When disasters and conflicts collide

Improving links between disaster resilience and conflict prevention

Katie Harris, David Keen and Tom Mitchell

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Acronyms

DFID   Department for International Development
DRR   Disaster risk reduction
GFDRR   Global Facility for Disaster Reduction and Recovery
HFA   Hyogo Framework for Action
IFRC   International Federation of Red Cross and Red Crescent Societies
LTTE   Liberation Tigers of Tamil Eelam
OCHA   UN Office for the Coordination of Humanitarian Affairs
UNDP   United Nations Development Programme
UNISDR   UN International Strategy for Disaster Reduction

Executive summary

In 2011, drought, and food and political insecurity in East Africa contributed to a full-scale humanitarian crisis. A combination of natural hazards, conflict and fragility provided a recipe for human suffering. From 2005-2009, more than 50% of people affected by 'natural' disasters lived in fragile and conflict-affected states (Kellett and Sparks, 2012: 31).[1]

This convergence poses particular challenges for governments and agencies working to secure development progress and puts great strain on the international humanitarian system.[2] With poverty expected to be highly concentrated in fragile and conflict-affected states by 2025 (Kharas and Rogerson, 2012) and with many fragile and conflict-affected states still some way off meeting any of the Millennium Development Goals, the impetus for tackling conflict and disaster risk coherently in such settings is becoming a priority for both the development and humanitarian communities. Without sufficient attention, hard-won development and security gains will be undone.

This study assesses the evidence base for how natural disasters[3] affect conflict, how conflict affects natural disasters, and how people living in complex environments are affected by multiple risks. We also consider what can be learned from current practices to improve conflict prevention, statebuilding and disaster risk management in ways that help build resilience. The evidence base challenging: it is fragmented and contested, with a number of studies highlighting directly opposing lines of arguments. This suggests that the complexity of conflict and disaster dynamics can only be understood when grounded in specific contexts.

This report focuses on the links between conditions of vulnerability and risks associated with the nexus of natural disasters, conflict and fragility. However, it is recognised that any given context will be mired in an even more complex array of intersecting risks. Thus while there is a tendency to consider how one risk impacts another, our overarching focus is on advancing an understanding of how multiple vulnerabilities stack up for populations. 'How disasters and conflict collide' is an entry point to understanding how vulnerability is dynamic and shaped by interconnected shocks and stresses, and how it must be addressed as such.

The scale of the challenge

A number of high profile disasters in fragile and conflict-affected states have increased attention on the concurrence of disasters and conflict, and there is an expectation that disasters and conflict will coincide more in the future. Climate change, continued urbanisation, food price fluctuations, financial shocks and other stresses may all shape – and complicate – future trends in the disaster–conflict interface.

Based on a rudimentary analysis, there appears to be a close association between the risk of mortality from drought, state fragility and climate change vulnerability. However, the intersection between mortality risk from other natural hazards (such as cyclones and earthquakes) and state fragility appears to be much less pronounced, though still significant.

Somalia, Afghanistan and Niger are ranked high in a composite list of countries considered to be fragile and/or conflict affected, with high disaster risk, high levels of poverty and high vulnerability to climate change.

The impact of natural disasters on conflict

Though the picture is far from clear, the balance of evidence suggests that natural disasters exacerbate pre-existing conflicts. There are only a limited number of cases where natural disasters have supported peacebuilding and led to the resolution of conflicts, such as Aceh.[4] In every complex situation, numerous interactions exist, where natural disasters reduce some conflict drivers while exacerbating others.

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1. These figures refer specifically to definitions and sources from Development Initiatives' work on conflict and the EM-DAT Centre for Research on the Epidemiology of Disasters' work on disaster-affected persons.

2. Between 2007 and 2010 the UN consolidated appeals more than doubled, reaching $11.3 billion. In the context of growing protracted crises, global food crisis, economic crisis and increasing humanitarian needs, there was a reduction in the volume of needs met (Poole and Walmsley, 2012: 59). For example, a 58.3% increase in needs between 2007 and 2009 in Sudan, 88.7% increase in Occupied Palestinian Territories in 2009 due to the Gaza crisis, and 121.9% increase in Somalia in 2009 owing to drought, flooding and increase insecurity (Poole and Walmsley, 2012: 59).

3. It is widely recognised that disasters are not 'natural' but a product of a set of interactions between natural hazards, conditions of vulnerability, and socio-political-economic conditions. Although uncomfortable for the authors, the term is used here to differentiate natural-hazard related disasters from the conflict and fragility components of a 'disaster'. For more on the paradigm shift towards recognising disasters not as a technical issue but as inherently 'unnatural', with vulnerability at the centre of the conceptual frame, see Wisner et al., 2004.

