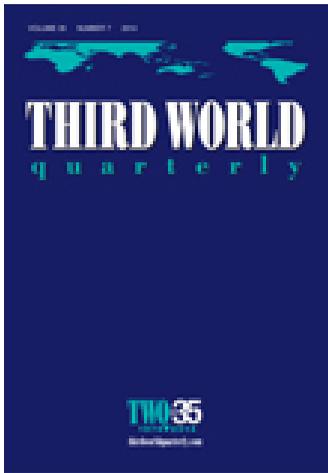


This article was downloaded by: [41.220.126.178]

On: 08 October 2014, At: 10:42

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Third World Quarterly

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/ctwq20>

Violent conflicts and natural disasters: the growing case for cross-disciplinary dialogue

Elisabeth King^a & John C. Mutter^b

^a The Earth Institute, Columbia University, New York, USA

^b Department of Earth and Environmental Sciences and School of International and Public Affairs, Columbia University, New York, USA

Published online: 02 Oct 2014.



CrossMark

[Click for updates](#)

To cite this article: Elisabeth King & John C. Mutter (2014) Violent conflicts and natural disasters: the growing case for cross-disciplinary dialogue, *Third World Quarterly*, 35:7, 1239-1255, DOI: [10.1080/01436597.2014.926113](https://doi.org/10.1080/01436597.2014.926113)

To link to this article: <http://dx.doi.org/10.1080/01436597.2014.926113>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms &

Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Violent conflicts and natural disasters: the growing case for cross-disciplinary dialogue

Elisabeth King^{a,†*} and John C. Mutter^b

^aThe Earth Institute, Columbia University, New York, USA; ^bDepartment of Earth and Environmental Sciences and School of International and Public Affairs, Columbia University, New York, USA

(Received 4 November 2013; final version received 14 April 2014)

Comparisons between disasters and violent conflicts are often noted by political figures and in the news media, and those responding to conflicts and disasters witness similarities on the ground. In contrast, the academic fields studying violent conflicts and so-called natural disasters have developed separately and practitioners usually separate the two phenomena as soon as the emergency response is over. This paper, based on interviews with practitioners and a review of scholarly literature, makes a case for increased cross-disciplinary dialogue. We identify common consequences, responses and even causes of conflicts and disasters. We argue that more and better partnerships between those who work on conflicts and those who work on disasters can lead to advances in understanding and responding to conflicts and disasters.

Keywords: conflict; disaster; humanitarian; climate change; peace building; disaster risk reduction

Comparisons between disasters and violent conflicts – especially their immediate consequences – are often noted by political figures and in the news media. A few days after the January 2010 earthquake in Haiti, President René Préval said: ‘The damage I have seen here can be compared to the damage you would see if the country was bombed for 15 days. It is like in a war.’¹ Dr Jean-Francois Corty of Médecins sans Frontières (MSF) likewise remarked that the aftermath of the 2005 earthquake in Pakistan reminded him of ‘images from a war zone’.² Similarities run the other way as well. The *Washington Post* reported that, for ethnic Tamils, ‘the war in Sri Lanka [was] like a tsunami that won’t end’.³ Early reports on the Arab Spring dubbed these events a ‘tsunami of protest’.⁴

In contrast, among scholars there has been relatively little discussion across the conflict–disaster divide. Historically the question of culpability has been

*Corresponding author. Email: e.king@nyu.edu

†Current address: Steinhardt School of Culture, Education and Human Development, New York University, USA.

considered differently in conflicts and disasters, with conflicts thought of as 'human-made' and disasters considered to be 'natural'.⁵ These differing understandings of the locus of causation have affected the ways in which each phenomenon has been studied. With natural scientists first dominating the study of disasters, a prime focus was on predicting the time, location and magnitude of the natural extreme event. In contrast, social scientists led the study of conflicts, focusing on uncovering and explaining the multiple social, economic and institutional causes of violent conflict. While social scientists studying disasters focus on these same social-structural factors, they do not typically interact with conflict scholars studying them, nor with natural scientists studying the same incidents. Scholars of humanitarianism often subsume conflicts and disasters into a single 'emergency' category, but usually take similarities for granted rather than exploring them explicitly and do not typically consider causes.

For their part non-governmental organisations (NGOs) tasked with responding to conflicts and/or disasters usually do not distinguish between the two in terms of relief. According to its mission statement, MSF, for instance, 'delivers emergency aid to people affected by armed conflict...and natural or [hu]man-made disasters', while Catholic Relief Services (CRS) responds to 'major emergencies' of all varieties. NGOs that work on longer-term responses and prevention, however, often separate conflicts and disasters. One interviewee described the International Rescue Committee (IRC) as a 'conflict organisation', focused on issues such as displacement and oppression, working until recently on disasters only when they arose in contexts in which they were already working. In addition, within a number of international organisations the staff members working on conflicts and those working on disasters have little opportunity to interact; their programmes, departments, deployments and background specialisations are often different. The NGO representatives with whom we spoke noted that they have had insufficient opportunity to pause and reflect upon the opportunities and challenges presented by the similarities of conflicts and disasters.

The recognition of similarities between conflicts and disasters, paired with relatively little discussion across the conflict-disaster divide, prompt us – a political scientist and a seismologist working in interdisciplinary environments – to ask: is there a case for increased dialogue between those studying conflicts and those focused on disasters? What can such bridge building contribute to scholarship and practice? To answer these questions, we reviewed literature on the causes, consequences and responses to conflicts and disasters. We also conducted over a dozen interviews with representatives from organisations working in the conflict-disaster nexus, including individuals based at headquarters and in the field. Nearly all interviewees also drew on previous experience with other NGOs. We selected participants through a snow-balling strategy, following one link to another. We spoke to interviewees about how and why their organisations work to address conflicts and/or disasters, the programmatic and on-the-ground similarities and differences, as well as the potential causal intersections between conflicts and disasters. We chose individuals who work with large, well known and respected international NGOs – such as CRS, MSF, IRC and Mercy Corps – with varied approaches to conflicts and/or disasters. We also spoke with a representative from InterAction, an umbrella organisation with more than 200 international relief and development member organisations. While there are

many local and national organisations working to address conflicts and disasters, we focus here on international NGOs and their work in conflicts and disasters in the global South.⁶

We argue that increased dialogue between those studying and working in conflicts and disasters is important for at least three reasons. First, in the opening section, we show that, while there remain important differences, conflicts and disasters often have similar consequences. In the next section we show how the two phenomena invoke similar responses and present similar challenges. An explicit catalogue of these similarities is in itself a step forward – they are typically either presumed or overlooked – and less obvious similarities in both consequences and responses present particular opportunities for each field to learn from the other. Second, we argue that the still-common tendency to suggest that disasters are natural and that conflicts are human-made is limiting for understanding or responding to either phenomenon. In the causes section we show that both may have natural and human-made roots and, moreover, that there are increasingly common drivers of, and interactions between, conflicts and disasters that require interaction and dialogue across the natural and social sciences and those studying conflicts and disasters. In the end, while we do not wish to overplay the similarities, we and many of our interviewees believe that better acknowledging the areas of overlap can lead to advances in explaining conflicts and disasters and especially to the practical refinement of responses. The conclusion argues that stronger mitigation strategies for conflicts or disasters will, in some cases, help reduce the risks of both.

