bollen & Kalkman, 2022).

Albeit crucial, civil-military cooperation is not an easy endeavour. Earlier research shows recurrent obstacles to the partnership. Civilian and military organisations differ in some important ways. The organisations feature different operational styles, organisational principles, and normative values that create a gap between them, which may sometimes appear unbridgeable (Franke, 2006). When there is a need for urgency and partners lack familiarity, collaboration is particularly problematic and prone to produce suboptimal results (Rietjens & Bollen, 2008). To complicate matters even more, organisations may hold competing interests, which hinders communication and coordination, in particular when there is a lot of public attention for the response and there is much at stake (Keane & Wood, 2016)

Yet, the majority of studies focus on civil-military collaboration in expeditionary contexts which may differ considerably from civil-military responses to crises and disasters (Bakx et al., 2021). The few studies on this latter type of civil-military cooperation offer mixed results. In a domestic context, civilian and military liaisons may collaborate on a daily basis in crisis prevention and preparation, fostering a bond of inter-personal trust that facilitates effective collective action in response to small-scale crisis incidents and emergencies (Kalkman & de Waard, 2017). Research on civil-military collaboration during infectious disease outbreaks, however, demonstrates persistent problems in creating adequate framework conditions, maintaining strong relations over time, and integrating civilian and military activities (Janse et al., 2022). Finally, responses to large-scale disasters, such as hurricanes, show that civil-military cooperation experiences can go either way, with interactions ranging from highly successful to deeply problematic (Kalkman, 2023; Samaan & Verneuil, 2009).

As of yet, there is no clear pattern to be distinguished. Civil-military collaboration in response to climate change effects may benefit from the (temporarily) shared objective of reducing the impact of emergencies as well as the awareness among partner organisations of their interdependency to reach this objective (Bollen, 2002). When collaboration is lasting, civilian and military personnel may also build more trusting relations and develop confidence in one another (Alvinus et al., 2014). However, civilian and military organisations will still have their organisational differences and competing priorities complicating their cooperation. In general, it is clear that, just like in other civil support missions, armed forces will depend heavily on civilian institutions and authorities when responding to the emergencies that climate change renders more likely. Investments in civil-military partnerships appear therefore indispensable to deliver effective military contributions to future crisis management and disaster response.

10.3.3 *From crisis response to improving resilience*

Currently, armed forces are often operating as a ‘last resort’ during crises and disasters, which means that they are called to intervene when no other options are available. This may partly be explained by the fact that military organisations are not always eager to take up this new role, as some personnel view it as a distraction from the organisation’s main task to fight wars and intervene in armed conflicts (Forster, 2005). Yet, the ‘last resort’ approach also restricts potential military contributions to a late phase in emergency management, even though such support could have contributed to improving resilience before a situation escalated.

To reflect on how the armed forces can contribute to more resilient societies in the face of climate change, it is important to zoom in on the vulnerabilities of affected people. In particular, marginalised groups (e.g. women, minorities, lower socioeconomic classes) are consistently hit harder than others (Kalkman, 2024). These groups are more vulnerable, because they tend to live in areas that experience the brunt of climate change effects while having fewer resources to save themselves. In the aftermath of hurricane Katrina, for instance, it was the poor, black population in New Orleans that faced the worst effects (Bolin & Kurtz, 2018). Similarly, after the 2004 Indian Ocean tsunami, women and certain ethnic groups were worse off than groups that were relatively privileged (Amarasiri de Silva, 2009). This unequal impact of disasters among communities is found time and again. The problem with climate change is that rising sea levels and recurring extreme weather events may continuously undermine the resilience of the most vulnerable communities, resulting in ever-worsening vulnerability.

It is not up to the armed forces to make public policy, but military actions may undermine or contribute to community resilience in various ways. One way is to assess the impact of crisis management and disaster response activities by not only looking at speed and size of the operations, but also by taking into account the impact on affected communities. At the moment, public emergency responses may unintentionally reinforce marginalisation of vulnerable groups. Public authorities are often unaware of the specific needs of particular vulnerable groups or focus activities on easy-to-reach (but relatively well-off) victims of a disaster, exacerbating inequalities in a society (e.g. Akerkar, 2007; Amarasiri de Silva, 2009). Increased awareness may help armed forces to avoid accidental erosion of community resilience. Military organisations can also decide to be more ambitious and actively correct societal discrimination through their response activities by prioritising aid to the most marginalised, challenging historical inequalities and contributing to societal change that makes the most vulnerable more resilient (Branicki, 2020).

