

Climate Security between Acts of God and the Anthropocene: Lessons from Paradigmatic Shifts in Disaster Studies¹

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Abstract

This chapter focuses on the challenge of addressing climate security threats. Though climate change and its threats to human security are in many ways unique and unprecedented, there is a lot to be learned from experiences with disasters in the past and the ways these were understood and managed. Whereas early mankind resorted to religion and ritual to deal with adverse events, the emerging academic field of disaster studies has since World War II begun to explain disasters from a scientific point of view. Moreover, it has seen considerable development and change over the last couple of decades which can be summarised via several significant paradigmatic shifts. This chapter starts by outlining the main features of the current climate change crisis based on the insights from the UN Intergovernmental Panel on Climate Change, and its (human) security impacts. It then turns to the field of disaster studies to see how subsequent approaches have tried to deal with disaster, including the role of the military. I give an overview of the main paradigmatic shifts in disaster studies over the last fifty years. I intend to show that these paradigmatic shifts in disaster studies are important to climate security as well. I identify seven themes derived from my discussion of disaster studies that I deem relevant to climate change. I also highlight some of climate security's own idiosyncratic features that go beyond the field of disaster studies expertise so far and will require innovative steps. These concern the seriousness, scope and scale of climate change impacts that supersede those of conventional disaster, as climate change is a global and chronic condition in contrast to most conventional disasters that strike in only limited areas and time frames. Other distinctive features of climate change are the role of vested interests that mitigate against climate policies, and the phenomenon of denialism. This chapter is partly based on earlier work by the author in the field of disaster and security studies and on secondary sources specially collected or perused for writing this chapter.

Keywords: climate change (impacts), disaster studies, paradigm shift, vulnerability, agency, resilience, co-governance.

2.1 Climate Change and Climate Security

The most authoritative source on climate change is the Intergovernmental Panel on Climate Change (IPCC) that publishes periodic assessment reports (AR) and underlying studies. Its most recent assessment report, the Sixth Assessment Report or AR6 published in 2021, “addresses the most up-to-date physical understanding of the climate system and climate change, bringing together the latest advances in climate science, and combining multiple lines of evidence” The report in fact comprised four reports, namely: The Physical Science Basis; Impacts, Adaptation & Vulnerability; Mitigation of Climate Change; and the Synthesis Report that builds on the findings from all three reports.² In addition, the IPCC published an AR6 Synthesis Report, Climate Change 2023³, including a summary for policy-makers (SPM) (IPCC, 2023: 8).

The reported findings in these publications are absolutely serious, if not outright alarming. Regarding global warming the SPM states that: “Human activities, principally through emissions of greenhouse gases (GHG), have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020. Global greenhouse gas emissions have continued to increase, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals”. It adds that: “differences in CO₂ emissions vary substantially across regions in terms of total magnitude. ... The 10% of households with the highest per capita emissions contribute 34–45% of global consumption-based household GHG emissions, while the bottom 50% contribute 13–15%” (IPCC, 2023: 4 and 5).

The Panel confirms that widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have already taken place with human-caused climate change affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damage to nature and people (IPCC, 2023: 5).

Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change, often in least developed countries and increasing weather and climate extreme events have exposed millions of people already to acute food insecurity and reduced water security, next to causing irreversible losses to nature. Extreme heat events have resulted in human mortality and morbidity, while the occurrence of climate-related food-borne and water-borne diseases and the incidence of vector-borne diseases have increased (IPCC, 2023: 6). The effects of climate change have also led to displacement and migration due to disappearing livelihoods. Over 216 million people could move within their countries by 2050 across six regions, according to the World Bank’s latest Groundswell report (Clement et al., 2021).

With regard to adaptation to climate change, prevailing patterns are highly unequal with progress in limited fields and regions, combined with serious gaps, challenges and maladaptation in other regions and sectors with the largest adaptation gaps among lower income groups (IPCC, 2023: 8).

The SPM asserts that key barriers to adaptation are, among others, limited resources, lack of private sector and citizen engagement, lack of political commitment, limited research and uptake of adaptation science, and a low sense of urgency. There are widening disparities between the estimated costs of adaptation and the finance allocated to it (IPCC, 2023: 9).

While mitigation measures have expanded and contributed to reduced emissions, this has not been sufficient to guarantee that temperatures will remain below the agreed threshold of 1.5°C in the 21st century and make it harder to remain below 2°C. Mitigation policy coverage is also uneven with finance lacking for low-emission technologies for developing countries (IPPC, 2023: 10–11).⁴

The Panel asserts that the prospects for the future are grim. Global warming will continue to increase in the near term (2021–2040) and is more likely than not to reach 1.5°C even under a very low GHG emission scenario. This will intensify multiple and concurrent hazards with extremes becoming larger. Risks and projected adverse impacts and related losses and damage from climate change escalate with every increment of global warming. For any given future warming level, most climate-related risks are higher than assessed in the last AR5, and projected long-term impacts are up to multiple times higher than currently observed (IPCC, 2023: 12 and 15).