Comparable consequences

There are several stark similarities between the immediate consequences of conflicts, by which we mean violent conflicts, and disasters, by which we mean human and capital losses and social consequences that result from societies experiencing natural extremes like earthquakes, storms, droughts and floods.⁷ NGO representatives with whom we spoke, and especially responders based in the field, view the consequences of conflicts and disasters, and the initial response required, as indistinguishable. Indeed, many interviewees had an overarching term for the early phase of the two phenomena, such as ‘emergency’, ‘crisis’ or ‘catastrophe’. The same is true of the humanitarianism literature, in which the most widely used term, ‘emergency’, denotes a situation of urgency, where lives are at risk and people are suffering, and where their own governments are unable meet their needs, generally without reference to specific context or causes.⁸

Indeed, both violent conflicts and natural disasters are marked by loss of life; the scale of each is often measured in terms of casualties. Civilians are obviously the dominant casualties in disasters and it is now a commonly accepted figure that upwards of 80% of casualties in war are civilians.⁹ Moreover, direct deaths represent only a fraction of total deaths. Lacina and Gleditsch calculate, for instance, that only 3% to 29% of deaths in 10 African cases of violent conflict are likely to be ‘battle-related’.¹⁰ Ghobarath et al find that infectious diseases are the most important cause of indirect war deaths.¹¹ Disasters too commonly have a ‘second wave’ of deaths. The effect of tropical cyclones on incomes among the poorest persists several years after the events in the Philippines, where

Antilla-Hughes and Hsiang have shown that effects include disinvestments in infant care leading to elevated female infant mortality.¹² The effects are subtle and long-term and greatly exceed immediate mortality from cyclones. A difference between conflicts and disasters is that, with the exception perhaps of extended periods of drought that may lead to the disaster of famine, most disasters are of shorter duration than conflicts and none matches the extended civil conflicts such as those in Sudan and Colombia. Another difference is that, while the overall incidence of conflict is declining, the frequency of reported disasters is increasing, although the number of deaths from disasters is decreasing as the deaths per disaster are falling in many places.¹³

Another clear parallel is in the displacement of people within countries and across borders. It is estimated that 32.4 million people were displaced by natural disasters in 2012 and that 98% of these displaced people were forced to move because of weather-related disasters.¹⁴ Likewise, in conflict, displacement can be massive; the worldwide number of refugees in 2012 was 10.5 million, alongside 6.5 million internally displaced persons.¹⁵

Both conflicts and disasters may also result in major livelihood consequences. The average cost of civil war is said to equal upwards of 30 years of GDP growth for a medium-sized developing country.¹⁶ At the individual level, over the course of the Sierra Leonean conflict real per capita income declined by 50% and per capita income in Liberia declined by about 80% from 1980 to 1997.¹⁷ However, the costs of conflict are uneven within countries and between individuals, with the poorest usually being hardest hit. In disasters, too, the poor have the least coping capacity: the poor have no insurance, little savings, very limited access to credit, and often live in countries where government institutions are weak and thus provide limited assistance.¹⁸ The 1976 earthquake in Guatemala is often called a 'class quake', or the 'Indian earthquake', because of its disproportionate impact on poor and indigenous Guatemalans.¹⁹

In both disasters and conflicts the breakdown of already over-extended health care and education systems is common and can lead to similar outcomes. In conflict-affected states, for example, acute respiratory infections, diarrhoea, malaria, measles, neonatal issues and malnutrition are particularly common.²⁰ In disasters similar health problems often arise and survivors are often similarly unable to receive adequate treatment. While Post-Traumatic Stress Disorder (PTSD) is readily associated with the extreme effects of war or combat trauma, people who experience disasters may face similar long-term mental health challenges.²¹ Both disasters and conflicts can destroy schools, kill or displace teachers, and make students fearful of returning to school.²²

Sexual violence and gendered impacts are also similar, although there are differences in motivation and scale. Sexual violence is now a distressing but commonly acknowledged part of violent conflict. Perhaps less known, reports from post-earthquake Haiti present an alarming increase in opportunistic sexual violence in camps.²³ Sexual violence after disasters, such as for people housed in Federal Emergency Management Agency (FEMA) trailer camps after Hurricane Katrina in the USA, is so common that the National Criminal Justice Reference Service publishes a guide for the prevention of and response to sexual violence in disasters.²⁴ In cases of both conflicts and disasters there are also very clear gendered impacts that reach beyond sexual violence.

Finally, the environment suffers in conflicts and disasters in somewhat similar ways. In a sense a natural disaster is an environmental impact, almost by definition. Extreme events like floods, hurricanes and droughts can destroy, degrade, or fundamentally and permanently alter natural and crop ecosystems, changing biodiversity and permitting invading species to flourish. Perhaps less obviously conflict, too, often degrades the environment: the use of landmines pollutes soil, there is frequently illegal trade and unsustainable use of natural resources, and peacetime environmental protection agencies may be unable to operate.²⁵

Similar responses and challenges

It is not surprising, given the similarities in the consequences of disasters and conflicts, that there are also underlying parallels in immediate responses. As one interviewee put it:

to some extent, the distinction is artificial if you have a community whose living is taken away by a tsunami and living in a camp or in a refugee camp because of a war. Looking at it from a far lens, there are people in need and suffering and [we] have the ability to respond. Food distribution, shelter, digging water holes: the practicalities really are no different.

As another stated:

NGOs will apply the same modus operandi, the same tool kits, and come with the same solutions. A water problem is a water problem within a conflict or natural catastrophe. It's the same with malnutrition. They will address the consequence, and they don't care what causes the problem.

At the core of the humanitarian enterprise is the goal of 'reliev[ing]...suffering', whatever the cause.²⁶ For better or worse, some use the term 'the natural disaster model' to describe the apolitical needs-based framework for humanitarian assistance during and immediately after wars.²⁷ According to several interviewees, specific context, local abilities to respond, community preparedness and the scale of the international response are key factors in differentiating responses, usually more so than the nature of the phenomenon.

Some less commonly acknowledged similarities again highlight the particular value of cross-disciplinary dialogue. Many interviewees noted that there is generally less risk to relief personnel in disaster than in conflict settings. Others noted that the reality is more complicated: when conflict lines are clear, when emergency relief personnel are not in the front line, and when there is a military presence, the delivery of aid is often operationally easier than somewhere like post-earthquake Haiti, where at least one interviewee deemed insecurity to be constant in the days after the earthquake, since robberies and gangs hindered the distribution of aid.

Similarly our interviewees suggested that it is usually thought that international relief workers need a stronger understanding of context in a conflict setting, as opposed to a disaster setting, because responses in conflicts are more political.²⁸ In conflict settings responders are also said to face more challenges

in negotiating access, working with whomever is in control of the population, and in securing materials and equipment. They must pay particular attention to context so as to 'do no harm', for example by erroneously distributing aid to only one side of a conflict.²⁹ Barnett and Weiss highlight politics, power, and ethics as core concerns in their book *Humanitarianism in Question*. While such quandaries may seem less relevant to more 'straightforward' responses to disasters, responses to the 2005 northern Pakistan earthquakes, for instance, were far from apolitical when humanitarian workers faced challenges of working with a military government and jihadi groups.³⁰ Ethnic or racial groups can be marginalised in the event of a disaster in the same way as in conflict.³¹

Furthermore, in both cases, responders to conflicts and disasters were concerned about the misuse of aid, and the potentially negative consequences of relief. In Ethiopia during the famine of 1984, aid was used to force migration from rebel to other areas, prompting possibly more deaths in migration than in the famine. For MSF this experience was 'seminal' and led to profound thinking about 'the impact, both positive and negative, of their presence and their work which can reach the extreme of aiding and abetting crime'.³²

A related area of emerging convergence between conflict and disaster responses is securitisation. There is growing concern that peace building and humanitarianism are being securitised, since donor governments appear concerned about conflicts not out of humanitarianism, but because fragile states pose dangers to developed countries. Less commonly the securitisation paradigm is also apparent in the disaster literature, where helping states build effective response capacities may be more about preventing wider negative security and political repercussions than to do with humanitarianism. Reflecting on their flood-response work in Pakistan in 2005, for example, interviewees reported frequently being asked 'Do you get US money?', since, just as in conflict environments like Afghanistan and Iraq, locals perceive foreigners to be using 'humanitarian' aid in their own interest, for leverage.³³ The initial stance of the government of Burma to refuse all outside assistance for Cyclone Nargis stemmed from its belief that it would be used by foreign governments, who had made no secret of their opposition to the military rulers, to bring about regime change.

