

This is a section of [doi:10.7551/mitpress/14970.001.0001](https://doi.org/10.7551/mitpress/14970.001.0001)

Catastrophes, Confrontations, and Constraints

How Disasters Shape the Dynamics of Armed Conflicts

By: Tobias Ide

Citation:

Catastrophes, Confrontations, and Constraints: How Disasters Shape the Dynamics of Armed Conflicts

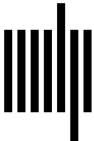
By: Tobias Ide

DOI: [10.7551/mitpress/14970.001.0001](https://doi.org/10.7551/mitpress/14970.001.0001)

ISBN (electronic): 9780262374507

Publisher: The MIT Press

Published: 2023



The MIT Press

1 Setting the Foundation: Disasters and Conflicts

Why Study Disasters and Armed Conflicts?

Disasters triggered by extreme natural events have devastating impacts on individuals, groups, and societies. Since the year 2000, such disasters have claimed 1.25 million lives. Some past events were even more devastating, such as the 1959 Yellow River flood in China (2 million deaths), the 1965–1967 drought in India (1.5 million deaths), the 1983–1984 drought in Ethiopia (300,000 deaths), and Cyclone Bhola in Bangladesh (then East Pakistan) in 1970 (300,000 deaths). To this one can add the health effects of disasters—for example, injuries, post-traumatic stress, the destruction of housing, health, water, and food infrastructure, and post-disaster disease outbreaks (Makwana 2019; Salazar et al. 2016). Following the 2010 earthquake in Haiti, for example, malaria, dengue fever, and cholera infections increased massively (Enserink 2010). Furthermore, disaster can have devastating economic effects. In the years 2019–2021, disasters caused global economic damage of US\$150 billion, \$210 billion, and \$280 billion, respectively (Munich RE 2021). Taken together, this is more than the annual GDP of countries like Argentina, Belgium, Hong Kong, or Nigeria. Consequently, reducing the risks associated with disasters is an essential component of the sustainable development goals¹ and subject to a separate (yet closely related) agreement endorsed by the United Nations (UN 2015), the Sendai Framework for Disaster Risk Reduction.

1. Particularly by target 11.5: “By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations” (UNDESA 2015).

Because of inconsistencies and uncertainties in the data, trends in disasters are not easy to assess (Visser et al. 2020; Wirtz et al. 2014). However, in the face of climate change,² urbanization, the increasing concentration of populations in exposed or vulnerable areas (e.g., urban slums, coastal cities), and persistent poverty,³ the world will likely experience more frequent and more intense disasters in the coming decades (Cappelli et al. 2021; Franzke and Torelló i Sentelles 2020; Kelman 2020). This finding is corroborated by empirical data. Giuseppe Formetta and Luc Feyen (2019) find clear upward trends for disaster events, fatalities, and economic damage for the period from 1980 to 2016. Likewise, Nicolas Boccoard (2021), comparing four global datasets, finds that disaster events and, to a lesser degree, disaster-related economic damage showed clear upward trends between 1970 and 2019. By contrast, the number of fatalities per million people is trending downward, indicating a reduced vulnerability (see figure 1.1).

Just like disasters, armed conflict is a major challenge for humanity in the twenty-first century. The Uppsala Conflict Data Program (UCDP) estimates that since the turn of the millennium, more than 1 million people have died in battles between organized armed groups (Pettersson et al. 2021). Some studies suggest that this estimate can be up to three times higher if the long-term effects of injuries are considered (Obermeyer et al. 2008; Spagat et al. 2009). Destruction of health infrastructure, food and water insecurity, and a lack of public services owing to insecurity further add to the civilian death toll. General life expectancy in Syria, for instance, declined by up to 20 years after the onset of the civil war in 2011 (Guha-Sapir et al. 2018).

Beyond their immediate impacts on health, armed conflicts can have long-lasting impacts on human development. One example of this is lower school enrollment and graduation rates owing to the destruction of school buildings, general insecurity, and participation of youths in military activities (Swee 2015). Fighting also results in massive destruction to the infrastructure, leading to reduced assets and economic opportunities for years to come (Sowers et al. 2017). Valerie Cerra and Sweta Chaman Saxena (2008), for instance, find that civil war onset results in a GDP decline of 6% in the

2. Climate change will lead to higher temperatures and more evaporation, which increase the risk of heat waves and droughts. Warmer air can also hold more water, thus making extreme rainfall events (and the associated floods) more likely. Sea level rise is also associated with higher flood risks in coastal areas (Funk 2021).

3. Poor people often lack the resources to prepare for or recover from extreme natural events like earthquakes or tropical storms.