With further warming, climate change risks will become increasingly complex and more difficult to manage. Multiple climatic and non-climatic risk drivers will interact, according to the SPM, resulting in compounding overall risk and risks cascading across sectors and regions and adding to the vulnerability of those already most vulnerable (IPCC, 2023: 15).

For adaptations to be effective speedy action is needed, as adaptation options that are feasible and effective today will become constrained and less effective with increasing global warming, which causes losses and damage to increase and human and natural systems to reach adaptation limits. The Panel warns that the window of opportunity to secure a livable and sustainable future for all is closing rapidly (IPCC, 2023: 19 and 24). Deep, rapid, and sustained mitigation and accelerated implementation of adaptation actions is urgently required, necessitating scaled-up action, aligned with the sustainable development goals (SDGs) and “prioritizing equity, climate justice, social justice, inclusion and just transition processes” (IPPC, 2023: 28–31).

Needless to say that such actions demand political commitment, well-aligned multilevel governance and institutional and legal frameworks, proper coordination and enhanced access to finance and technology (IPCC, 2023: 32). These are wanting in many parts of the world.

It is obvious that climate change has a severe impact on the human security of millions in terms of income, employment, health, environment, and a sustainable livelihood and future. Also in a stricter, physical sense, the security of people, societies and regions is at stake. Climate change can lead to conflicts over scarce resources or operate as a conflict multiplier in situations where relations are already tense. It is also documented that extremist groups have mobilised climate change-affected individuals and groups for their malign purposes. Finally, climate-change induced dynamics can also play out in geopolitics with increased global competition and strife. Middendorp in his interview with Frerks, and Nugee et al. in this volume have documented the intricacies of the climate-conflict nexus in larger detail and several other authors have elaborated on the role of and impact on the military.

2.2 Learning from Disaster Studies

How can we now learn from the field of disaster studies to deal with climate change and improve climate security? It seems to me there are several useful lessons to draw from this field, but also issues that require new thinking. Below I discuss some pertinent issues and debates from the field of disaster studies and indicate their relevance or otherwise for the challenges of climate change.

2.2.1 Disasters in pre-modern times

Let us start at the very beginning. Climate-related disasters have both frightened and fascinated people since times immemorial. Both oral and written history is replete with references to such events across the globe. Floods, fires, high winds, earthquakes, plagues and famines have castigated millions of people throughout history and affected their daily security, if not survival.

The most well-known story is perhaps that of the Ark of Noah as told in the Bible (Genesis 6: 13–19). The forty-days deluge that inundated the whole of the earth was the punishment of God for the corrupted and violent mankind that inhabited the earth by then, but the Ark that God instructed the righteous Noah to build, saved Noah and his family as well as ‘two of every sort of animal’ till the Ark landed in the mountains of Ararat and thus began a new episode for the human race under a covenant with God.

Similar myths of a Great Flood can be found in earlier Babylonian stories, including the *Gilgamesh Epic*; in the *Eridu Genesis*, an ancient Sumerian religious epic; in the *Manu* mythology of India as recounted in the *Shatapatha Brahmana*; and in the ancient Greek legend of Prometheus’ son *Deucalion*.⁵ We see here the divine origin of disaster, often as punishment for a sinful existence of mankind.

One should realise that such explanations persist till the present. For example, in a memorial speech by the Rev. Quist in 2013 the storm surge of 1953 that inundated the Dutch province of Zeeland and parts of Zuid-Holland with over 1800 casualties, was still attributed to “the hand of God who always chastised people with an intention”, and explicitly not to the “misconception that it was a coincidental combination of a storm surge and a North-West storm.”⁶

Countless myths also exist about fire. Prometheus stole the fire from Olympus and delivered it to mankind, followed by an eternal punishment by an angered Zeus. Similar themes are encountered in Indian and Japanese creation myths where fire is delivered from heaven. In Central and South America fire played a foremost role in rituals of Aztecs, Mayas and Incas. In Europe it played an important role in Keltic, Icelandic and German myths and rituals, as it did among Zoroastrians and Hindus in Asia. Fire symbolised both a destructive and benevolent force (Devish, 2021). In the wake of the wildfires in Hawaii in August 2023, Hawaiians were seen to resort to traditional rituals for spiritual healing.⁷

Apart from fire and floods, myths and legends abound on earthquakes, volcano eruptions, tsunamis and plagues. These are too many to be elaborated here, but it serves to show the ubiquitous respect, fascination and awe that disaster phenomena invoked on people around the world and how particular mythical narratives were woven around these events accompanied by rituals to deal with them.⁸