Moving from emergency relief to longer-term response widens the chasms between the responses to conflicts and those to disasters. Whereas avoiding future conflicts may require peace building, disaster prevention may necessitate disaster risk reduction (DRR). Nonetheless, there are similarities in these objectives as well.

In the fields studying disasters there is a growing literature on building 'adaptive capacity', fostering 'resilience', or 'coping capacity'.³⁴ The notion is that there are social attributes that can make some societies more able to sustain the physical shock of natural disasters and recover fairly quickly. IRC defines DRR as a 'process by which natural disaster risks are identified, analyzed and minimized in advance in order to avoid or limit adverse impacts on communities'.³⁵ The goals of DRR include the ability 'to absorb shocks and stresses, either by adaptation or resistance'.³⁶

In the peace-building literature resilience is akin to concepts of building a sustainable peace.³⁷ Peace building is 'action to identify and support structures

which will tend to strengthen and solidify peace in order to avoid a relapse into conflict'.³⁸ Peace building aims to empower communities to deal with conflicts in non-violent manners. Just as hazards recur, conflicts are a constant in society, but the goal of peace building is for societies to be able to absorb shocks and stresses such that conflict does not turn violent. Both DRR and peace building also aim to foster development.

Interviewees noted the challenge, common across the conflict–disaster spectrum, of moving from relief to mitigation, a challenge that has been echoed in policy and academic literature since the 1990s. As Calhoun writes, emergency response is 'at the opposite end of a continuum from development assistance that tries to address long-term issues of poverty or disempowerment'.³⁹ MSF, for example, faces the challenge that it has defined itself as an 'emergency aid organisation' and currently plans on single year cycles. Yet, post-conflict and conflict lines are unclear and disaster and post-disaster lines are similarly blurring.⁴⁰ MSF wants to make a 'committed response' and is thus considering development-oriented interventions, such as creating a full hospital from the beginning of an emergency response. Several interviewees spoke of the compartmentalisation within organisations that hinders a relief-to-development (or peace-building and DRR) transition. One interviewee discussed how DRR work is currently housed within, and most valued by, her organisation's relief/emergency team, but it may be best situated with the development team. Another interviewee, a human resources specialist, explained that, at least in some organisations, the skills and training of an emergency responder are often different from those of a longer-term development or mitigation practitioner, making the transition from one phase to the next more difficult. There is a similar compartmentalisation in funding: emergency donors often grant funds that are available quickly, for three to six months for example. When emergency donors leave, responders are sometimes still on the ground without the means to continue their work. Another obstacle we heard is that, while relief work is generally relatively well coordinated on the ground, thanks to the UN cluster system and the acceptance of minimum standards, development, peace building or DRR work does not have similarly pre-existing coordination structures.

Parallel and interacting causes

We still hear of 'human-made' conflicts in contrast to 'natural disasters', where the role of agency is limited or denied. While this distinction is outdated, as an interviewee noted, 'conflicts and disasters haven't generally been married up and this is a problem', noting the need to think about 'the holistic nature of conflict and disaster'. We illustrate this by showing the ways in which social vulnerabilities and environmental factors contribute to both conflicts and disasters,⁴¹ how climate change affects both phenomena, and the causal interconnections between conflicts and disasters.

Social vulnerabilities

A variety of social vulnerabilities are long-recognised underliers of conflict.⁴² At the macro level, Collier et al find that less developed countries face a conflict

risk four times higher than that of countries in the OECD, and the least developed face a risk 15 times as high.⁴³ Weak states are important root causes of war.⁴⁴ Within states horizontal inequalities, or severe inequalities between groups, also appear to increase the propensity for conflict.⁴⁵ And the most vulnerable within a society are often the hardest hit by conflict.⁴⁶

While natural extremes have a global distribution, hazards are likely to turn into the worst disasters in the poorest and most fragile states.⁴⁷ The widely cited ‘pressure and release model’ identifies political or governance, economic, and social and cultural issues as ‘root causes’ affecting whether and how hazards become disasters.⁴⁸ Mortality in disasters, for instance, is much higher in poor than in richer countries: the ratio of mortality in rich and poor countries is 100 to 1.⁴⁹ The earthquake that struck Haiti in January 2010 was far from the top of the Richter Scale but the deaths it caused were well off scale: 200,000 deaths is vastly more than it is reasonable to expect for an earthquake of magnitude 7.0. In California earthquakes of similar magnitude result in few deaths. Haiti’s death toll expresses the economic, social and political vulnerability of many residents of Port-au-Prince, more than the strength of the quake. Haiti has frequently been listed as among the most failing states in the world,⁵⁰ and its long history of violent conflict arguably contributed to its high vulnerability to natural hazards.

The concept of vulnerability describes the likelihood that a natural hazard will lead to harm and includes such factors as poverty and inequality, class, occupation, ethnicity, gender and social capital.⁵¹ The death toll from Hurricane Katrina in New Orleans is 100 times higher than American norms. Louisiana ranks in the range of developing countries using an ‘American Human Development Index’.⁵² It is also one of the USA’s most racially and economically divided cities and wealthier whites generally fared better.⁵³

Environmental factors

While social vulnerabilities are required to turn a natural extreme into a disaster, so too is the natural extreme. This is, of course, well recognised. In contrast, while research on ‘environmental conflicts’ dates to the 1970s and the systematic study of environmental contributors to conflict has grown steadily since the 1990s,⁵⁴ several of those with whom we spoke noted that their organisations do not yet factor the environment into their conflict analysis frameworks or tools. Nonetheless, there are arguably important environmental root causes of a number of conflicts, for example that in Darfur.⁵⁵ Findings from this case study and others, as well as quantitative cross-case comparisons, caution us, however, that the environment is neither a necessary, nor a sufficient cause of conflict, but interacts with a host of complex causes, the specifics of which still require further research.⁵⁶ Scarce resources, as well as poorly managed abundant resources, can contribute to conflict in different ways in different places.⁵⁷ The environmental factors do not ‘cause’ conflict but may provide an added burden for weak or fragile states with minimal coping capacity.⁵⁸

Climate change

Climate change is what most interviewees presumed we meant when we asked about the possibility of common drivers of conflicts and disasters. Though

surrounded by a suite of uncertainties, there is little doubt that our climate is shifting and is destined to do so into the future. While there are expected to be significant variations in the impacts of climate change, the general trend affects both disasters and conflicts.⁵⁹ Climate change can be thought of as originating in the actions of rich countries of the global North, where conflicts are rare and coping capacity high, but with the greatest consequences in the South, where conflict and disasters are more common and have their greatest consequences.⁶⁰