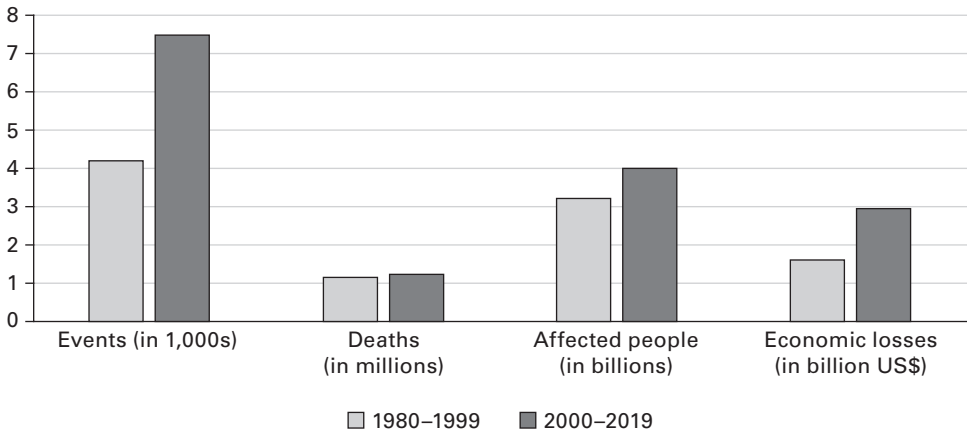


Figure 1.1

Comparison of disaster data for 1980–1999 and 2000–2019.

Source: CRED and UNDRR (2020).

first year. These effects can be even more severe at the individual level. After the Rwandan genocide in 1994, around 20% of the population became impoverished (Justino and Verwimp 2013). Hence, reducing the number of armed conflicts is not only at the core of sustainable development goal 15 (Peace, Justice and Strong Institutions) but also key to achieving other sustainable development goals.

In the light of these insights, it is even more worrisome that the number of active armed conflicts worldwide is at its highest level since World War II. During the Cold War era, this number fluctuated between 17 and 47. After a brief peak in 1991 (53 conflicts), the prevalence of armed conflict declined steadily until 2009 (31 conflicts). However, each single year since 2015 featured more than 50 armed conflicts, and 2019 (55) and 2020 (56) saw the most active armed conflicts since 1946. The large majority (> 95%) of these conflicts take place within countries, usually in the form of civil wars⁴ (Pettersson et al. 2021). As a consequence, this book will deal primarily with intrastate armed conflicts, usually between a government and a rebel group (and their respective allies).⁵

4. International support for the conflict parties is far from uncommon, however.

5. This is well in line with wider climate-conflict (Scartozzi 2021; von Uexkull and Buhaug 2021) and disaster-conflict research (Brzoska 2018; T. Nelson 2010). Both bodies of work agree that disasters are far more likely to affect intrastate rather than international conflicts.

With the number of armed conflicts at a historically high level and disaster frequency and intensity on the rise, conflict- and disaster-affected regions will increasingly intersect. This is particularly so because fighting increases the vulnerability of a society to disasters as infrastructure is destroyed, poverty increases, and long-term investments in disaster risk reduction are off the table. In line with this, Katie Peters (2017: 10) concludes that “58% of deaths from disasters occurred in countries that are also among the top 30 most fragile states.” Likewise, disasters can affect well-established risk factors for armed conflict, such as poor economic performance and anti-state grievances. Since 1989, 73% of the most disaster-affected countries have also suffered from more than 500 battle-related deaths (Ide 2020b).

Not surprisingly, then, decision makers, researchers, and the broader public are increasingly concerned about the intersections of disasters and armed conflicts, and particularly about the impact of disasters on armed conflict risks. More than 1,300 academic studies have assessed the impact of climate change and environmental stress on various forms of conflict, many of which focus on disasters (Sharifi et al. 2021). Some of those studies arrive at far-reaching conclusions, such as that “disasters significantly increase the risk of violent conflict” (Nel and Righarts 2008: 179).

This concern is echoed among policy makers. In a 2021 UN Security Council meeting, French foreign minister Jean-Yves Le Drian argued, “In recent years, droughts, floods, storms, tropical cyclones and extreme temperatures have directly caused nearly 2 million deaths, to say nothing of the human tragedies linked to the conflicts sometimes precipitated by these disasters” (UN Security Council 2021a). Already in 2015, then US president Barack Obama argued that “severe drought helped to create the instability in Nigeria that was exploited by the terrorist group Boko Haram. It’s now believed that drought and crop failures and high food prices helped fuel the early unrest in Syria, which descended into civil war in the heart of the Middle East” (The White House 2015).

Other public figures, such as UN secretary general António Guterres, England’s King Charles III, and US presidential candidate Bernie Sanders, as well as news media and comic strips, have also linked droughts, floods, and storms to armed conflict risks, including in Syria and Sudan (Selby and Hulme 2015). However, analysts and NGOs also consider disasters as “silver linings” (Renner and Chafe 2007: 16) that can induce enhanced solidarity and peaceful cooperation. When the government and the rebels in Aceh,

Indonesia, signed a peace agreement a few months after the devastating 2004 tsunami, some observers termed the disaster a “wave of peace” (Gailard, Clavé, and Kelman 2008: 511).