As for climate change, one should not simply assume that the scientific evidence presented and the measures recommended by the IPCC are generally accepted at face value. There is a burgeoning scholarship on the relationship between religion and climate change which pays “specific attention to the ways in which climatic processes appear within the logic of a particular cultural lifeworld” [...] where “perceptions of climate change are rooted in intimately local frames of reference, which are often tied to ritual and mythological traditions associated with living in a particular place” (2018: 89). But also in the so called ‘modern’ world, scientific evidence is not always accepted. In several rural states in the US over half of the population does not believe in anthropogenic climate change. In the first place there is an active and powerful climate denialist movement, especially in the US but also elsewhere, of scientists and think tanks that try to obstruct the dissemination of the anthropogenic view of climate change. They do this on the basis of misleading information often supported and funded by powerful corporate and political interests. The Social Science Research Council refers to them as ‘a minority with an outsized ability to shape domestic climate science, policy, and communications’. Its report shows how climate change denial has become woven into certain cultural, political, racial, and religious identities. It further traces the tactics for spreading climate change denial, like social media targeting and conspiracy theories designed to cast doubt on scientific findings (Weddig, 2022). Petersen et al. (2019) arrive at similar

conclusions. Through an analysis of twelve prominent climate change counter-movement coalitions from 1989 to 2015, Brulle shows that over 2,000 organisations were members of these coalitions and that a core of 179 organisations belonged to multiple coalitions. Organisations from the coal and electrical utility sectors were the most numerous and influential organisations in these coalitions (Brulle, 2019).

2.2.2 The modernist turn: The role of science in explaining disaster⁹

Whereas early disaster narratives saw disaster as a supernatural divine or mythical phenomenon, explanatory narratives and associated disaster policy practice gradually shifted to explanations foregrounding a focus on natural hazards as agents and a role of science in understanding them. The academic field of disaster studies and disaster management as a systematic and explicit endeavour started around World War II in the United States in response to real-world events and demands from the policy world. Whereas US policy was characterised for a long time by a laissez-faire attitude, the Tennessee Valley Authority set up in the 1930s was a game-changer with its aim to reduce flooding, while “the Flood Control Act of 1934 granted greater authority to the U.S. Army Corps of Engineers to design and craft flood-control projects” (Dyson, 2007: 38 and 51).

Disaster management originally focused on the hazards or natural agents that lay at the root of disasters and tried to mediate these mainly by technocratic, planning or infrastructural solutions and measures by public agencies such as the U.S. Army Corps of Engineers and, since 1979, the often-criticised Federal Emergency Management Agency FEMA (Rubin, 2012). In those early years there was an emphasis on constructing levies and dams and zoning policies rather than seeking to implement behavioural change or addressing the root causes of vulnerability, as emerged as a disaster policy in the 1990s. In the conceptualisation of disaster in the immediate post-World War II context, the natural hazard or agent took a prime place and remedies were sought through technocratic and managerial measures that were implemented in a centralistic, top-down, and military-style manner, often with the involvement of the Department of Defense.

In the 1970s and 1980s the discipline and policy practice started to change and also spread outside the United States to various applied and academic centres around the world, including the Netherlands with the establishment of the *COT* (Crisis Research-Team); Institute for Security- and Crisis Management in the late 1980s and *Disaster Studies* at Wageningen University in the late 1990s. The discipline also experienced a shift in focus: from what was initially a more natural science and hazard orientation to including a social-science perspective with attention to the human context and the affected populations, i.e. by looking at people’s vulnerability. This was accompanied by a more explicit anthropological and ethnographic focus as well as a more critical

stance vis-à-vis governmental policy instead of being only instrumental to it. Overall, it could be stated that disaster studies witnessed paradigmatic shifts in line with developments in the broader social sciences from a positivistic to a more interpretivist and constructivist approach. In the next sections, I highlight some of those shifts.

2.2.3 The vulnerability perspective

The vulnerability perspective came into being in the 1980s as a reaction to the technical-managerial disaster approaches developed in the previous decades. The emphasis on vulnerability was associated with a shift to a more sociologically oriented interpretation of disaster as a complex, socially (as well as politically, environmentally and economically) constructed process. Vulnerability was defined by Wisner et al. as:

“the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard (an extreme natural event or process). It involves a combination of factors that determine the degree to which someone’s life, livelihood, property and other assets are put at risk by a discrete and identifiable event (or series or ‘cascades’ of such events) in nature and in society” (Wisner et al., 2004: 11).

In this manner, the risk of being exposed to disaster had become recognised as a product of hazard and vulnerability. Vulnerability was seen in turn as actively created by factors such as bad governance, bad development practice and political and military destabilisation. Vulnerability, therefore, was an outcome, a product of a particular economic, social, and political context. Whereas it might have been deemed difficult or even nearly impossible in many circumstances to reduce risk by influencing the underlying hazard, vulnerability as the resultant of socio-economic and political processes was more conducive to policy action. This was especially the case as vulnerability became increasingly associated with its opposite: namely, the element of capacity engendered in individuals, groups, and local communities to cope with crisis, as elaborated below.

In an overview article about the state of disaster studies David Alexander asserted that the emergence of the notion of vulnerability was one of the most salient achievements in the field of disaster studies during the last decades (1997: 283–304). It convincingly did away with the notion of disaster as a natural phenomenon, as Alexander observed:

“it is now widely recognized that ‘natural disaster’ is a convenience term that amounts to a misnomer. Neither disasters nor the conditions that give rise to them are undeniably natural” (1997: 289).