It is widely predicted that a warmer climate will lead to more weather extremes and consequently more disasters.⁶¹ Climate change predictions suggest that the phenomenon of multi-year drought, intense flooding and severe storms will be more prevalent and widespread, while gradually worsening base conditions will make these events more consequential. Tropical storms are predicted to extend their range to higher latitudes as the tropics expand into places that have never experienced hurricanes and are thus unprepared. Drought-prone regions in the African Sahel may extend southward. Sea levels are also predicted to rise, but irregularly, rising more in some places than in others because of dynamic effects (wind patterns and changes in the deeper thermal structure of the ocean) and dropping in other places. Climate change is also expected to increase social vulnerability in a way that makes disasters likelier. For instance, using historical records, Dell et al, Jones and Olken, and Hsiang all deduce significant sensitivity to temperature change on economic growth rates in the tropics.⁶²

Experts also believe that climate change will have an important impact on conflict. The UN Security Council held a first debate in 2007 on climate change as a global security issue and the US security community commissioned a 2013 report by the National Academy of Sciences and the National Research Council on the implications for security analysis of climate and social stresses.⁶³ Hsiang et al used a study of conflict onset in countries where el Niño brings harsh conditions to many poor regions of Africa.⁶⁴ They used data from 1950 to 2004 and found robust evidence that el Niño conditions double the chances of an outbreak of conflict.⁶⁵ Others have found similar correlations.⁶⁶ The idea is that climate change will bring drought and if drought leads to large-scale migrations, an increase in conflicts is plausible. One interviewee spoke about climate change adaptation (CCA) work, especially in East Africa and Latin America, which is driving people to plant at different elevations. She noted that this CCA programming is itself moving people, sometimes on or nearer to other people's land, and bringing different communities into competition – all of which they are monitoring for conflict potential. The Summer 2013 issue of *The Aspen Idea* contended that 'the events that came to be known as the Arab Spring were caused, to a large extent by climate change and the resulting effects on food prices'.⁶⁷ The assertion is that climate change has increased drought severity, which in turn reduced crop yields and brought about scarcity, leading to high prices.⁶⁸ Given the forecast impact on conflicts and disasters, climate change presents a direct area of dialogue for conflict and disaster scholars and practitioners. This dialogue is even more important when one considers potential causal pathways from one phenomenon to the other.

Causal links between conflicts and disasters

There are direct, potentially causal, connections between conflicts and disasters that point to the need for cross-disciplinary dialogue. Some protracted conflicts have quite directly resulted in disasters, such as famines in Ethiopia and Sudan.⁶⁹ More commonly, however, violent conflicts can render societies more *vulnerable* to hazards. Wisner et al list war as ‘one of the main causes of social vulnerability’: conflict may drive marginalised people into new and less safe areas, as occurred in the civil war and genocide in Guatemala. Conflict may hinder relief efforts and divert resources that could otherwise have been used to help mitigate disasters. Conflict can ruin infrastructure, such as a dam or levee, which could have helped prevent a hazard from turning into a disaster. Conflict is often destructive of the environment, again increasing vulnerability to hazards.⁷⁰

In the other direction several recent studies have found significant relationships between various forms of disasters and the risk of conflict, as well as marginal support for certain types of disasters affecting political instability.⁷¹ Nel and Righarts suggest that natural disasters help provide a motive (such as widespread suffering), incentive (competition for resources) and opportunity (weak state capacity) for conflict.⁷² Gawronski and Olson argue that the 1976 earthquake in Guatemala served as a nation-changing critical juncture, intensifying community self-organising and violent responses to this.⁷³ Beardsley and McQuinn argue that the Indian Ocean tsunami served as a catalyst to rebel groups in Aceh and Sri Lanka to examine their incentive structures, the changes to them based on the tsunami, and to adjust their strategies accordingly, the former to a peace agreement, the latter to continued fighting.⁷⁴ Since disasters can displace people, and displacement can generate conflicts, disasters could increase conflict.⁷⁵

In contrast Slettebak and de Soysa, and Slettebak find that climate-related natural disasters may *decrease* the risk of conflict.⁷⁶ Bergholt and Lujala as well as Bernauer et al study the relationship between climate-related disasters, economic shocks and conflict and find that, while disasters may negatively affect economic growth, and thereby increase vulnerability, they do not raise the likelihood of conflict.⁷⁷ Ciccone strongly questions the analysis of Miguel et al, which concluded that reduced rainfall triggered conflict, and argues that the available data do not support a link between rainfall anomalies and outbreaks of conflict.⁷⁸ In general scholars who study conflict itself are less persuaded by the importance of climate as a factor in outbreaks of conflict than those who study climate and its effects.⁷⁹

A recent study by the Overseas Development Institute outlines the numerous potential pathways through which disasters can make people more vulnerable to conflicts and the reverse.⁸⁰ The authors cite seven examples where disasters increased the chances of conflicts and six where conflicts increased the chance of disasters, every example being from a poor country and all but two involving meteorological phenomena. They cite only three examples where disasters may have reduced the chances of conflict, most notably the end of hostilities in Aceh. For both cases, cause and consequence are not simply disentangled. The nominally exogenous factor – the environment – becomes more or less consequential because of existing endogenous factors – political, social, economic,

governance – while those same endogenous factors can affect the condition of the environment. More research is certainly called for, presenting an area of direct dialogue for conflict and disaster scholars.

Conclusion

We suggest that the boundary between conflicts as endogenously driven and disasters as exogenously triggered is porous and limiting. It may, in fact have led to an artificial separation between those studying each phenomenon. We illustrated how not only are consequences and responses to conflict and disaster so similar as to warrant increased cross-disciplinary dialogue, but that many of the causes are sufficiently overlapping and interacting to necessitate such conversations. Understanding and explaining conflicts and disasters as separate phenomena can be improved, in some ways, by talking about them in concert.

It is perhaps on a practical level, however, that dialogue between conflict and disaster scholars and practitioners can make the strongest contribution. Since social vulnerability and environmental pressures, including climate change, may be root causes of both conflicts and disasters, well thought-out efforts to address these common root causes should help mitigate both phenomena. Our interviewees largely agreed that emergency response programming was currently much stronger than mitigation. Nonetheless, interviewees from several organisations spoke of their commitment to moving from emergency response to peace building and to working both ‘before’ and after disasters.

Preventing an extreme event turning into a disaster or a dispute turning to violent conflict is more cost effective than responding to either one. The UK’s Department for International Development estimates that ‘for every dollar invested in disaster risk reduction between two and four dollars are returned in terms of avoided or reduced disaster impacts’.⁸¹ The same argument is made for peace building: it is cheaper to prevent conflicts than to respond to them.⁸² Most importantly, however, peace building and DRR can both save lives and improve human security.

In acknowledging the cross-over between conflicts and disasters, we could think about ‘DRR for peacebuilding’ and ‘conflict prevention for DRR’ leveraging interventions to get at ‘two birds with one stone’. Since at least some of the underliers are the same, addressing them should help mitigate both conflicts and disasters. This is certainly an area where increased collaboration among disaster and conflict scholars and practitioners would be fruitful.