4. A celebrated though much debated case.

Grievances can be deepened by natural disasters that increase resource scarcity or cause more acute imbalances between areas of scarcity and abundance. Grievances can also increase with the unequal distribution of ex-post humanitarian aid or ex-ante preventative/protective measures by governments or other agencies. Weak government responses to natural disasters can also contribute to conflict.

The disruption caused by natural disasters can present *economic opportunities* for criminal activity, while their impact on livelihoods can lead individuals to join armed groups. In some cases, though, good access to reconstruction aid can increase the opportunity cost of conflict.

This study also finds that *political opportunities* for engaging in conflict can arise when disasters create a smokescreen for advancing political or military objectives (such as increasing military spending, deploying troops to sensitive areas, or manipulating aid to some groups over others).

The *feasibility* of conflict can also be changed by natural disasters, either by strengthening or weakening one side in a conflict directly or through the appropriation of aid.

The impact of conflict and fragility on 'natural' disasters

There is strong evidence that conflict and fragility increase the impact of natural disasters, notably by increasing vulnerability to natural hazards. Conflict increases disaster risk by displacing people into areas more exposed to hazards and through the impacts it has on physical and psychological health, basic service provision and the security of livelihoods. Conflict can drive individuals to sell assets, which increases disaster risk. In a limited number of cases, individuals and groups can gain from conflicts (through the so called 'war economy') in ways that increase their resilience to disasters.

This study finds that conflict can undermine the capacity of governmental and non-governmental actors to plan for and protect people against hazards – for example, by inhibiting the ability to provide basic early warning systems and to devise and enforce building codes.

Governments can also exacerbate post-disaster suffering by inhibiting aid on security grounds or appropriating humanitarian aid to support conflict objectives.

Some countries refuse, delay or complicate international help, fearing it will undermine sovereignty.

It is valuable to draw a distinction between fragile and conflict-affected states that are *willing but unable*, and those that are *unwilling and unable* to reduce the vulnerability of populations to disaster risks and impacts. Disaster risk management tends to assume a positive state-society 'social contract'[5] exists where the state adopts the management of risk as a public good. In some states this may be the case, but in others it is not. Figure 1 highlights the relationship between conflicts and natural disasters. The weight of evidence suggests a stronger leaning to the left quadrants of the circle.

Lessons from current efforts to strengthen resilience

In both policy and practice, conflict prevention and disaster risk management are treated as discrete issues, with limited crossover of expertise or joint working. Misconceptions, different 'languages', and low levels of coordinated analysis and programming inhibit the potential for stronger collaboration.

The resilience agenda is helping to improve links between humanitarian and development action and fostering stronger integration of risk management. While there are few well-documented examples of interventions that actively seek to integrate natural disaster risk reduction and conflict prevention, there does appear to be a growing realisation that managing disaster risk in fragile and conflict-affected states cannot be a matter of business-as-usual. Hard won peace dividends may be undermined unless natural disaster risk is taken seriously.

The 2011 World Development Report warns not to expect too much too soon of national institutions: action to transform governance needs long-term investment and sustained support. Yet less than 4% of humanitarian aid and less than 1% of development assistance is spent on ex-ante disaster prevention, preparedness and risk reduction (Poole and Walmsley, 2012: 2). This severely constrains the potential for integrated risk management in fragile and conflict-affected states. While there are good reasons for not investing in ex-ante risk reduction in fragile situations

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5. A dynamic agreement between the state and society on their mutual roles and responsibilities (Chandran and Jones, 2008: 17, in Harvey, 2009).

Figure 1: Cases supporting the relationship between 'natural' disasters and conflict

Natural disasters can increase the risk of conflict

- Prolonged drought in Balkh province, Afghanistan in 2006-2007 resulted in youth being forced to join armed groups (Heijman et al., 2009).
- Recurrent drought and food insecurity in post-war Burundi through the mid-2000s contributed to increased levels of migration and tensions with host communities (Heijman et al., 2009).
- The 2004 tsunami in Sri Lanka has seen military expansion justified through its proposed role in reconstruction and growing rebel capacity through increased financial independence (Keen, 2009; Mampilly, 2009).
- Flooding and overflow from the Koshi River, Terai region of Nepal in 2008, resulted in large-scale resettlement resulting in increased tension with host communities. These tensions were exacerbated by political groups who used flood victims' dissatisfaction over lack of clean water and shelter to feed anti-government sentiments (Vivikananda, 2001).
- Migrants fleeing from 1997 El Nino floods (together with other migrants) into the southern Somali region of Lower Juba has attracted clan raiding and land-grabs from relatively well-armed and powerful clans and sub-clans as well as fighting between these more dominant groups (Keen, 1994; Narbeth and McLean, 2003).
- The 1970 cyclone in former East Pakistan, and inadequate relief response from West Pakistan, gave major impetus to civil war and eventually to the establishment of Bangladesh (Olson and Gawronski, 2003).
- The 1972 earthquake in Managua, Nicaragua, led to massive government corruption in relief and reconstruction, allowing Sandinista rebels to capitalise politically and open a military campaign in 1975 (Olson and Gawronski, 2003).
- Slow onset disasters, changing natural resource availability and environmental scarcity have contributed to an ongoing complex crisis in Darfur, Sudan (Flint and de Waal, 2005).