This book analyzes the impact of disasters on the dynamics of ongoing intrastate armed conflicts. Doing so is relevant for the burgeoning research on disasters, environmental security, climate change impacts, armed violence, civil wars, and peace. But it can also have important practical implications. Assume for a moment that we know the conditions under which disasters contribute to conflict escalation or de-escalation (the book certainly offers some insights on this issue). In the best case, this would mean politicians, international mediators, and development agencies would work to create the conditions that facilitate conflict de-escalation after disasters, hence saving lives and opening spaces for safe aid delivery and negotiations.

But even when relevant conditions for disaster-conflict linkages are structural and persistent, knowing them is important for designing post-disaster policy measures. If conflict de-escalation is expected, humanitarian aid workers can move into the affected areas to provide disaster- and conflict-related relief. Periods of reduced conflict intensity also provide opportunities to further economic development projects and to (re-)start informal peace talks between the conflict parties. By contrast, if we know that fighting is likely to intensify after a disaster, the evacuation of aid workers, the postponement of development projects, and international pressure on conflict parties to limit the use of violence are likely better options.

The Emergence of Disaster-Conflict Research

Disaster sociology has long been interested in the effects of disasters on conflict and cooperation, broadly conceived. Already during World War II, Pitrim A. Sorokin (1942: 159) wrote on the effects of disasters on individuals and societies:

Some become brutalized, others intensely socialized. Some disintegrate—morally, mentally, and biologically; others are steeled into an unbreakable unity. . . . This diversification and polarization of effects upon the mentality and conducts of various units of the population, as well as upon sundry fields of culture, manifests itself in practically any calamity.

Follow-up studies considered the effects of disasters on community coherence and integration (Fritz and Williams 1957), studied local conflicts

in post-disaster periods (Quarantelli and Dynes 1976), or analyzed how disasters exacerbate pre-existing cleavages (Cuny 1983). While providing valuable theoretical and conceptual knowledge, disaster sociology focuses mostly on the community level and conflicts with no or low levels of violence. Therefore, this body of research provides only limited insights on the intersections between disasters and organized armed conflicts.

With very few exceptions (e.g., Ember and Ember 1992; Rajagopalan 2006), peace and conflict studies have not dealt with disasters related to natural hazards (e.g., droughts, floods, storms, and earthquakes). During the Cold War, conflict researchers largely focused on the superpower rivalry, arms races, and struggles of independence. After the collapse of the Soviet Union, civil wars and post-conflict peace building emerged as major topics (Richmond 2011; Sambanis 2004), with terrorism being at the top of the agenda since 2001 (Hoffman 2006). Interest in environmental security also increased from the 1990s onward, but focused mostly on the scarcity of renewable resources and the use of high-value resources to finance conflicts (Barnett 2001). Disasters played only a minor role in all these debates, leading Philip Nel and Marjolein Righarts (2008: 178) to diagnose a “tendency by political scientists and other conflict specialists to underestimate the growing importance of geography and environmental factors. Given the growing importance of environmental factors as climate change kicks in and as natural ecologies are stretched to the limit, it becomes all the more important to correct this oversight.”

Up until 2008, only three major cross-case studies on disasters⁶ and intra-state armed conflict had been available. A. Cooper Drury and Richard Stuart Olson (1998) employed a statistical analysis and found that higher levels of disaster severity increase levels of political unrest in a given country. Dawn Brancati (2007) hypothesized that earthquakes make various forms of intra-state conflict more likely, as they cause resource scarcity as well as funding and recruitment opportunities for armed groups. These assumptions were confirmed by his large-N study.⁷ Similarly, Nel and Righarts (2008) concluded that disasters facilitate conflict occurrence, as they cause grievances, competition for scarce resources, and state weakness that can be exploited

6. As opposed to environmental factors or climate changes more generally.

7. Large-N studies analyze a larger number (usually hundreds or thousands) of cases, usually based on statistical methods.

by rebel groups. All three studies also identified context factors that make a disaster-conflict nexus more likely, such as widespread poverty, persistent inequality, and anocratic regimes.⁸

However, from the late 2000s onward, academic interest in disasters and armed conflicts within countries increased tremendously. Several factors account for this development.

First, the security implications of climate change emerged as a prominent issue in political and scientific debates. In 2007, Al Gore and the Intergovernmental Panel on Climate Change (IPCC) received the Nobel Peace Prize, and the UN Security Council held its first-ever debate on climate change (McDonald 2021: 44–93). In the same year, the journal *Political Geography* published an influential special issue on climate change and conflict (Nordås and Gleditsch 2007). As discussed above, one of the most worrisome implications of climate change is an increase in the frequency and intensity of disasters like heat waves, droughts, floods, landslides, and tropical storms.