Acknowledgements

Many thanks for conversations, reading drafts and/or interviews to Allison Anderson, Dana Burde, Terry Cannon, Joel Charny, Sonali Deraniyagala, Gillian Dunn, Nadia Griffin, Ugo Guarnacci, Amy Hilleboe, Cassidy Johnson, Jacob Kurtzner, Sharon Morris, Andrea Paras, Kevin Phelan, Donal Reilly, Philippe Rosen, Rafael Velasquez, Christian Webersik and others. Semee Yoon provided excellent research assistance. An earlier version of this paper was presented at the ‘Dealing with Disasters’ conference in November 2010 in Newcastle, UK. We thank the Earth Institute at Columbia University’s Advanced Consortium on Cooperation, Conflict, and Complexity (AC4) for an award to help underwrite this research.

Notes on Contributors

Elisabeth King is Associate Professor at the Steinhardt School, New York University. At the time of writing, she was a post-doctoral research fellow at

Columbia University's Earth Institute and Center for the Study of Development Strategies. Her publications include *From Classrooms to Conflict in Rwanda*; "International Approaches to Governing Ethnic Diversity: Can Development Aid be a Tool in this Toolkit?" In Will Kymlicka and Jane Boulden, eds. *International Approaches to Governing Ethnic Diversity* (forthcoming); and *A Critical Review of Community-driven Development Programmes in Conflict-affected Contexts* (available at <http://r4d.dfid.gov.uk/Project/61046/Default.aspx>).

John C. Mutter is Professor in the Department of Earth and Environmental Sciences and School of International and Public Affairs, Columbia University and is a member of the faculty of the Earth Institute. He directs the postdoctoral fellows program at the Earth Institute. His publications include "Perceiving the Social and Economic Consequences of Natural Disaster Shocks: Getting Ready for Climate Change." In Elliott Sclar, Nicole Volavka-Close and Peter Brown, eds. *The Urban Transformation: Health, Shelter and Climate Change* (2012); and "Climate Change, Evolution of Disasters and Inequality." In Humphreys and Robertson, eds. *Human Rights and Climate Change* (as co-author with Kye Mesa Barnard, 2010).

Notes

1. Cawthorne and Delva, "Quake Destruction 'Like in a War'."
2. Corty, "It Reminds Me of Images from a War Zone."
3. Wax, "Like a Tsunami that won't End."
4. "Yemen hit by Tsunami of Protest." *Arab News*, April 6, 2011, <http://www.arabnews.com/node/373457>.
5. Albalá-Bertrand, "Complex Emergencies versus Natural Disasters" for instance, has argued that the difference between natural disasters and 'complex humanitarian emergencies' (meaning conflicts where 'societal/institutional weakness...fails to accommodate competing identity groups') lies largely in the degree of endogeneity, with complex emergencies fully endogenous and natural disasters only partly so.
6. A few interviews were conducted in 2011, with the majority taking place in 2012. Whenever possible the authors transcribed interviews verbatim. Note that all interviewees spoke in an individual rather than organisational capacity. All interviewees were given the opportunity to review an earlier draft of this paper.
7. We do not contend, of course, that all the consequences of conflicts and disasters are similar. The involvement of individuals as perpetrators of conflict, for instance, opens a range of additional consequences of conflict. Here, in making a case for cross-disciplinary dialogue, we highlight similarities.
8. Barnett and Weiss, "Humanitarianism"; Calhoun, "The Idea of Emergency"; and Orbinski, *An Imperfect Offering*.
9. Kaldor, *New and Old Wars*.
10. Lacina and Gleditsch, "Monitoring Trends in Global Combat."
11. Ghobarath et al., "Civil Wars Kill and Maim People."
12. Antilla-Hughes and Hsiang, *Destruction, Disinvestment, and Death*.
13. Human Security Centre, *Human Security Report*; and CRED, "2008 Disasters in Numbers." We note the possibility of reporting biases. In the past fewer events were classified as disasters. Furthermore, there is no internationally agreed-upon definition of disaster and a wide variety of methods by which a disaster is declared within a country. CRED uses 10 disaster deaths as a minimum figure but provides no guidance as to what causes should be included in disaster-related mortality.
14. Yonetaki, *Global Estimates 2012*.
15. UNHCR, *Facts and Figures about Refugees*.
16. World Bank, *World Development Report 2011*, 5–6.
17. Humphreys and Richards, *Prospects and Opportunities for Achieving the MDGs*, 12.
18. Wisner et al., *At Risk*, 13.
19. Quoted in Gawronski and Olson, "Disasters as Crisis Triggers?": While war has been described as 'development in reverse', some alternatively 'do well out of war', as do some in disasters, such as those in the construction and aid industries. The longer-term economic outcomes of disasters are difficult to decipher and quite variable, depending on a complex convolution between disaster type, economic makeup and status of the affected region, as well as the strength of institutions. Long-run benefits may return to economic growth as a result of the renewal of productive capital stocks and infrastructure

- during disaster recovery in much the same way as post-conflict growth can sometimes be stimulated. Collier, "Doing Well out of War"; and Mutter, "Perceiving the Social and Economic Consequences of Natural Disaster Shocks."
20. Salama et al., "Lessons Learned."
 21. In Stevens, "The Public Effects of Disasters," 815; and Ceyhan and Ceyhan, "Earthquake Survivors' Quality of Life."
 22. Buckland, *Reshaping the Future*; King, "The Multiple Relationships between Education and Conflict"; and Nusrat and Jamil, "Earthquake and Education in Emergencies."
 23. Amnesty International, *Haiti Aftershocks*; and Center for Human Rights and Global Justice, "Sexual Violence in Haitian IDP Camps."
 24. Klein, *Sexual Violence in Disasters*.
 25. UNEP, "Environmental and Socioeconomic Impacts of Armed Conflict."
 26. Orbinski, *An Imperfect Offering*.
 27. Woodward, "Economic Priorities," 189–190. See also Duffield, *Global Governance and the New Wars*.
 28. This recognition contrasts with the 'minimalist' humanitarian approach in which all humanitarian work is considered to be apolitical. Weiss, "Principles, Politics, and Humanitarian Action."
 29. See Anderson, *Do No Harm*.
 30. Qureshi and Bamforth, "Political Complexities of Humanitarian Intervention."
 31. Raleigh, "Political Marginalization, Climate Change, and Conflict"; and De Silva, "Ethnicity, Politics and Inequality."
 32. Phelan, "From an Idea to Action," 12.
 33. See also Stokes, "Drowning Humanitarian Aid."
 34. Dayton-Johnson, *Natural Disasters and Adaptive Capacity*, 6; Cutter, *Hazards, Vulnerability and Environmental Justice*; Klein et al., "Resilience to Natural Hazards"; and Buhaug et al., "Implications of Climate Change for Armed Conflict," 11.
 35. IRC, internal document, New York, nd.
 36. Ibid.
 37. See World Bank, *World Development Report 2011*, 103.
 38. Boutros-Ghali, *An Agenda for Peace*.
 39. Calhoun, "The Idea of Emergency," 52.
 40. See also Duffield, "Complex Emergencies."
 41. While we focus on these two factors as illustrations, they do not represent the entire range of overlap. The politics of famine is well documented and highlights the ways in which famine is not attributed to 'natural' causes, but reflects political failings by governments, donors and international relief agencies. De Waal, *Famine Crimes*.
 42. Brown, *Ethnic Conflict and International Security*.
 43. Collier et al., *Breaking the Conflict Trap*, 5.
 44. Jackson, "The State and Internal Conflict."
 45. Stewart, "Horizontal Inequalities and Conflict."
 46. Collier et al., *Breaking the Conflict Trap*.
 47. World Bank, *World Development Report 2011*, 103.
 48. Wisner et al., *At Risk*.
 49. Brainard et al., *Climate Change and Global Poverty*.
 50. *Foreign Policy* and the Fund for Peace, "The 2010 Failed States Index."
 51. Wisner et al., *At Risk*; Cutter and Finch, "Temporal and Spatial Changes," 2303–2305; Cutter, *Hazards, Vulnerability and Environmental Justice*; Pelling, *The Vulnerability of Cities*; and Peluso and Watts, *Violent Environments*.
 52. Burd-Sharps et al., *The Measure of America*.
 53. Snyder, "It didn't Begin with Katrina."
 54. See Schubert et al., *Climate Change as a Security Risk*, 25–30.
 55. UNEP, "Sudan Post-conflict Environmental Assessment."
 56. See Flint and De Waal, *A Short History of a Long War*; Brown and McLeman, "A Recurring Anarchy?"; Buhaug et al., "Implications of Climate Change for Armed Conflict"; O'Brien et al., *Disaster Risk Reduction*, 25; and Salehyan, "From Climate Change to Conflict?," 316–319.
 57. Homer-Dixon, *Environment, Scarcity and Violence*; and Collier, *The Bottom Billion*.
 58. Harris et al., *When Disasters and Conflicts Collide*.
 59. Parry et al., "Climate Change 2007"; Burke et al., "Warming Increases Risk of Civil War"; Raleigh, "Political Marginalization"; and Salehyan, "From Climate Change to Conflict?"
 60. Ironically the temperate zones where the greatest quantity of emissions originates may be relatively robust to temperature increases.
 61. Field et al., *Managing the Risks of Extreme Events*.
 62. Dell et al., *Climate Change and Economic Growth*; Jones and Olken, *Climate Shocks and Exports*; and Hsiang, "Temperatures and Cyclones Strongly Associated with Economic Production."
 63. Steinbruner et al., *Climate and Social Stress*.
 64. Hsiang et al., "Civil Conflicts."