Natural disasters can decrease the risk of conflict

- 2004 tsunami in Ache, Indonesia is regarded as contributing to the peace process (Waizenegger, 2010).
- The drought in Mozambique in the early 1990s weakened the already struggling Renamo rebels and helped end the war (Keen and Wilson, 1994).
- During war between Pakistan and India in 1965, a cyclone struck, a ceasefire was negotiated to allow a response in Kashmir, and both Pakistani and Indian troops pulled out; but the conflict resumed a few months later (Nelson, 2010).

Conditions of conflict can increase the risk of natural disasters

- In Chad, state fragility and corruption have undermined equitable governance and the ability to facilitate international aid and development in support of livelihood security, disaster risk reduction and risk management. For instance, during the 2010 food crisis the National Office for Food Security lacked the logistical resources to transport food from major towns to the most severely affected rural areas (Grubbels, 2011).
- In Sudan, Darfur's the ongoing crisis have inhibited mechanisms for natural resource management, exacerbating slow onset disasters and environmental scarcity (Flint and de Waal, 2005).
- Strategies designed to deal with drought and livelihoods more broadly have been hampered in Kenya's Turkana and Kitui districts, by (often violent) livestock raiding (Eriksen and Lind, 2009).
- In 2008, Cyclone Nargis in Myanmar saw substantial delays in disaster response as the government limited humanitarian access. Of the agencies that were permitted entry many were subject to restricted movement, limiting their ability to provide adequate relief (Asia-Pacific Centre for the Responsibility to Protect, 2008).
- In flood-prone La Mojana, Colombia, the lack of government control, the presence of an active rebel group and communities' weak political voice has seen a lack of investment in risk reduction measures (Williams, 2011).
- Moreover, whether the affected state labels a 'crisis' as such is not merely a technical matter; the labelling of a situation has strong political dimensions. Examples include failing to declare a disaster to avoid appearing weak or undermining national pride (Cuba 1998 drought) and refusing international help, even when national capabilities have been outstripped (Mozambique 2007 flooding) (Harvey, 2009).

Conditions of conflict can decrease the risk of natural disasters

- For a small minority of individuals, gains from a war economy can be used to reduce the risk of natural disasters and their negative impacts.

(e.g. corruption, lack of capacity and political will), not doing so makes little sense in the long term.

Towards a conceptual framework

Interventions aimed at reducing natural disaster risk can have positive or negative effects on the dynamics of conflict; conversely, interventions aimed at preventing conflict can have positive or negative effects on the likelihood and impact of natural disasters. The ideal scenario is to have interventions that reduce the likelihood of natural disasters *and* conflict. Disaster risk management should be integrated more systematically into peacebuilding and statebuilding frameworks. The reverse should also happen. Integrating conflict and fragility into natural disaster frameworks can help elucidate the links between natural disasters and conflict. Greater cross-integration of frameworks will help encourage a transition from collision to collaboration between the two communities.

Over time it will be necessary to devise integrated approaches to natural disaster and conflict risk through a conceptual framework. The joint framework should encourage accountability, learning, evidence-gathering, cross-organisational exchanges and should draw on conflict sensitivity and political economy analysis. It should aspire to understand the factors that produce vulnerability to disasters and conflict, as well as trade-offs and points of convergence where there is the most to gain.

Recommendations

International policy

In order to raise the profile of the conflict–disaster nexus in fragile and conflict-affected states, UN member states and **international agencies** should:

- Ensure that managing risk in fragile and conflict-affected states is a key feature of the post-2015 agreement on disaster risk reduction (Hyogo Framework 2) and that there are clear institutional mandates set to tackle this. The World Bank **2014 World Development Report** on risk, uncertainty and crisis should link back to the 2011 World Development Report on Conflict, Security and Development and set a new agenda for managing risks in fragile and conflict-affected states.
- Resilience, vulnerability, disaster and conflict should be featured themes of **post-2015 development goals**.
- The **Political Champions for Disaster Resilience Group** should promote inter-agency co-ordination to build resilience in fragile and conflict-affected states, developing regional and national approaches to ex-ante risk management in such settings.