Second, several research streams converged toward an increasing consideration of disaster-conflict interlinkages. Conflict research strongly focused on civil wars and intrastate violence, which are more likely to be affected by environmental factors, including disasters. Studies on environmental security were analyzing how conflict risks are affected by the scarcity of natural resources, which can be facilitated by disasters. Disaster scholars became increasingly interested in how armed conflicts increase communities' vulnerability to disasters. And the literature on disaster diplomacy provided evidence that disaster-related actions may have at least a short-term impact on diplomatic relations between states (Kelman 2006).

Third, three real-world developments increased research interest in—and political demand for knowledge on—the topic. In 2007 and 2008, a massive rise in global food prices increased food insecurity, resulting in riots in more than 20 countries (mostly in the Global South). This triggered intense research on the impact of food prices and food availability on various forms of conflict, while disasters are considered a key driver of harvest failure and food insecurity (Martin-Shields and Stojetz 2019).

An earthquake in the Indian Ocean on December 26, 2004, triggered a massive tsunami, killing over 200,000 people in more than a dozen countries.

8. Anocracies are mixed political regimes that are neither full democracies nor full autocracies.

Two of the most heavily affected countries suffered from long-standing civil wars: Indonesia (in particular the province of Aceh) and Sri Lanka. A few months after the tsunami, a comprehensive (and ongoing) peace agreement was signed for Aceh, while the civil war in Sri Lanka escalated heavily. This posed the question of whether and how the tsunami impacted these strongly diverging conflict dynamics (see chapter 4 for further details on these cases). A year earlier, in 2003, a civil war between rebels and the government emerged in the Sudanese region of Darfur, which caught the attention of media worldwide. The onset of the war was preceded by an intense drought, leading analysts to speculate about a disaster-conflict link (De Juan 2015). Then UN secretary general Ban Ki-moon (2007) stated that “the Darfur conflict began as an ecological crisis, arising at least in part from climate change.”

Hypothesized links between a major drought in 2007–2008 and the onset of the civil war in Syria in 2011 further fueled interest in disaster-conflict links from 2014 onward (Gleick 2014). Gina Yannitell Reinhardt and Carmela Lutmar (2022) argue that the COVID-19 pandemic has had a similar impact (see chapter 6).

State of Knowledge

Research basically agrees that disasters, while rooted in historical structures and everyday realities, are critical junctures “because during the emergency response phase of a disaster—but usually more significantly during recovery and reconstruction—decisions and choices among alternatives are often stark in their consequences” (Gawronski and Olson 2013: 134). Large-scale disasters accelerate developments, make ongoing trends visible, and often lead to calls for far-reaching actions. This increases the contingency of a situation, making a broader palette of more radical political decisions thinkable and ultimately possible (Birkmann et al. 2010).

But does such increasing room for political maneuver and contestation affect matters of peace and (armed) conflict? There are quite a few studies analyzing such interrelations from a long-term and historical perspective. Peter Neal Peregrine (2019) concludes, on the basis of archaeological data, that climate-related disasters made violent conflict more prevalent in 22 societies prior to written history. Likewise, ancient kingdoms on the Korean Peninsula were more likely to be invaded after large-scale disasters that reduced their defense capability (Jun and Sethi 2021). Disasters are also

associated with the onset of civil wars in China between 1470 and 1911 (Lee 2018). While such research is useful in providing a broader historical perspective, the applicability of its insights to the modern, highly technologized and interconnected world might be doubted. Historical data are also not fine-grained enough to discern the specific dynamics of conflicts in the post-disaster period.

Since the mid-2000s, when academic and political interest in the topic increased, a number of studies have dealt with the impact of disasters on armed conflict onset or incidence. By contrast, reduced conflict risks in the wake of disasters have hardly been discussed.

Concerns about the impact of disasters on international wars were quickly refuted, but an intense debate about disasters and civil wars (or similar forms of organized intrastate violence) emerged. As discussed above, the early studies of Brancati (2007), Drury and Olson (1998), and Nel and Righarts (2008) all found a link between disasters triggered by natural hazards and the incidence of political violence within countries. In line with this, Peter Nardulli and colleagues (2015) argue that rapid-onset disasters with high death tolls increase the risk of political unrest. This effect, however, is rather weak, and conditional factors like the economic basis of a society play a major role in conditioning it. There is also evidence that hydro-meteorological and climate-related disasters facilitate armed conflict onset under conditions like low levels of human development or the exclusion of ethnic groups from political power (Ide et al. 2020).