65. The effect that climate change will have on the prevalence of el Niño conditions is not well understood, although it is certainly conceivable that a warmer atmosphere will promote el Niño conditions more commonly.
66. See Burke et al., "Warming Increases Risk of Civil War"; Miguel et al., "Economic Shocks and Civil Conflict"; and Sandholt-Jensen et al., "Rain, Growth and Civil War."
67. Clark et al., "What is Food Security?", 78.
68. See also several discussion papers on the International Institute for Sustainable Development's website, <http://www.iisd.org/ecp/es/climate/>.
69. Lacina and Gleditsch, "Monitoring Trends in Global Combat."
70. Wisner et al., *At Risk*, 27–28.
71. Brancati, "Political Aftershocks"; Nel and Righarts, "Natural Disasters"; and Omelicheva, "Natural Disasters."
72. Nel and Righarts, "Natural Disasters."
73. Gawronski and Olsen, "Disasters as Crisis Triggers?"
74. Beardsley and McQuinn, "Rebel Groups as Predatory Organizations."
75. Buhaug et al., "Implications of Climate Change for Armed Conflict"; Reuveny, "Ecomigration and Violent Conflict"; and Stern, *The Economics of Climate Change*.
76. Slettebak and de Soysa "High Temps, High Tempers?"; and Slettebak, "Don't Blame the Weather!"
77. Bergholt and Lujala, "Climate Related Natural Disasters"; and Bernauer et al., "Climate Variability."
78. Ciccone, "Economic Shocks and Civil Conflict", strongly questions the analysis of Miguel et al., "Economic Shocks and Civil Conflict."
79. Gleditsch, "Whither the Weather?"
80. Harris et al., *When Disasters and Conflicts Collide*.
81. UK Department for International Development, quoted in IRC, internal document.
82. Reychler, "Proactive Conflict Prevention."

Bibliography

- Albala-Bertrand, J. M. "Complex Emergencies versus Natural Disasters: An Analytical Comparison of Causes and Effects." *Oxford Development Studies* 28, no. 2 (2000): 187–204.
- Amnesty International. *Haiti Aftershocks: Women speak out against Sexual Violence in Haiti's Camps*. London: Amnesty International Publications, 2011.
- Anderson, Mary B. *Do No Harm: How Aid can Support Peace or War*. Boulder, CO: Lynne Rienner, 1999.
- Antilla-Hughes, J. K., and Solomon Hsiang. *Destruction, Disinvestment, and Death: Economic and Human Losses Following Environmental Disaster*. Working paper (2013). http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2220501.
- Barnett, Michael, and Thomas Weiss. "Humanitarianism: A Brief History of the Present." In *Humanitarianism in Question: Politics, Power, Ethics*, edited by M. Barnett, and T. Weiss, 1–48. Ithaca, NY: Cornell University Press, 2008.
- Beardsley, Kyle, and Brian McQuinn. "Rebel Groups as Predatory Organizations: The Political Effects of the 2004 Tsunami in Indonesia and Sri Lanka." *Journal of Conflict Resolution* 53, no. 4 (2009): 624–645.
- Bergholt, Drago, and Paivi Lujala. "Climate Related Natural Disasters, Economic Growth, and Armed Civil Conflict." *Journal of Peace Research* 49, no. 1 (2012): 147–162.
- Bernauer, Thomas, Vally Koubi, Anna Kalbhenn, and Gabrielle Spilker. "Climate Variability, Economic Growth, and Civil Conflict." *Journal of Peace Research* 49, no. 1 (2012): 113–127.
- Boutros-Ghali, Boutros. *An Agenda for Peace: Preventative Diplomacy, Peacemaking and Peace-keeping*. New York: United Nations, 1992.
- Brainard, Lael, Abigail Jones, and Nigel Purvis. *Climate Change and Global Poverty: A Billion Lives in the Balance?* Washington, DC: Brookings Institution, 2009.
- Brancati, Dawn. "Political Aftershocks: The Impact of Earthquakes on Intrastate Conflict." *Journal of Conflict Resolution* 51, no. 5 (2007): 715–743.
- Brown, Michael E. *Ethnic Conflict and International Security*. Princeton, NJ: Princeton University Press, 1993.
- Brown, Oli, and Robert McLeman. "A Recurring Anarchy? The Emergence of Climate Change as a Threat to International Peace and Security." *Conflict, Security & Development* 9, no. 3 (2009): 289–305.
- Buhaug, Halvard, Nils Petter Gleditsch, and Ole Magnus Theisen. "Implications of Climate Change for Armed Conflict." In *Social Dimensions of Climate Change: Equity and Vulnerability*, edited by Robin Mearns and Andy Norton, 75–101. Washington, DC: World Bank, 2010.
- Burd-Sharps, Sarah, Kristen Lewis, and Eduardo Borges Martins. *The Measure of America: American Human Development Report 2008–2009*. New York: SSR/Columbia University Press, 2008.
- Burke, Marshall, Edward Miguel, Shanker Satyanath, John A. Dykeme, and David B. Lobell. "Warming Increases Risk of Civil War in Africa." *Proceedings of the National Academy of Sciences* 106, no. 49 (2009): 20670–20674.
- Buckland, Peter. *Reshaping the Future*. Washington, DC: World Bank, 2005.