Programming and finance

- The **Global Facility for Disaster Reduction and Recovery (GFDRR)** should scale-up programming in fragile and conflict-affected states and forge closer links with the conflict prevention work of the World Bank, such as the Global Centre on Conflict, Justice and Development.
- **Bilateral donors and UN agencies** should:
  - Constitute joint risk taskforces in key fragile and conflict-affected states to integrate conflict, natural disaster and climate change practitioners, plans and programmes.
  - Explore new partnerships and new ways of working and build the evidence base about how to better invest in ex-ante risk management measures in fragile and conflict-affected states.
- Donors must be prepared **to risk greater levels of up-stream investment in fragile and conflict-affected states**.

- Donors and other financing bodies should work to ensure that short-term funding restrictions do not inhibit opportunities to build resilience. Where possible, **multi-year funding** should be the norm and the UN should look to expand the use of multi-year consolidated appeals.
- Civil society organisations and donors alike should invest in the **capacities of programme staff** in fragile and conflict-affected states to better link approaches to conflict, disasters and climate change. This may require training and new ways of formulating strategies and designing programmes. Donors, NGOs and other implementing agencies should develop **integrated monitoring and evaluation frameworks** for assessing needs, results, value for money and outcomes in fragile and conflict-affected states.

Research and evidence

We do not currently know how to measure the scale and nature of risk facing fragile and conflict-affected countries, nor do we know which interventions are likely to be most effective in managing risk and building resilience in these environments. Priorities for investment include to:

- Develop a **multidimensional risk index** which integrates existing data on conflict and fragility, natural hazards, vulnerability, poverty and climate change. Ideally this should be detailed enough to consider sub-national areas and should include a process for weighting risk factors depending on the focus of different agencies. Monitoring changes to this index over time will help to highlight the co-dependency between different aspects of risk and vulnerability and allow progress to be tracked and analysed.
- Develop and test **conceptual frameworks and analytical tools**. This should include modifying existing analytical tools (such as conflict sensitivity frameworks and statebuilding and peacebuilding frameworks) to reflect disaster risk and vice versa. This process could provide the model for more integrated risk modelling.
- Build the evidence base about what works in increasing resilience to multiple shocks and stresses in fragile and conflict-affected states.

1 Introduction

In 2011, drought, food and political insecurity in East Africa contributed to a full-scale humanitarian crisis. Like many other recent high profile disasters, a combination of natural hazards, insecurity, conflict and fragility provided a recipe for human suffering. From 2005-2009, more than 50% of people impacted by 'natural' disasters lived in fragile and conflict-affected states (Kellett and Sparks, 2012: 31).[6] This convergence poses particular challenges for agencies working to secure development progress in such environments and puts great strain on the international humanitarian system.[7] While it is widely acknowledged that more needs to be done to tackle the risk posed by disasters and conflict (e.g. World Bank, 2010), in practice as little as 1% of official development assistance was invested in reducing disaster risks between 2000 and 2010 (Kellett and Sparks, 2012: 10).

Fortunately, the link between natural disasters[8] and conflict is receiving growing attention from researchers and development agencies (e.g. UNDP, 2011; Mitchell and Smith, 2011; Walch, 2010; DFID 2011b).[9] These studies acknowledge that the convergence of disasters and conflict significantly compounds their impacts, impairs recovery, and increases the risk of future crises. They call for action that addresses the impacts of disasters in a way that supports a country's social and institutional fabric and its transition out of violence (Kostner and Meutia, 2011).