It was now acknowledged that disasters were anthropogenic, ‘man-made’, caused by human action or negligence. The vulnerability approach also called into question earlier, ill-conceived ideas of ‘normality’ and ‘abnormality’ that pervaded much thinking about disaster. As Oliver-Smith observes:

Disasters in general are portrayed as non-routine, destabilizing, causing uncertainty, disorder and socio-cultural collapse. In such descriptions there is clearly an emphasis on distinguishing disasters from ordinary, everyday realities (...) Such an assumption dangerously ignores that most disasters are ultimately explainable in terms of the normal order“ (1999: 23).

Lavell, for example, showed that in El Salvador ‘disaster risk’ was combined with ‘lifestyle’ or ‘everyday’ risk, stating that “the sum of their permanent living conditions signifies that the poor or destitute live under permanent conditions of disaster” (2004: 72). Here the exceptionalism of disaster got replaced by an emphasis of the every-day nature of disaster conditions for large parts of the world’s population.

While the vulnerability approach was widely welcomed in the 1990s as a step forward in disaster studies compared to the naturalistic hazard paradigm, there were also critical voices. One criticism pointed out that it victimises and disempowers people by over-emphasising the weaknesses and victimhood of disaster-affected populations. It would engender a fatalistic and passive outlook and take away the agency from people, thereby creating external dependency and passivity instead of empowering them. Therefore, a next paradigm shift occurred in the first decade of the 2000s that put the emphasis on people’s capacity and resilience, in short, people’s agency.

2.2.4 The agential perspective

In their well-received publication of 1989, Mary Anderson and Peter Woodrow had already stressed the capacities that disaster victims possess:

“Disaster victims have important capacities that are not destroyed in a disaster. Outside aid to these victims must be provided in ways that recognize and support these capacities if it is to have a long-term effect” (1989: 136).

Capacity refers to the actors’ skills, resources and strengths to help themselves and others. In the volume *Mapping Vulnerability, Disasters, Development & People*, the authors drew explicit attention to the agency of disaster survivors and their capacities and showed how disasters and disaster knowledge were historical and

social constructions and the product of perceptions, social practices, and discourses (Bankoff et al., 2004). This dynamic perspective opened a window for coping and ameliorative action by those involved themselves, something that also figured prominently in the International Decade for Natural Disaster Reduction (IDNDR) and the resulting Yokohama Strategy and Plan of Action for a Safer World that among others promoted a ‘people-centered approach’ (Scientific Committee of the International Decade for Natural Disaster Reduction 1999). In its follow-up, the International Strategy for Disaster Reduction (ISDR) and the Hyogo Declaration and Framework for Action a further emphasis was placed on capacity building in order to strengthen disaster resilience (UNISDR, 2006). The notion of resilience has quickly become mainstreamed in the last decade. According to Cutter et al. resilience refers to:

“The ability of human systems to respond and to recover. It includes those inherent conditions that allow the system to absorb impacts and cope with the event, as well as post-event adaptive processes that facilitate the ability of the systems to recognize, change and learn in response to the event” (2008: 599).

Those capacities and abilities are not some mysteriously in-built systemic properties or even a capability ‘owned’ by individual persons or organisations, but a collective, shared, or networked property based on and requiring specific forms of management and interaction. On the basis of these considerations, Frerks et al. define resilience as:

“The shared capacity (of a group, community or society) to anticipate, resist, absorb, and recover from an adverse or disturbing event or process through adaptive and innovative social processes of change, entrepreneurship, learning and increased competence” (2011: 113).

In this connection, the strength of the resilience approach is that it is human-centered and community-focused, but simultaneously situated in a larger macro-setting of environmental, macro-economic, and policy processes and cognisant of global-local dynamics.

Though resilience thinking could be considered a step forward by further elaborating the agential approach in a societally more encompassing manner, it also received serious criticisms due to its covert political agenda. Frerks asserts in this connection that the resilience approach can be considered as part of the larger neoliberal project that is taking hold of contemporary society by promoting a liberalised economy and a retreating state (Frerks, 2015). Frerks refers to several authors who have claimed that this neoliberal ordering of the world has led, on the one hand, to an interventionist attempt to govern and control parts of the

globe, implying the erosion of civil rights and liberties, while on the other hand it is excluding and marginalising those people deemed useless, who have been called the ‘insecured’ or ‘surplus life’ (Duffield, 2007) or ‘wasted lives’ (Bauman, 2003). Reid suggests that “the resilient subject is a subject which must permanently struggle to accommodate itself to the world”. In doing so, resilience backgrounds the political, the imagining of alternatives, and foregrounds adaptivity, accepting “the imperative not to resist or secure themselves from the difficulties they are faced with” (Reid, 2010: 3). Frerks concludes that the emphasis on resilience is the product of a political discourse that seeks to shift the responsibility for mediating the impact of disasters from the state to the society or the individual and therefore may engender the same problems and feelings of disenchantment as the neoliberal project creates in other societal domains and the economy at large (Frerks, 2015: 493). This leads me to the theme of multi-stakeholder disaster governance or co-governance.