- Calhoun, Craig. "The Idea of Emergency: Humanitarian Action and Global (Dis)Order." In *Contemporary States of Emergency: The Politics of Military and Humanitarian Interventions*, edited by D. Fassin, and M. Pandolfi, 29–58. New York: Zone Books, 2010.
- Cawthorne, Andrew, and Joseph Guylor Delva. 2010. "Quake Destruction 'Like in a War': Haiti President." Reuters, Jan 15. <http://mobile.reuters.com/article/topNews/idUSTRE60E60T20100115>.
- Center for Human Rights and Global Justice. "Sexual Violence in Haitian IDP camps: Results of a Household Survey." 2011. <http://www.chrgj.org/press/docs/Haiti%20Sexual%20Violence%20March%202011.pdf>.
- Center for Research on the Epidemiology of Disasters (CRED). "2008 Disasters in Numbers." Department of Public Health, Catholic University of Louvain, 2009.
- Ceyhan, Esra, and A. Aykut Ceyhan. "Earthquake Survivors' Quality of Life and Academic Achievement Six Years after the Earthquakes in Marmara, Turkey." *Disasters* 31, no. 4 (2007): 516–529.
- Cicccone, Antonio. "Economic Shocks and Civil Conflict: A Comment." *American Economic Journal: Applied Economics* 3, no. 4 (2011): 215–227.
- Clark, Peggy, Dan Glickman, David Monsma, Toni Verstandig, and Nic Buckley. "What is Food Security?" *The Aspen Idea*. Summer (2013): 78–81.
- Collier, Paul. "Doing Well out of War: An Economic Perspective." In *Greed and Grievance: Economic Agendas in Civil Wars*, edited by Mats Berdal, and David Malone, 91–111. Boulder, CO: Lynne Rienner, 2000.
- Collier, Paul. *The Bottom Billion: Why the Poorest Countries are Failing and What can be Done about it*. London: Oxford University Press, 2007.
- Collier, Paul, Lani Elliott, Håvard Hegre, Anke Hoeffler, Marta Reynal-Querol, and Nicholas Sambanis. *Breaking the Conflict Trap: Civil War and Development Policy*. Washington, DC: World Bank, 2003.
- Corty, Jean-Francois. "It Reminds Me of Images from a War Zone." Doctors Without Borders, October 20, 2005. <http://www.doctorswithoutborders.org/news/article.cfm?id=1613>.
- Cutter, Susan. *Hazards, Vulnerability and Environmental Justice*. London: Earthscan, 2006.
- Cutter, Susan L., and Christina Finch. "Temporal and Spatial Changes in Social Vulnerability to Natural Hazards." *Proceedings of the National Academy of Sciences of the United States of America* 105, no. 7 (2008): 2301–2306.
- Dayton-Johnson, Jeff. *Natural Disasters and Adaptive Capacity*. OECD Development Center Working Paper 237. Paris: OECD, 2004.
- Dell, Melissa, Benjamin F. Jones, and Benjamin A. Olken. *Climate Change and Economic Growth: Evidence from the Last Half Century*. Cambridge, MA: National Bureau of Economic Research, 2008.
- De Silva, Amarasiri. "Ethnicity, Politics and Inequality: Post-tsunami Humanitarian Aid Delivery in Ampara District, Sri Lanka." *Disasters* 33, no. 2 (2009): 253–273.
- De Waal, Alex. *Famine Crimes: Politics and the Disaster Relief Industry*. Bloomington: Indiana University Press, 1994.
- Duffield, Mark. *Global Governance and the New Wars: Merging of Development and Security*. London: Zed Books, 2001.
- Duffield, Mark. "Complex Emergencies and the Crisis of Developmentalism." *IDS Bulletin* 25, no. 4 (1994): 1–15.
- Field, C. B., V. Barros, T. F. Stocker, D. Qin, D. J. Dokken, K. L. Ebi, M. D. Mastrandrea, K. J. Mach, G. K. Plattner, S. K. Allen, M. Tignor, and P. M. Midgley, eds. *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation: Special Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press, 2012.
- Foreign Policy* and the Fund for Peace. "The 2010 Failed States Index." <http://www.foreignpolicy.com>.
- Flint, Julie, and Alex de Waal. *A Short History of a Long War*. New York: Zed Books, 2008.
- Gawronski, Vincent T., and Richard Stuart Olsen. "Disasters as Crisis Triggers for Critical Junctures? The 1976 Guatemala Case." *Latin American Politics and Society* 55, no. 2 (2013): 133–149.
- Ghobarath, Hazem, Paul Huth, and Bruce Russett. "Civil Wars Kill and Maim People – Long after Shooting Stops." *American Political Science Review* 97, no. 2 (2003): 189–202.
- Gleditsch, Nils Petter. "Whither the Weather? Climate Change and Conflict." *Journal of Peace Research* 49, no. 3 (2012): 3–9.
- Harris, Katie, David Keen, and Tom Mitchell. *When Disasters and Conflicts Collide: Improving Links between Disaster Resilience and Conflict Prevention*. London: Overseas Development Institute, 2013.
- Homer-Dixon, Thomas. *Environment, Scarcity, and Violence*. Princeton, NJ: Princeton University Press, 2001.
- Hsiang, Solomon M. "Temperatures and Cyclones Strongly Associated with Economic Production in the Caribbean and Central America." *Proceedings of the National Academy of Sciences* 107, no. 35 (2010): 15367–15372.
- Hsiang, Solomon M., Kyle C. Meng, and Mark A. Cane. "Civil Conflicts are Associated with the Global Climate." *Nature* 476, no. 7361 (2011): 438–441.
- Human Security Centre. *Human Security Report 2009/2010: The Causes of Peace and the Shrinking Costs of War*. New York: Oxford University Press, 2011.
- Humphreys, Macartan, and Paul Richards. *Prospects and Opportunities for Achieving the MDGs in Post-conflict Countries: A Case Study of Sierra Leone and Liberia*. New York: Earth Institute/Center on Globalization and Sustainable Development, 2005.