The problem is that the evidence for how conflict and disasters interrelate is fractured, highly context-specific and poorly understood (see Annex 1 for an assessment of the evidence base). Do conflicts necessarily predispose countries to vulnerability to natural disasters? And if so, how? Do natural disasters exacerbate or ameliorate conflicts? What evidence exists about efforts to tackle the causes of natural disasters and conflicts jointly? What does the evidence mean for the way stakeholders seek to achieve progress towards peace, stability and development in such contexts? This study seeks to answer these questions through a detailed review of the available evidence. In doing so, it summarises lessons, highlights complexity where it emerges, and details recommendations for strengthening resilience.
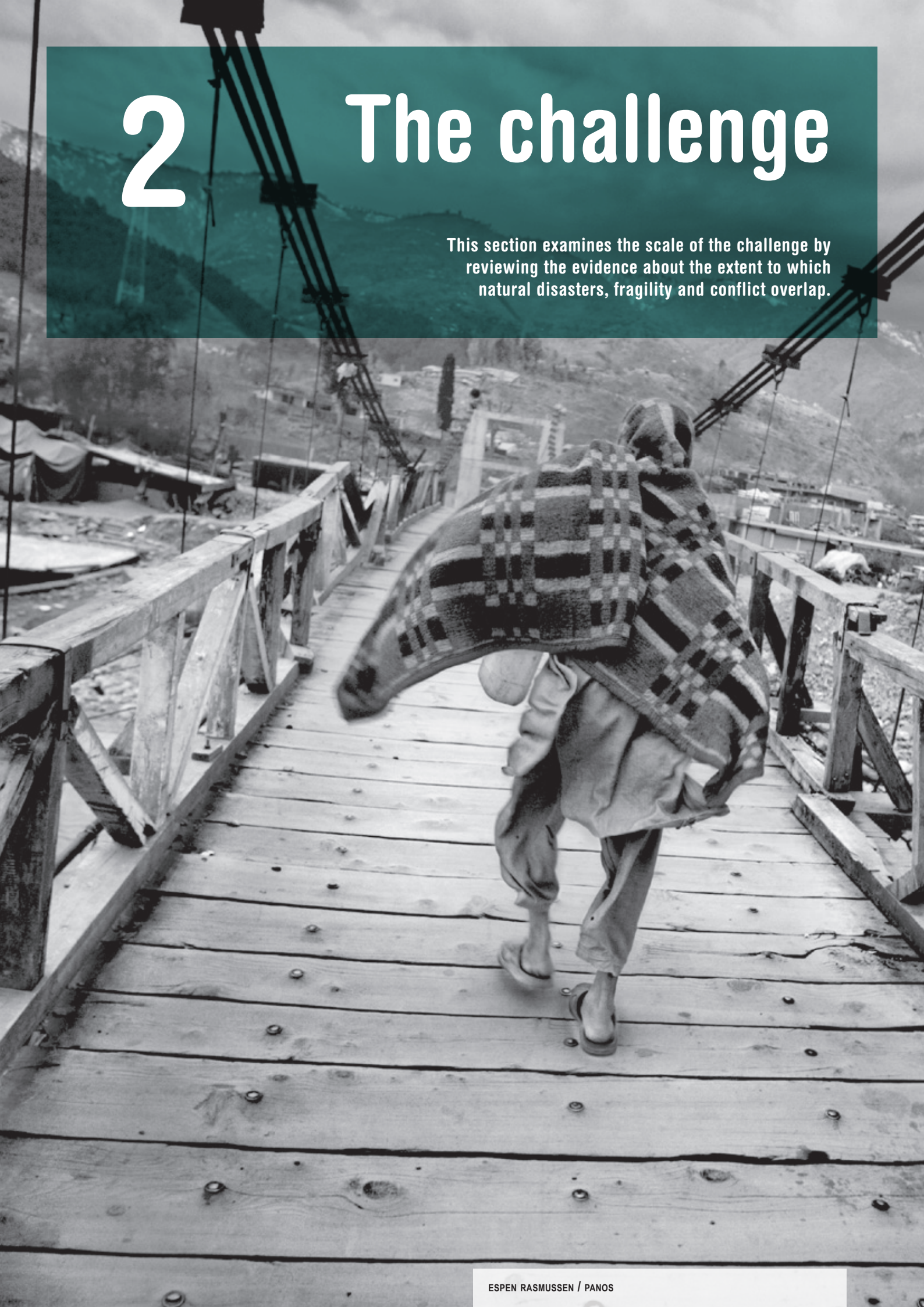
The study is structured as follows: Section 2 reviews the scale of the challenge by examining the extent to which conflict and natural disasters overlap and which countries are of most concern now and in the future. Section 3 looks at the evidence for how natural disasters affect conflict and fragility, before Section 4 examines the complementary question of how conflict and fragility affect resilience to natural disasters. Section 5 explores how the disaster–conflict interface might be understood conceptually and how the relationship between disaster risk management and conflict prevention might be strengthened. Section 6 reviews current practices and includes a set of case studies, and section 7 outlines recommendations for strengthening international policy, programming and finance and the current evidence base.

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6. These figures refer specifically to definitions and sources from Development Initiatives' work on conflict and the EM-DAT Centre for Research on the Epidemiology of Disasters' work on disaster-affected persons.

7. Between 2007 and 2010 the UN consolidated appeals more than doubled, reaching $11.3 billion. In the context of growing protracted crises, global food crisis, economic crisis and increasing humanitarian needs, there was a reduction in the volume of needs met (Poole and Walmsley, 2012: 59). For example, a 58.3% increase in needs between 2007 and 2009 in Sudan, 88.7% increase in the Occupied Palestinian Territories in 2009 due to the Gaza crisis, and 121.9% increase in Somalia in 2009 owing to drought, flooding and increase insecurity (Poole and Walmsley, 2012: 59).

8. It is worth noting that the 'natural' part of natural disasters is a misnomer. Experts link the cause of disasters to vulnerable people living in locations exposed to natural hazards. Yet the 'natural' label remains in disasters discourse hence we have chosen to include the 'natural' element here so as to clarify the distinction between disasters associated with natural hazards and disasters associated with conflict.