By contrast, several well-executed studies argue that “climate-related natural disasters do not increase the risk of armed conflict” onset (Bergholt and Lujala 2012: 147) or that disasters are not linked to political instability in general (Omelicheva 2011). Rune Slettebak (2012) even argues that armed conflict risks decline after climate-related disasters owing to higher solidarity among the affected groups. Voices that are skeptical about the existence of a disaster-conflict link are a minority position at the moment.

The sample of relevant research increases when one includes studies on specific types of disasters, but the overall picture hardly changes. According to the group around Ramesh Ghimire and Susana Ferreira (Ghimire and Ferreira 2016; Ghimire et al. 2015), floods and flood-related migration increase the risk of armed conflict incidence, but not onset. The 2015 earthquake in Nepal is supposed to have reduced social conflict intensity in a post-conflict context, unless a region received large amounts of disaster-related aid

(De Juan et al. 2020). The literature on drought is extensive and cannot be fully summarized here.⁹ Studies like those of Guy Abel and colleagues (2019) or Adrien Detges (2016) conclude that droughts make armed conflict onset more likely, but only during specific time periods or in certain regions (e.g., those characterized by limited road infrastructure). There is also evidence that rainfall deficits and the occurrence of political conflicts are linked through higher food prices (Raleigh et al. 2015). But again, some studies remain skeptical about such a nexus (Buhaug et al. 2015; O'Loughlin et al. 2014).

This divide is also visible in the case-based literature. For the civil wars in Darfur and Syria, some researchers claim that intense drought conditions triggered migration, which in turn increased grievances in the receiving regions and eventually led to violence (Faris 2007; Gleick 2014). Other scholars remain highly skeptical of such claims (Selby et al. 2017; Verhoeven 2011). Recent evidence suggests that the disasters played a minor, yet still discernible, role for the onset of civil war in both areas (Ash and Obradovitch 2020; De Juan 2015).

From this brief overview, I conclude that disaster has an impact on intra-state armed conflict onset and incidence, although such a link is minor and highly dependent on the presence of various context factors. This concurs with a prominent review of the climate-conflict literature stating that “climate variability, hazards and trends have affected organized armed conflict within countries,” while “other conflict drivers are much more influential” (Mach et al. 2019: 194).

However, insights on the onset and incidence of conflicts do not necessarily apply to their dynamics. For sure, some of the factors driving conflict onset, like collective grievances and state weakness, can also account for an intensification of violence. But a mismatch remains. State weakness, for instance, increases the risks of armed conflict onset but can also be linked to a de-escalation of a conflict as armed forces retreat from a contested area or lack the capabilities to attack rebel groups. Likewise, studies on armed conflict incidence only focus on whether fighting is taking place (or not), while ignoring the intensity and dynamics of the conflict. The transferability of insights on conflict onset/incidence to the field of conflict dynamics is therefore severely limited (Chaudoin et al. 2017).

9. The reviews by Ide et al. (2016) and Sakaguchi et al. (2017) can be consulted for this purpose.

The same applies to two other streams of study in the broader field of disaster and conflict research. First, several studies find that disasters increase the number of public protests, especially in non-democratic countries (Apodaca 2017; Ide, Rodriguez Lopez, et al. 2021). This is because disasters cause grievances and weaken state capacities. Disasters also facilitate mobilization because they catalyze the construction of a shared identity (as disaster victims) and cause an inflow of NGOs (which act as mobilizers). To counter such protests, governments frequently respond with repression, which is a cheap option for poor and/or disaster-strained states (Pfaff 2020; Wood and Wright 2016). Anti-regime protests and government repression might contribute to an escalation of armed conflicts—for example, those in Libya and Syria during the Arab Spring. But this is certainly not always the case (think about Bahrain and Iran in 2011, for instance), and such a disaster-protest-escalation nexus would need to be backed up by solid empirical evidence.¹⁰ Second, several studies find that droughts increase individual motivations to participate in violent actions if no proper political institutions are in place (Detges 2017; Linke et al. 2018; Vestby 2019) and that disasters result in more hostility toward out-groups (Chung and Rhee 2022). But again, the link between such changed motivations and conflict escalation or de-escalation remains to be established.

There is very little research on the impact of disasters on conflict (de-)escalation as of yet, especially when compared with that on conflict onset and incidence. Some studies do not even distinguish between conflict causes and conflict dynamics (Koubi 2019). In general, environment security research is characterized by the “near complete lack of attention devoted to possible impacts of changing environmental conditions on the dynamics of conflicts” (Wischnath and Buhaug 2014: 12). The few existing studies on the impact of disasters on ongoing armed conflicts within countries use very different data and methods, are hardly comparable, provide limited insights on causal pathways, and arrive at starkly different conclusions.