- Jackson, Richard. "The State and Internal Conflict." *Australian Journal of International Affairs* 55, no. 1 (2001): 65–81.
- Jones, Benjamin F., and Benjamin A. Olken. *Climate Shocks and Exports*. Cambridge, MA: National Bureau of Economic Research, 2010.
- Kaldor, Mary. *New and Old Wars: Organised Violence in a Global Era*, 2nd ed. Cambridge: Polity Press, 2006.
- King, Elisabeth. "The Multiple Relationships between Education and Conflict: Reflections of Rwandan Teachers and Students." In *Educating Children in Conflict Zones: A Tribute to Jackie Kirk*, edited by Karen Mundy, and Sarah Dryden-Peterson, 137–151. New York: Teachers College Press, 2011.
- Klein, Alisa. *Sexual Violence in Disasters: A Planning Guide for Prevention and Response*. Washington, DC: Center for Disease Control and Prevention/US Department of Justice, Office on Violence against Women, 2008.
- Klein, Richard, J. T., Robert J. Nicholls, and Frank Thomalla. "Resilience to Natural Hazards: How Useful is this Concept?" *Environmental Hazards* 5, no. 1 (2003): 35–45.
- Lacina, Bethany, and Nils Petter Gleditsch. "Monitoring Trends in Global Combat: A New Dataset of Battle Deaths." *European Journal of Population* 21 (2005): 145–166.
- Miguel, Edward, Shanker Satyanath, and Ernest Sergenti. "Economic Shocks and Civil Conflict: An Instrumental Variables Approach." *Journal of Political Economy* 112 (2004): 725–753.
- Mutter, John C. "Perceiving the Social and Economic Consequences of Natural Disaster Shocks: Getting Ready for Climate Change." In *The Urban Transformation: Health, Shelter and Climate Change*, edited by Elliott Sclar, Nicole Volavka-Close and Peter Brown, 173–196. London: Routledge, 2012.
- Nel, Philip, and Marjolein Righarts. "Natural Disasters and the Risk of Violent Civil Conflict." *International Studies Quarterly* 52 (2008): 159–185.
- Nusrat, Rabia, and Baela Raza Jamil. "Earthquake and Education in Emergencies: An Opportunity and a Challenge". Paper presented at the ninth UKFIET International Conference on Education and Development, Oxford, September 11–13, 2007.
- O'Brien, Karen, Linda Sygna, Robin Leichenko, W. Neil Adger, Jon Barnett, Tom Mitchell, Lisa Schipper, Thomas Tanner, Coleen Vogel, and Colette Mortreux. *Disaster Risk Reduction, Climate Change Adaptation and Human Security*. Oslo: Global Environmental Change and Human Security, University of Oslo, 2008.
- Omelicheva, Mariya Y. "Natural Disasters: Triggers of Political Instability?" *International Interactions: Empirical and Theoretical Research in International Relations* 37, no. 4 (2011): 441–465.
- Orbinski, James. *An Imperfect Offering: Humanitarian Action in the Twenty-first Century*. Toronto: Doubleday Canada, 2008.
- Parry, Martin, Osvaldo Canziani, Jean Palutikof, Paul van der Linden, and Clair Hanson. "Climate Change 2007: Impacts, Adaptation and Vulnerability." *Contribution of Working Group 2 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press, 2007.
- Pelling, Mark. *The Vulnerability of Cities: Social Resilience and Natural Disaster*. London: Earthscan, 2003.
- Peluso, Nancy Lee, and Michael Watts, eds. *Violent Environments*. Ithaca, NY: Cornell University Press, 2001.
- Phelan, Kevin. "From an Idea to Action: The Evolution of Médecins sans Frontières." In *The New Humanitarians: Inspiration, Innovations and Blueprints for Visionaries*, edited by Chris E. Stout, 1–30. Westport, CT: Praeger, 2008.
- Qureshi, Jawad Hussain, and Thomas Bamforth. "Political Complexities of Humanitarian Intervention in the Pakistan Earthquake." *Journal of Humanitarian Assistance*, 2007. <http://sites.tufts.edu/jha/archives/12>.
- Raleigh, Clionadh. "Political Marginalization, Climate Change, and Conflict in African Sahel States." *International Studies Review* 12, no. 1 (2010): 69–86.
- Reuveny, Rafael, A. "Ecomigration and Violent Conflict: Case Studies and Public Policy Implications." *Human Ecology* 36 (2008): 1–13.
- Reychler, Luc. "Proactive Conflict Prevention: Impact Assessment?" *International Journal of Peace Studies* 3, no. 2 (1998). http://www.gmu.edu/programs/icar/ijps/vol3_2/reychler.htm.
- Salama, Peter, Paul Spiegel, Leisel Talley, and Ronald Waldman. "Lessons Learned from Complex Emergencies over Past Decade." *Lancet* 364 (2004): 1801–1813.
- Salehyan, Idean. "From Climate Change to Conflict? No Consensus Yet." *Journal of Peace Research* 45, no. 3 (2008): 315–326.
- Sandholt-Jensen, Peter, and Kristian Skrede Gleditsch. "Rain, Growth and Civil War: The Importance of Location." *Defence and Peace Economics* 20, no. 5 (2009): 359–372.
- Schubert, Renate, Hans Joachim Schellnhuber, Nina Buchmann, Astrid Epiney, Rainer Griebhammer, Margareta E. Kulesa, Dirk Messner, Stefan Rahmstorf, and Jürgen Schmid. *Climate Change as a Security Risk*. London: Earthscan, 2008.
- Slettebak, Rune T., and Indra de Soysa. "High Temps, High Tempers? Weather-related Natural Disasters and Civil Conflict". Draft paper for the Conference on Climate Change and Security, Trondheim, June 21–24, 2010.
- Slettebak, Rune T. "Don't Blame the Weather! Climate-related Natural Disasters and Civil Conflict." *Journal of Peace Research* 49, no. 1 (2012): 163–176.

- Snyder, Mary Gail. "It didn't Begin with Katrina: National Housing Institute." *Shelterforce* 143 (2005). <http://www.nhi.org/online/issues/143/beforekatrina.html>.
- Steinbruner, John D., Paul C. Stern, and Jo L. Husbands. *Climate and Social Stress: Implications for Security Analysis*. Washington, DC: National Academies Press, 2013.
- Stern, Nicholas. *The Economics of Climate Change: Stern Review*. London: HM Treasury, 2006.
- Stevens, Garry B., Raphael, and M. Dobson. "The Public Effects of Disasters and Mass Violence." In *Encyclopedia of Stress*. 2nd ed., edited by George Fink, 814–824. Maltham: Academic Press, 2007.
- Stewart, Frances. "Horizontal Inequalities and Conflict: Understanding Group Violence in Multiethnic Societies." Paper presented at 'Conflict Prevention and Peaceful Development: Policies to Reduce Inequality and Exclusion', CRISE Policy Conference, Oxford, July 9–10, 2007.
- Stokes, Christopher. 2010. "Drowning Humanitarian Aid." *Foreign Policy Online*. October 27. http://afpak.foreignpolicy.com/posts/2010/10/27/drowning_humanitarian_aid.
- United Nations Environment Programme (UNEP) "Sudan Post-conflict Environmental Assessment." 2007. <http://www.unep.org/sudan/post-conflict/>.
- UNEP. 2010. "Environmental and Socioeconomic Impacts of Armed Conflict in Africa." In *The Encyclopedia of Earth*. <http://www.eoearth.org/view/article/152607/>
- United Nations High Commissioner for Refugees (UNHCR). *Facts and Figures about Refugees from the 2011 Global Report*. Geneva: UNHCR, 2011.
- Wax, Emily. 2008. "Like a Tsunami that won't End." *Washington Post*, April 12. http://articles.washingtonpost.com/2008-04-12/world/36896522_1_ethnic-sinhalese-majority-liberation-tigers-tamil-eelam.
- Weiss, Thomas G. "Principles, Politics, and Humanitarian Action." *Ethics and International Affairs* 13, no. 1 (1999): 1–22.
- Wisner, Ben, Piers Blaikie, Terry Cannon, and Ian Davis. *At Risk: Natural Hazards, People's Vulnerability and Disasters*, 2nd ed. London: Routledge, 2003.
- Woodward, Susan L. "Economic Priorities for Successful Peace Implementation." In *Ending Civil Wars: The Implementation of Peace Agreements*, edited by Steven Stedman, Donald Rothchild and M. Elizabeth Cousens, 183–214. Boulder, CO: Lynne Rienner, 2002.
- World Bank. *World Development Report 2011: Conflict, Security and Development*. Washington, DC: World Bank, 2011.
- Yonetaki, Michelle. *Global Estimates 2012: People Displaced by Disasters*. Oslo: Internal Displacement Monitoring Centre and Norwegian Refugee Council, 2013.