2.2.5 Multi-stakeholder disaster governance or co-governance¹⁰

The role of the public sector and of public policies is crucial in attempts to prevent, mitigate, and respond to disasters. This necessitates an analysis of the government institutions, the political culture, and the functioning of the public sector in disaster response. However, in many societies facing disaster, governments are weak, failing, or even collapsing. Others are plagued by corruption, ‘spoils politics’, dictatorial rule, and predatory regimes. Disasters like the Indian Ocean tsunami and Katrina were a wake-up call as to the failures and weaknesses of governments and institutions to prevent and mitigate disaster. As stated above, early disaster governance was organised around an emergency style of top-down, state-centred, military-inspired policies and institutions. The past three decades, however, have seen a global development shifting disaster response from reactive to proactive, from singular to more holistic, with a focus on disaster risk reduction (DRR), and from a state-centred model to forms of co-governance that recognise the importance of non-state actor involvement in disaster governance and of community-based initiatives and resilience, next to the necessary backing of international initiatives and funding. These shifts have made disaster response more robust and effective.

2.2.6 The interface with the military and humanitarian aid during conflict

Many disasters happen in war- or conflict-affected and fragile countries. The Global Facility for Disaster Reduction and Recovery (GFDRR) reports, for example, that “between 2005 and 2009, more than 50 percent of people affected by disasters lived in fragile and conflict-affected states; in some years this reached 80 percent (ODI,

2013).” Moreover, it asserts that “Of the 15 countries with the highest vulnerability to disasters, 14 are among the top 50 fragile states”(GFDDR, 2015: 6–7).

Understandably, disaster response and humanitarian aid are seriously compromised by situations of war. This affected in 2004, for example, aid to tsunami victims in both Sri Lanka and Aceh. Whereas in Aceh the army restricted aid to the victims, in Sri Lanka it became subject to the conflict dynamics between the Government of Sri Lanka and the Liberation Tigers of Tamil Eelam. Whereas it was hoped that this common disaster would lead to mutual solidarity and unite the protagonists, it in fact led to more contention and dissent. In both cases, humanitarian aid became subservient to the logic of war at the cost of the humanitarian imperative (Frerks, 2008 and Frerks & Klem, 2011).

Collaboration between civilian actors and international military forces during disaster in a conflict setting is problematic, as the latter often find it difficult to remain neutral and impartial. They run the risk of getting associated – rightly or wrongly – with one of the protagonist parties. NGOs are afraid that military presence leads to a ‘blurring of lines’, called by Studer (2001: 374) the ‘contagious effect’ resulting from association. This would undermine the very essence of humanitarian action (Studer, 2001: 367) and jeopardise the required unimpeded access by aid agencies to the suffering population. Operational dependence on military logistics might have a similar effect, it is argued.

In non-conflict settings, dealing with disaster is the primary responsibility of the civilian authorities, but the scope and impacts of disasters have regularly necessitated them to rely on the military. In large-scale catastrophes, local civilian authorities are often overwhelmed by the events and call upon military actors to assist by giving first aid and providing the logistics and heavy machinery required to deal with the destruction wrought by the forces of nature. Recent examples of such occasions include the earthquake in Turkey (2023) and the floods in Pakistan (2022). Nearly two decades ago hurricane Katrina (2005) in the US constituted a clear case where the disaster response failed dramatically due to a lack of coordination and preparation. The US House of Representatives bipartisan committee’s report ‘A Failure of Initiative’ outlines in detail the shortcomings in the military preparations for and response to Katrina (2006: 201–231) regarding quality, speed and effectiveness.

Though perhaps there may be no problems in principle involved in such cases of domestic support, collaboration with the military has not always been without bottlenecks. These were mostly related to differences of organisation and culture that originally were characteristic of those sectors (Frerks, 2016). Militaries were usually organised as hierarchies, with chains of command and the giving and receiving of orders. Most civilian organisations, and NGOs in particular, were organised horizontally with empowered, independent and self-reliant employees.

Such differences could easily result in institutional incompatibility. Several studies have been devoted to the differences of organisation and culture that beset civil-military relations. Military felt that NGOs were less predictable as they did not have a single command and clear lines of operation (Borgomano-Loup, 2007: 36) and NGOs were also perceived to be ideologically hostile to the military which inhibited effective collaboration (Frerks et al., 2006: 56–64 and 87–96). NGOs, on the other hand, often felt that the military lacked a nuanced understanding of local realities, and acted in a top-down, heavy-handed and culturally insensitive manner. They also considered them largely ineffective and expensive.

However, the field has seen rapid change and development over the last two decades, partly due to more intensive joint learning, preparation, training and collaboration during actions in the field. The emergence of integrated or comprehensive approaches in the Netherlands and internationally has promoted institutionalised forms of interaction and cooperation and much of the original mutual unease and unfamiliarity between civilian and military actors has disappeared. Such efforts need to be sustained in the future, as otherwise old unproductive patterns of distrust and unfamiliarity may reappear.