An unusually dry, wet, or cyclone-intense year in the Philippines (Eas-tin 2018), agricultural production shocks in India (Gawande et al. 2017; Wischnath and Buhaug 2014), and large inflows of aid related to the 2004 tsunami in Sri Lanka (Kikuta 2019) are all associated with higher conflict

10. The studies cited above do not deal with the impacts of protests and repressions on the wider dynamics of armed conflicts.

intensity. In one of the most comprehensive studies so far, Nina von Uexkull and colleagues (2016: 12391) concluded for Africa and Asia: “For agriculturally dependent groups as well as politically excluded groups in very poor countries, a local drought is found to increase the likelihood of sustained violence.” Scholars also link disasters to an increase in terrorist attacks, at least in contexts characterized by poverty, few political freedoms, and links to international extremist groups (Berrebi and Ostwald 2011; Paul and Bagchi 2016).

By contrast, other analysts argue that cease-fires (Kreutz 2012) and negotiations (Nemeth and Lai 2022) in civil wars are more likely in the aftermath of a disaster, hence pointing to an at least temporary de-escalation impact of disasters. Researchers also find that conflict intensity is usually higher in areas with high staple food production (Koren 2018) and above-average rainfall (Salehyan and Hendrix 2014). High food availability in the absence of droughts or other disasters makes conquering a region more attractive and provides armed groups with higher capabilities to engage in violence. The case study literature remains divided as well. Some scholars claim that the 2010 floods in Pakistan facilitated recruitment by Islamist groups, and hence their capacity to escalate the conflict with the government (Arai 2012). But Ayesha Siddiqi (2014) contends that this link has not been straightforward as there has been significant local variation in whether support for rebels, the government, or neither of them grew in the post-disaster period.

Contributions of This Study

This book advances existing research in at least eight major ways.

First, disaster-conflict research has emerged as a burgeoning field of study in the past two decades. Because more frequent and more intense disasters can result from climate change and tend to increase the scarcity of renewable resources, the disaster-conflict nexus is also key for wider debates on climate change and conflict and on environmental security. All three fields have so far focused predominantly on intrastate armed conflict onset or incidence, while knowledge on the impact of disasters on the dynamics of ongoing armed conflicts is limited. Such knowledge is of crucial importance given that disaster-affected areas and conflict zones are increasingly likely to intersect in the future.

Second, a recent survey of international peace and conflict studies finds that researchers are focusing mostly on war and armed violence (Bright

and Gledhill 2018), while Paul F. Diehl (2016: 1) argues that international relations scholars “should pay greater attention to peace.” In line with this, most work on environmental conflict and climate security analyzes whether disasters increase armed conflict risks. This book takes a broader approach by explicitly considering a third possibility: an increase of cooperation and/or a decrease in armed conflict risks after a disaster.

Third, disasters can be considered as external shocks to societies. For sure, disasters are never completely exogenous. Some societies have much better capabilities than others to mitigate the adverse effects of natural hazards—for instance, by enforcing earthquake-resilient building, establishing elaborated dikes to cope with floods, and setting up well-funded insurance and reconstruction programs. However, the magnitude of a drought, storm, or earthquake can make a big difference for two similarly vulnerable societies and is generally beyond human control. My study hence contains valuable insights on the conflict implications of other “external” shocks, such as pandemics, fluctuations in commodity prices, or global economic crises (see also chapter 7).

Fourth, research has so far largely been focused on the existence of a link between environmental stress / climate change / disasters and intrastate armed conflict. By contrast, the “mechanisms of climate–conflict linkages remain a key uncertainty” (Mach et al. 2019: 193). A systematic review of disaster-conflict research found that more than 80% of all studies ask whether disaster affects conflict risks, while less than 20% also analyze the causal pathways connecting disasters to conflicts (Xu et al. 2016). Likewise, previous studies indicated that a disaster-conflict link is dependent on the presence of scope conditions, including agriculture dependence, ethnic discrimination, poverty, and deficient political institutions. Existing small-N studies usually identify a large number of relevant intervening variables, hence making parsimonious theory building difficult, while quantitative approaches consider only a few context factors. Drawing on a variety of data sources and a method well suited to detect complex causal patterns, this book studies whether disasters facilitate the (de-)escalation of intrastate armed conflicts, as well as the pathways and contexts in which they do so.

Fifth, and relatedly, this book also bridges a persistent gap in the peace and conflict research and security studies (including climate security) literature. Frequently, (1) qualitative studies of few cases are considered in a nuanced and context-sensitive way, and (2) large-N statistical studies

characterized by high degrees of reproducibility and generalizability exist apart from each other (Ide 2017; Jutila et al. 2008). The qualitative comparative analysis (QCA) employed in this study serves to build further bridges between quantitative and qualitative approaches by combining advantages from both worlds (see chapter 3 for details).