Military involvement in the early stages of crisis management and disaster response may further improve societal resilience to climate change in another way.

Armed forces usually need some time to activate resources to commence relief operations, so are sometimes criticised for being slow responders (Moynihan, 2012). If military partners are involved in the preparation through planning sessions, training, and exercises, it will be easier to anticipate requests, enabling faster responses and reducing the impact of extreme events. By extension, military expertise might come in useful in thinking about preventing and preparing for crises and disasters (Kalkman & de Waard, 2017). As such, when military contributions shift from a reactive to proactive approach, they have the potential to increase community resilience and thereby mitigate the worst effects of climate change.

10.4 Reflections and Implications

Climate change is creating the conditions for increasingly disruptive crises and disasters, and civil authorities are likely to increasingly call for military support to respond to these extreme situations as a result. For effective interventions, three changes are required from the armed forces. The organisation needs to shift from a security to a humanitarian mindset, from autonomous to civil-military operations, and from crisis response to improving resilience.

It is worthwhile reflecting on the normative implications of these changes. These changes facilitate more effective military contributions, but there are also some potential downsides to consider (Head & Mann, 2016; Malešič, 2015). First, there is the risk of a militarisation of society, particularly when a growing military role comes at the cost of civilian organisations, eroding their funding or capacities. Equally worrisome is the possibility of military personnel being unaware of the operational restrictions during these missions and treating a disaster zone as a warzone, failing to abide by the rule of law or legislation that protects certain rights, such as the right to assembly. There are also implications for armed forces to take into account, since a larger role in responding to the worst effects of climate change may interfere with exercises or other missions and require the acquisition of new or dual-purpose capabilities. It is therefore of crucial importance that (new) positions and roles of armed forces are legally justified, politically mandated, and broadly supported. Still, climate change is commonly believed to pose one of the greatest threats to vulnerable societies across the globe and armed forces cannot stand aside idle.

Finally, there are some practical implications that can be drawn from the three proposed shifts. Military personnel need training for humanitarian interventions in order to enable switching from a security mindset to a humanitarian mindset, preferably together with civilian partner organisations who have more experience with operating in these contexts and know best what people will need after a

devastating crisis or disaster. There is also a need for giving more prominence to partnering across civil-military boundaries by training dedicated liaisons in both organisations for this task. This will increase mutual understanding and collective problem-solving when disaster strikes. By extension, these liaisons need to be granted discretionary powers as well as influence in their respective organisations to ensure that they can effectively fulfill their role as inter-organisational boundary-spanners. Moreover, military units would do well to start collaboration with intended civilian partners from the pre-emergency stage onward. And after interventions, they should collaborate with civilian partners and affected communities to explore the impact of the response operations on community resilience. If these proposed changes are considered and incorporated, the armed forces will likely play both a crucial and sustainable role in responding to the potentially disastrous effects of climate change.

10.5 A Research Agenda

In this chapter, we have focused primarily on the required changes in the armed forces to become better prepared for responding to the dramatic effects of human-induced climate change on vulnerable communities, but civilian organisations might also need to undergo changes. Non-governmental organisations, for instance, will play a key role in responding to future crises and disasters, but may not always be able to reallocate funding rapidly in reaction to unanticipated disaster relief projects. Vice versa, military organisations can be very decisive in crisis situations and set aside inhibiting rules and procedures in the interest of the mission. We need more research on what civilians can learn from the military too, as we prepare for a climate-changed future. Next, as we argue for changes in the armed forces, it is important to acknowledge that change in the military is not always easy (Holmberg & Alvinus, 2019). Successful examples need to be treasured, studied, and analysed for generalisable lessons. Moreover, since armed forces are bound to play a greater role in a climate-changed future, concerns have been raised about the societal and organisational effects of the larger domestic military presence. Most of it, however, is speculation and empirical studies on these effects are virtually absent but much needed. Finally, civil-military cooperation is crucial for effective missions and operations in the future. There have been positive experiences with such partnerships in earlier cases (e.g. HADR, Covid-19), so it is worthwhile exploring what lessons can be drawn from these positive experiences that can be used by armed forces and civilian organisations in the future as they collectively prepare for mitigating the potentially disastrous effects of climate change.

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