9. Even the UK's Building Stability Overseas Strategy (DFID, FCO & MoD, 2011) includes a reference to the relationship between conflicts and disasters stating that conflict-affected environments are more affected by natural disasters.

2 The challenge

This section examines the scale of the challenge by reviewing the evidence about the extent to which natural disasters, fragility and conflict overlap.

Summary

A number of high profile disasters in fragile and conflict-affected states have increased the attention being paid to how disasters and conflict collide, though systematic analysis is limited and sometimes contested. The evidence that does exist points to disasters and conflict coinciding more in the future. Climate change, urbanisation, food price fluctuations, financial shocks and other stresses may all shape – and complicate – future trends in the disaster–conflict interface.

A rudimentary analysis of indicies suggests a concurrence between drought mortality risk, state fragility and climate change vulnerability. However, the intersection between mortality risk from other natural hazards (such as earthquakes and cyclones) and state fragility appears to be much less pronounced, though still significant in certain locations.

Somalia, Afghanistan and Niger are ranked high in a composite list developed for this report of countries considered to be fragile and/or conflict-affected, with high disaster risk, high levels of poverty and high levels of vulnerability to climate change. Such rankings, it must be noted, can only provide indicative guidance owing to the difficulty of combining data sets and the shortcomings those data sets contain.

A number of high-profile disasters from the last five years are widely understood to have been shaped by conflict, fragility and insecurity (Box 1). Between 1999 and 2004, 140 disasters associated with natural hazards were in contexts affected by complex political emergencies (Buchanan-Smith and Christoplos, 2004). And as noted above, the number of people affected by disasters in fragile and conflict-affected states appears to be disproportionately high.[10]

This phenomenon of intersecting disaster-conflicts has already received increased policy attention. The 2011 Humanitarian Emergency Response Review highlighted how multiple risks are driving ever-increasing demands on humanitarian capacity, arguing that current approaches to managing emergencies are unsustainable (DFID, 2011a). The 2011 World Development Report included 'natural disaster deaths' as a key indicator of overall security concerns. Analyses like these are driving the demand for a better understanding of future trends in the conflict–natural disaster interface (see Box 2).

The hard data currently available on the co-location of disasters and conflict is limited in quantity and somewhat contested. This is partly to do with the quality of the available datasets, the way environmental stresses are analysed, and the challenges of reporting and accurately recording situations where natural disasters and conflict intersect. For example, disentangling the hydro-meteorological, conflict, vulnerability and capacity-related causes of famine or flooding is notoriously difficult and there is certainly no consistency in reporting.

A few studies have reviewed the correlation between conflict and disasters. With a small sample over a short time period, Drury and Olson (1997, 1998) find a significant relationship between natural disasters and political unrest, identifying the key variables as insufficient and inequitable government responses and the

10. See the figures cited earlier for 2005-2009 (Kellett and Sparks, 2012: 31).

Box 1: Selected recent 'natural' disasters in fragile and conflict-affected states

- The relief effort following the 2004 **tsunami that hit Aceh, Indonesia** is widely documented as an example of 'disaster diplomacy', where the disaster created space for negotiation and assisted the peace process.

- **Cyclone Nargis** which hit Burma in 2008, illustrated the challenges of humanitarian response being delayed by restricted access, which was complicated by the concerns of international actors about cooperating with the Burmese leadership on account of their human rights violations.

- The 2010 **Haiti earthquake** raised questions about the lack of disaster preparedness in contexts mired by sexual violence, poverty, weak institutions and poor governance.

- Widespread **flooding across Pakistan** in 2010-2011 raised international concerns about the role of non-state actors, insurgents and the (political) security implications of disaster relief.

- In 2011, predicted drought and **food insecurity in East Africa** developed into a full-scale humanitarian crisis accentuated by political insecurity.

Box 2: Future trends shaping the conflict-natural disaster interface

What will drive changes in the relationship between conflict and natural disasters in the future? While there is a growing interest in the way climate change will shape conflict (see Annex C) and have an impact on natural disasters, the combination of all three factors is rarely discussed. Similarly, differing analyses of where the poor will be located in the coming decades (Sumner, 2012; Kharas and Rogerson, 2012) have not fully considered the co-location of conflict and natural disasters. We know that the conflict–natural disasters interface will not remain static: we can be sure that changing settlement patterns, migration, urbanisation and changes to socio-economic conditions will all affect underlying exposure and vulnerability (IPCC, 2012: 5). Moreover, the World Development Report 2011 (World Bank, 2011: 17) finds that 'multiple stresses raise the risks of violence' and a combination of economic, political and security actors – both internal and external to the given context – have a role to play. These stresses, and the future trends associated with them, often paint a bleak picture: climate change, financial shocks (particularly in relation to food price fluctuations), youth unemployment, inequity and injustice, criminal networks, rapid urbanisation and the growth of megacities, informal settlements and inadequate land management (World Bank, 2011; IPCC, 2012).