Sixth, the literature on armed conflicts commonly distinguishes between two pathways to the onset (and incidence) of fighting (Taydas et al. 2011): grievances (which motivate individuals and groups to take up arms) and opportunities (for starting violence, such as the availability of weapons, recruits, and hideouts). This book presents one of the first studies to test this framework for armed conflict dynamics. Furthermore, as I will argue in chapter 2, a third pathway has to be considered when explaining conflict escalation and de-escalation because armed groups frequently intensify or restrain from using violence to communicate a message to different audiences (e.g., their opponents, internal rivals, or international supporters).

Seventh, and more generally, the literature on intrastate armed conflict dynamics is just emerging in international relations and security studies (e.g., Chaudoin et al. 2017; Ruhe 2021). This book is one of the first studies on the role of environmental factors in shaping armed conflict intensity.

Eighth, and finally, disaster research has long acknowledged that “violent conflict interacts with natural hazards in a wide variety of ways” (Wisner et al. 2004: 27). There is widespread consensus that the presence of armed violence increases vulnerability and hence the likelihood that a hazard turns into a disaster (Siddiqi 2018; Wisner 2017). However, the intensity of armed conflicts is likely to matter as well. Conflict escalation can result in additional destruction of infrastructure, the politicization of aid, curfew and access restrictions, and the absence of humanitarian actors owing to security concerns. Conflict de-escalation, by contrast, offers a window of opportunity for rescue operations and the delivery of humanitarian aid. This book therefore makes an important contribution to research on disaster vulnerability and response.

Goal, Definitions, and Plan

This book aims to answer three questions: (1) Do disasters influence the intensity of armed conflicts between governments and rebels? (2) Are disasters more likely to facilitate an escalation or de-escalation of armed

conflicts? (3) Which pathways and context factors can account for intra-state armed conflict (de-)escalation after a disaster has struck?

Before presenting the plan of this book, I will define some key terms.

In this study, I employ the UCDP definition of armed conflict as “a contested incompatibility that concerns government or territory or both where the use of armed force between two parties results in at least 25 battle-related deaths. Of these two parties, at least one is the government of a state” (Gleditsch et al. 2002: 618–619). The book will only deal with intra-state armed conflicts, of which the principal parties are (1) the government, which controls the state military and security forces and is often supported by non-state armed militias, and (2) a rebel or insurgent group, which uses systematic, armed violence and is often supported by other rebel groups and/or civil society organizations.¹¹ Unless otherwise noted, I use the terms “conflict,” “armed conflict,” and “intrastate armed conflict” interchangeably for the sake of simplicity. If an armed conflict within a country causes more than 1,000 battle-related deaths, it reaches the level of a civil war. Armed groups include both government and rebel forces.

In line with the UN General Assembly (2016: 13), I define a disaster as “a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.” In other words, a disaster is the product of (1) a society being exposed to a hazard and (2) a society being vulnerable to the hazard. In this book, I focus on natural hazards such as earthquakes, floods, droughts, storms, heat waves, and cold spells. Although extreme natural conditions with considerable destructive potential (hazards) can hardly be mitigated at all, disaster prevention is possible by reducing vulnerability before a hazard occurs (Chmutina and von Meding 2019).

Vulnerability refers to the capacity of a society or group to anticipate, prepare for, cope with, resist, and recover from a hazard (Wisner et al. 2004: 11). Vulnerability is a result of continuous and “normal” conditions (often only made visible to broader audiences by the disaster). Early warning systems, building standards, the quality of emergency services, and bank savings all determine vulnerability—that is, how much damage a strong shaking of the ground does and how quickly and comprehensively

11. Both conflict parties may use violence against civilians as part of their struggle.

individuals, households, groups, or countries recover.¹² In addition to being more vulnerable, poor and marginalized groups also often have to settle in areas particularly exposed to disasters, such as flood plains or steep slopes.¹³

This book has a modular structure, which makes it suitable for a broad range of readers. This structure also ensures that certain chapters can be read without an in-depth knowledge of the previous content. That said, the three key questions about the existence and direction of, pathways underlying, and context factors relevant for a disaster–armed conflict intensity nexus form the backbone of this study. Consequently, they are addressed throughout the book.

This introductory first chapter provides essential discussions about key definitions, the development of disaster-conflict research, and the current state of the literature. It is therefore highly suitable for students and researchers aiming to familiarize themselves with the research field.

The second chapter develops the theoretical framework of this study. It distinguishes between two conflict dynamics—escalation and de-escalation—as well as three approaches to explaining these dynamics: motive, strategy, and communication. By combining them, six potential impacts of disasters on armed conflict dynamics can be discerned: conflicts escalate because disasters raise grievances among the relevant actors, because disasters provide opportunities for armed groups to stage attacks, or because armed groups seek to send costly signals after a disaster. Alternatively, conflicts may de-escalate because disasters increase local and national solidarity, because disasters provide restraints to armed groups' mobility and capability, or because armed actors seek to cultivate a positive image after the disaster. While building the theoretical framework for my study, chapter 2 also provides a comprehensive overview about wider debates on climate change, environmental stress, disasters, peace, and conflict.