2.3 Implications for Climate Change and Climate Security

How can we situate the issue of climate change and climate security in the context of those developments and paradigmatic shifts in disaster studies as outlined above? In this connection I would like to highlight seven themes that are discussed in subsequent sections below before arriving at a conclusion.

2.3.1 *The anthropogenic nature of climate change*

As with disaster in general, climate change-induced disaster is also a product of political, social and economic factors and resulting vulnerabilities. It is therefore a man-made product or construction and part of what nowadays is fashionably called the Anthropocene, the geological period during which human activity has been the dominant influence on climate and the environment. Climate change therefore also needs man-made solutions and interventions to be resolved. Here, all approaches outlined above for disaster studies, namely the technological and managerial, vulnerability, agential and resilience and co-governance approaches need to be mobilised in a well-balanced collaboration to execute parts of the required efforts to prevent, reduce, mitigate and adapt to climate change. In fact, only the expeditious combination of all those efforts and approaches in a 'whole-of-society' approach will suffice to deal with the increasingly dangerous

threat of climate change and climate change-induced disaster. Whereas many, if not most, conventional disasters had a fairly limited impact in locale and time, climate-change induced disaster impacts are global and chronic, even though such impacts show some differentiation. This requires mobilisation of resources on a global scale to deal with it, which will demand massive political will and a struggle against vested interests as shown below under the fifth theme.

Though the anthropogenic standpoint with regard to the origin of climate is scientifically widely accepted, it is much more controversial in a political, economic and cultural sense. As discussed above, significant sections of the population do not share or believe this point of view. Many consider climate change as an act of nature or see it as a hoax. They may be actively influenced by politicians, influencers, lobby groups, social media, denialists etc. who often have vested interests to deny and oppose the anthropogenic view on climate change.

2.3.2 Centring vulnerability, inequities and injustice

Like with disaster in general, climate change is not 'honest' or 'fair'. It disproportionately hits the poorest countries, populations, groups and individuals. This is clearly analysed in the IPCC's assessment reports. It is also easy to understand why this is the case. Poor countries, communities and persons lack the resources, knowledge and capacities to deal with threats and their socio-economic position and lack of resources make them vulnerable to disaster impact. Very often, these conditions have forced them to live in marginal and dangerous places that lack infrastructures to protect them. Tackling those vulnerabilities is one of the most effective and efficient ways to reduce disaster impact, as evidence from years of development assistance has shown. This also helps reduce prevailing societal inequities and injustices.

2.3.3 Investing in people's coping capacities and resilience

As argued above, strengthening local capacities and resilience is a promising pathway to reduce vulnerability, dependency and passivity and raise capabilities to withstand climate change impacts. On the other hand, such an endeavour must not imply the cynical shifting of burdens from the state and society at large to those segments of society that are least capable of carrying them. There needs to be a solid mechanism to reign in such neoliberal impulses and to achieve acceptable levels of equity and fairness. Otherwise, promoting local coping and resilience simply amounts to a degenerative cycle that disadvantages the poor as they are left alone with negative impacts without the resources to tackle them.

2.3.4 The lost opportunity of prevention?

Disaster policy has emphasised incessantly the need for prevention as shown in the IDNDR and ISDR action plans and frameworks and the SDGs. Preventative action has been shown not only to be effective, but also much cheaper than reactive disaster responses. One could argue that in the case of climate change, preventive action is already ‘much too little’ and ‘much too late’. However, one can take inspiration of late UN Secretary-General Kofi Annan’s call to establish a ‘culture of prevention’ and the idea that a preventative mind-set can be applied, before, during and after disaster in order to be prepared for a next round of calamity. This seems to be perfectly applicable to climate change-induced disaster with its chronic nature instead of considering prevention a lost opportunity.

2.3.5 The struggle against established interests

Even though climate change is affecting nearly everyone – though to very different degrees – it has to be understood that the status quo does not only generate losers, but also many actors have a vested interest in the continuation of that status quo. This applies obviously to oil producing countries, oil firms, the energy sector that uses fossil fuels, the automotive industry and many other sectors that heavily depend on fossil fuels such as horticulture. But also sectors that emit GHG such as agriculture, aviation and shipping need to undergo drastic and expensive adjustments. This may even apply to individual households when fossil fuels are phased out. As outlined above, many of these sectors tend to delay or frustrate attempts to decarbonise their sectors and lobby against the necessary policies. Though some of these may be seduced by subsidies or frightened by taxes and sanctions, it will not be easy to muster their support for the necessary reforms. On the other hand, some may also be convinced that innovative technologies may give them an edge in what they believe will be a future market with great potential. This situation requires subtle and diplomatic manoeuvring in order to muster the necessary widespread support that climate-sensitive action needs. In this connection, one may derive some hope from the results of the Dubai 2023 COP28.