Migration is likely to be an important factor shaping future trends. In 2010, 42 million people were displaced by natural hazards, up from 17 million in 2009 (Foresight, 2011: 6). One particular area of concern in this regard is the existence of 'trapped populations' unable to move from vulnerable locations the IPCC (2012) deems potentially unfit to live and work in in the future. Somalia is one such example: pastoralists are unable to follow traditional or alternative migratory routes to escape drought due to armed conflict, and humanitarian access is severely restricted.

severity of the disaster. Miguel, Stayanath, and Sergenti's statistical analysis (2004) concludes that droughts increase civil war in Africa. Berebi and Ostwald's study of 167 countries (2011) finds that natural disasters create vulnerabilities in state-society relationships that can be exploited by rebel groups. Nel and Righarts (2008) find that natural disasters significantly increase the risk of violent civil conflict in the short and medium term in low and middle income countries that have high inequality and sluggish economic growth.[11] In contrast to other studies, however, they found that the severity of the disaster was relatively unimportant in terms of the impact on security. This has been contested by Slettebak (2012) on the ground of technical inaccuracies. Slettebak concludes that the analysis should show that countries experiencing disasters in the same or the previous year are less likely to have an outbreak of civil conflict; he therefore cautions international agencies and other actors against automatically prioritising security concerns in the post-disaster period.

There is another wave of research looking at sub-national patterns of conflict and disasters (see Buhaug and Lujala, 2005; Buhaug and Rød, 2006; Raleigh and Urdal, 2007). While these present a more nuanced picture than national level studies, they have been criticised for assuming that the effect of local environmental conditions are limited to the immediate area, whereas migration muddies this picture (Hendrix and Salehya, 2012). Hendrix and Salehya (2012: 35) find that very high and very low rainfall years are associated positively with violent events such as cross-border and inter-communal violence.
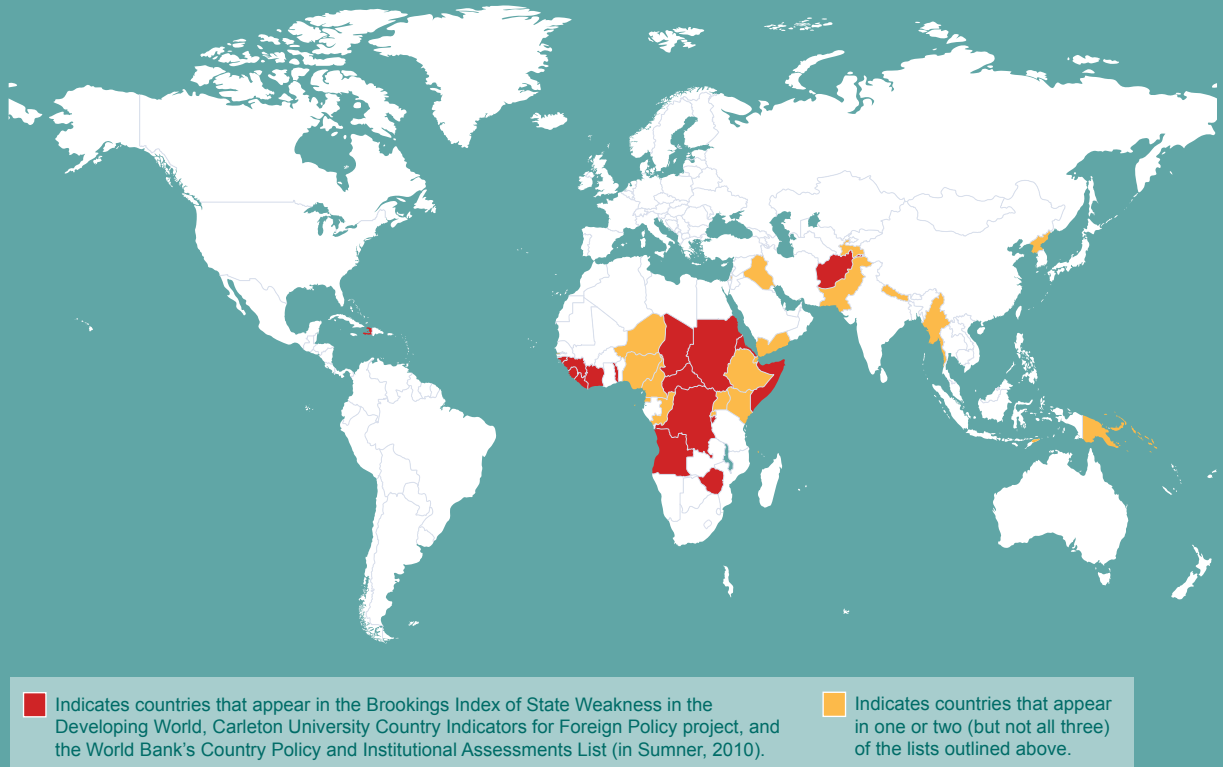
2.1 Combining indices