Chapter 3 introduces the sample of cases analyzed in this study, the main method of analysis, and the relevant conditions (or variables). In short, I conduct a qualitative comparative analysis (QCA) of 36 cases of major disasters striking a country with an ongoing armed conflict. All cases

12. Obviously, the timing and strength of an earthquake also determine how much damage is done. Stronger earthquakes that occur when people are inside and/or asleep usually result in a greater loss of lives.

13. Emergency services and shelter may also be less present in these areas.

occurred in the period between 1990 and 2020. QCA is well able to disentangle complex causal relationships, identify relevant context factors, and combine quantitative and qualitative data.

Chapter 4 contains the 36 qualitative case studies on disaster-conflict intersections that form the empirical core of the book. It discusses the conflict background and dynamics, the disaster and its impacts, and the existence and nature of a disaster-conflict intensity link. Evidence comes from 21 countries: Afghanistan, Algeria, Bangladesh, Burundi, Colombia, Egypt, India, Indonesia, Iran, Myanmar, Nepal, Pakistan, Peru, the Philippines, Russia, Somalia, Sri Lanka, Tajikistan, Thailand, Turkey, and Uganda (see figure 3.1 in chapter 3). This chapter also contains relevant insights for specialists working on particular regions, countries, disasters, or rebel groups. As the case studies provide brief overviews about each conflict and disaster as well as a wealth of further references, they are also suitable as illustrative examples (or introductory readings) for students and early career researchers.

Chapter 5 synthesizes evidence from the case studies, quantitative data, and the QCA to answer the key questions of the book: Do disasters have an impact on armed conflict dynamics, and if so, how and in which contexts? I find that disasters have an impact on armed conflict dynamics in 50% of all cases, which are evenly split between escalation (25%) and de-escalation (25%) cases. Two context factors are key for disasters shaping conflict dynamics: a high vulnerability to disasters and a strong disaster impact on at least one conflict party. Armed conflicts escalate either when the rebel group gains power vis-à-vis the government during the disaster or when the rebel group intensifies its activities in reaction to the grievances of the disaster-affected population, while a strong government fights back. Disasters facilitate armed conflict de-escalation by weakening at least one conflict party while the other is unable to capitalize on this weakness.

Taken together, this indicates that while disaster impacts on armed conflicts are rather prevalent, they occur only under specific conditions and might well manifest as conflict de-escalation. Overall, changes in the strategic environment (rather than participants' motivations or communication logics) explain most disaster-conflict linkages, while limiting the use of violence to cultivate a group's image is common after large-scale, rapid-onset disasters. People with a working knowledge of environmental security, disaster impacts, and armed conflicts will be able to read chapter 5 as a

stand-alone contribution to existing research (even though I recommend a brief look at the summary section of chapter 2 beforehand).

Chapter 6 focuses on a very recent disaster, the COVID-19 pandemic, and its impact on armed conflict dynamics. After reviewing the existing literature on COVID-19 and conflict, I analyze how the pandemic affected the dynamics of four civil wars during the time period March 2020 to September 2021: the Taliban conflict in Afghanistan, the actions of the Islamic State in Iraq, the Boko Haram insurgency in Nigeria, and the Communist rebellion in the Philippines. The analysis shows that, depending on the political-economic contexts and leadership decisions, rebel groups can scale up violence when the government is preoccupied with the pandemic response, restrain from violence and provide a pandemic response themselves to increase their legitimacy, or be heavily affected by the financial and logistical impacts of COVID-19 and hence unable to wage more violence. This chapter is of interest to anyone working on the societal implications of the COVID-19 pandemic. Readers with a basic knowledge of peace and conflict should be able to easily understand chapter 6 (if you don't have such knowledge, I recommend having a look at chapters 1 and 2).

The seventh chapter concludes the book. It summarizes key insights and demonstrates how they speak to current debates in international relations, peace and conflict studies, environmental social sciences, security studies, climate change research, and political geography. I also reflect on avenues for further research and implications for policy makers.

Disasters triggered by natural hazards and armed conflicts are two of the most important challenges of our time, and their intersections are likely to increase in the years to come. By offering a comprehensive study on how disasters affect armed conflict dynamics, this book offers crucial insights for understanding and addressing these challenges.

© 2023 Massachusetts Institute of Technology

This work is subject to a Creative Commons CC-BY-NC-ND license.
Subject to such license, all rights are reserved.



The MIT Press would like to thank the anonymous peer reviewers who provided comments on drafts of this book. The generous work of academic experts is essential for establishing the authority and quality of our publications. We acknowledge with gratitude the contributions of these otherwise uncredited readers.

This book was set in Stone by Westchester Publishing Services.

Library of Congress Cataloging-in-Publication Data is available.

ISBN: 978-0-262-54555-6