2.3.6 The need for co-governance and people’s power

Due to the all-encompassing nature of climate change and the overall impact of required climate-related policies, all relevant actors at all levels need to engage. The Dutch example of setting up ‘climate tables’ with all relevant actors on board is a good example to do so. This also applies to international consultations and summits. The COP28 hosted a lot of actors varying from international organisations

to government representatives, NGOs and the corporate sector. This is in line with the notion of multistakeholder or co-governance that is already attempted in conventional disaster reduction practice. We also see currently a level of more radical activism, such as Extinction Rebellion that demands drastic measures and is not afraid to seek the boundaries of the law in its proclaimed search for climate justice.

2.3.7 The role for the military

The role of the military in climate-related disaster is most obvious when its assistance is sought to help with Humanitarian Assistance and Disaster Relief (HADR) and through Military Aid to Civilian Authorities (MACA) deployments. This is always based on a request by the respective civilian authorities. Experiences in this field have been mixed. Whereas the military can provide the necessary capabilities and equipment for disaster response, this has not always been done in a manner that fits the situation and is sensitive to the role of other actors involved. When disaster hits in situations of conflict or war, the situation is compounded by the conflict dynamics and antagonisms involved. Pre-disaster familiarisation and joint training can help address these challenges. Experience has shown that significant improvement can be made if this is done systematically as for example in the context of the comprehensive or integrated approaches or training as witnessed in the Common Effort exercises by the German Netherlands Corps. Next to this the military can contribute by reducing its own footprint and future-proof its operations as elucidated in other chapters in this volume.

2.4 Conclusion

Disaster Studies has developed over more than half a century into an applied field that has seen several paradigmatic shifts that complement each other and signify the evolving insights in disaster causation and reduction. This chapter has provided an overview of the challenges of climate change and resulting disasters, followed by a description of the most salient paradigmatic shifts in disaster studies. It was shown that these showed striking parallels with and relevance to the current problem of climate change and the disasters that it engenders. As a whole, the approaches in the field of disaster studies were applicable to climate change as well, though the seriousness, scope and scale of the latter may supersede those of conventional disaster, as climate change is a global and chronic condition in contrast to most conventional disasters that strike in only limited areas and time frames. Also, the obstacles that climate-related policies face are more momentous than those in the conventional disaster domain. Conventional disaster is typically called a solidarity

disaster, where the public is able to sympathise with those affected and prepared to help out. In contrast, this is much less so in the case of climate change. In the first place there are the vested interests that mitigate against climate policies and the massive costs involved. Second, there is the phenomenon of denialism that affects the perceived necessity of remedial action and the preparedness to invest. Yet, taking the lessons learned from disaster studies on board may ultimately result in more effective and efficient climate action.

Notes

- ¹ This chapter comprises partly an abridged compilation of the author's previous work on disasters and disaster management (references added).
- ² See: <https://www.ipcc.ch/report/ar6/wg1/#FullReport>, accessed 29-08-2023.
- ³ See: <https://www.ipcc.ch/report/ar6/syr/>.
- ⁴ SPM 2023: 10–11.
- ⁵ Source: <https://www.britannica.com/topic/flood-myth>, accessed on 25-08-2023.
- ⁶ <https://www.trouw.nl/nieuws/watersnood-was-een-straf-van-god~booca8dc?referrer=https://www.google.com/>.
- ⁷ Source: After the Fires, Native Hawaiians Seek Revival Through Ritual, *New York Times*, August 25, 2023.
- ⁸ See for the link between disaster and ritual: Hoondert et al. 2021.
- ⁹ Parts of this section are abbreviated and adjusted selections from: Frerks & Hilhorst 2021.
- ¹⁰ This section is derived from Frerks & Hilhorst (2021).

References

- Alexander, D. (1997). The study of natural disasters, 1977–1997. Some reflections on a changing field of knowledge. *Disasters* 21(4), 283–304.
- Anderson, M., & Woodrow, P. (1989). *Rising from the Ashes. Development Strategies in Times of Disaster*. Westview Press.
- Bankoff, G., Frerks, G. & Hilhorst, D. (Eds.) (2004). *Mapping Vulnerability. Disasters, Development & People*. Earthscan.
- Bauman, Z. (2003). *Wasted Lives. Modernity and Its Outcasts*. Polity.
- Borgomano-Loup, L. (2007). *Improving NATO-NGO relations in crisis response operations. Forum paper 2*. NATO Defense College, Research Branch.
- Brulle, R.J. (2019). Networks of opposition: A structural analysis of U.S. climate change countermove-ment coalitions 1989–2015. *Sociological Inquiry*, 91(3), 603–624.
- Clement, V., Kanta Kumari, R., de Sherbinin, A., Jones, B., Adamo, S., Schewe, J., Sadiq, N., & Shabahat, E. (2021). *Groundswell Part 2: Acting on Internal Climate Migration*. World Bank.

- Cutter, S.L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). A place-based model for understanding community resilience to natural disasters. *Global Environmental Change*, 18(4), 598–606. DOI:10.1016/j.gloenvcha.2008.07.013
- Devisch, I. (2021). *Vuur, een vergeten vraagstuk*. (Hoofdstuk 1 Het Mythologisch narratief). Bezige Bij B.V.
- Duffield, M. (2007). *Development, Security and Unending War: Governing the World of Peoples*. Polity Press.
- Dyson, M.E. (2007). *Come Hell or High Water. Hurricane Katrina and the Color of Disaster*. Basic Civitas Books.
- Frerks, G. (2008). Rampen en hulpverlening als vergrootglas van de samenleving. *Magazine nationale veiligheid en crisisbeheersing*, (juni 2008), 13–15.
- Frerks, G. (2015). Help or hindrance? The contribution of the resilience approach to risk governance. In U. Fra Paleo (Ed.), *Risk Governance. The Articulation of Hazard, Politics and Ecology*. (pp. 489–494). Springer.
- Frerks, G. (2016). Who are they? – Encountering international and local civilians in civil-military interaction. In G. Lucius & S. Rietjens (Eds.), *Effective Civil-Military Interaction in Peace Operations. Theory and Practice*. (pp.29–44). Springer International Publishing AG.
- Frerks, G. & Hilhorst, D. (2021). Disaster studies: Perspectives between nature and ritual. In: M. Hoondert, P. Post, M. Klomp & M. Barnard (Eds.) *Handbook of Disaster Ritual. Multidisciplinary Perspectives, Cases and Themes* (pp. 51–67). Peeters.
- Frerks, G., Klem, B., van Laar, S., & van Klingeren, M. (2006). *Principles and Pragmatism: Civil-Military Action in Afghanistan and Liberia*. Universiteit Utrecht/Bart Klem Research.
- Frerks, G. & Klem, B. (2011). Muddling the peace process. The political dynamics of the tsunami, aid and conflict. In J. Goodhand, B. Korf & J. Spencer (Eds.), *Conflict and Peacebuilding in Sri Lanka. Caught in the Peace Trap?* (pp. 168–182). Routledge.
- Frerks, G., Warner, J., & Weijs, B. (2011). The politics of vulnerability and resilience. *Ambiente & Sociedade*, 14(2), 105–122.
- GFDDR (2015) *Disaster, Conflict and Fragility: A Joint Agenda*.
- Hoondert, M., Post, P., Klomp, M., & Barnard, M. (Eds.) (2021). *Handbook of Disaster Ritual. Multidisciplinary Perspectives, Cases and Themes*. Peeters.
- IPCC (2023). Summary for Policymakers. In *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (Eds.)]. (pp. 1–34). DOI: 10.59327/IPCC/AR6-9789291691647.001
- Jenkins, W., Berry, E., & Kreider, L.B. (2018). Religion and climate change. *Annu. Rev. Environ. Resour.*, 43) 85–108. <https://doi.org/10.1146/annurev-environ-102017-025855>.
- Lavell, A. (2004). The lower Lempa river valley, El Salvador. Risk reduction and development project. In G. Bankoff, G. Frerks & D. Hilhorst (Eds.), *Mapping Vulnerability. Disasters, Development & People* (pp.67–82). Earthscan.
- Overseas Development Institute (2013). *When disasters and conflicts collide: Improving links between disaster resilience and conflict prevention*. ODI.

- Oliver-Smith, A. (1999). Peru's five-hundred-year earthquake: Vulnerability in historical context. In A. Oliver-Smith & S.M. Hoffman (Eds.), *The Angry Earth. Disaster in Anthropological Perspective* (pp.156–172). Routledge.
- Petersen, B., Stuart, D. & Gunderson, R. (2019). Reconceptualizing climate change denial. ideological denialism misdiagnoses climate change and limits effective action. *Human Ecology Review*, 25(20), 117–142.
- Reid, J. (2010). The disastrous and politically debased subject of resilience, paper presented at the symposium on the biopolitics of development, "Life, welfare, and unruly populations", 9–10 September 2010, http://www.mcrg.ac.in/Development/draft_Symposium/Julian.pdf
- Rubin, C.B. (Ed.) (2012). *Emergency Management. The American Experience 1900–2010*. CRC Press.
- Scientific Committee of the International Decade for Natural Disaster Reduction (1999) *Final Report* (IDNDR Online Documents).
- Studer, M. (2001). The ICRC and civil-military relations in armed conflict. *ICRC*. 83(842). 367–392.
- UNISDR (2006) *Strengthening the ISDR System. Background and Discussion Paper*, 31 December 2006.
- US House of Representatives. (2006). *A failure of initiative, final report of the select bipartisan committee to investigate the preparation for and response to hurricane Katrina*. US Government Printing Office.
- Weddig, C. (2022). *Climate Change Denial & Skepticism: A Review of the Literature*. Social Science Research Council, MediaWell. September 15, 2022. DOI: 10.35650/MW.3043.d.2022
- Wisner, B., Blaikie, P., Cannon, T. & Davis, I. (2004). *At Risk: Natural Hazards, People's Vulnerability and Disasters* (1st ed.). Routledge.