To demonstrate the way risks intersect, figures 2-5 illustrate the global picture of different types of risk. Figure 2 highlights the distribution of failed states, as indicated by Foreign Policy's (2012) Failed States Index 2012. Figure 3 is the World Bank's (2005) map of global drought mortality risk. Figure 4 is Maplecroft's (2012) Climate Change Vulnerability Index 2013. Figure 5 is UNISDR's (2009) map of global mortality risk from earthquakes, cyclones, floods and landslides. These maps appear to show a high level of concurrence of fragility, climate change vulnerability and drought mortality risk. There is less concurrence, however, when considering mortality risk associated with other natural hazards. This observation is cautioned with a number of caveats, including the fact that mortality risk does not represent impacts on livelihoods or morbidity, that some of the indicators used to create the indices are repeated, and that the indices themselves are highly contested. More work is needed to statistically analyse the geographic relationship between disaster, conflict and climate change risks.

While acknowledging these caveats, indices can be overlaid to create a list of countries that are considered fragile, vulnerable to climate change, have high levels of poverty, and are at high risk of natural disasters. Table 1 uses the Failed States Index 2012 (Foreign Policy, 2012), the UNU-EHS World Risk Report 2011 (UNU-EHS, 2011), the OPHI Multidimensional Poverty Index 2011 (OPHI, 2011) and the CGD Climate Change Vulnerability Index 2011 (CGD, 2011). Data for some countries is missing, which skews the outcome to some degree (for example, there is not enough data to include South Sudan).

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11. Based on analysis of 187 political units with populations larger than 150,000.

Figure 2: Fragile and conflict-affected states, an aggregated list

Indicates countries that appear in the Brookings Index of State Weakness in the Developing World, Carleton University Country Indicators for Foreign Policy project, and the World Bank's Country Policy and Institutional Assessments List (in Sumner, 2010).

Indicates countries that appear in one or two (but not all three) of the lists outlined above.

SOURCE: ORIGINAL MAP BASED ON SOURCE MATERIAL FROM OECD, 2010 IN SUMNER, 2010

Figure 3: Global Distribution of Drought Risk - Mortality

Drought mortality Risk deciles

- 1st - 4th
- 5th - 7th
- 8th - 10th

SOURCE: WORLD BANK, 2005

Figure 4: Climate Change Vulnerability Index 2013

Haiti

Bangladesh
Philippines

Guinea-Bissau
Sierra Leone

Cambodia

Ethiopia
DR Congo

Madagascar
Zimbabwe

Rank	Country	Category
1	Haiti	Extreme
2	Bangladesh	Extreme
3	Zimbabwe	Extreme
4	Sierra Leone	Extreme
5	Philippines	Extreme
6	Cambodia	Extreme
7	Madagascar	Extreme
8	DR Congo	Extreme
9	Ethiopia	Extreme
10	Guinea-Bissau	Extreme

Low risk   Extreme risk

SOURCE: MAPLECROFT, **2012**

Figure 5: Global distribution of multiple hazards mortality risk

Multi-risk
Tropical cyclones,
floods, earthquakes,
landslides

10 High
9
8
7
6
5
4
3
2
1 Low
0 Unknown exposure

SOURCE: UNISDR, **2009**

The OCHA Global Focus Model[12] is another useful illustration, systematically analysing natural hazard and conflict risks. Yet as Lawry-White (2012: 15) highlights, while other models of risk exist, the tendency to focus on natural disaster risk and leave out 'conflict' means the results often bear little comparison. For example, while the UNU World Risk Index criteria may not sound markedly different to OCHA's Global Focus Model, only one country appears in the top 20 of both lists; similarly, of the World Bank GFDRR's 31 focus countries only 4 appear in the top 20 of the Global Focus Model. It is interesting to note that of the 20 countries listed in Table 1, all except Timor-Leste appear in the top 50 countries of OCHA's Global Focus Model.

Table 1: Ranked list of countries demonstrating high levels of fragility, disaster risk, poverty and climate change vulnerability[13]

1	Somalia	11	Zimbabwe
2	Afghanistan	12	Ethiopia
3	Niger	13	Central African Republic
4	Guinea-Bissau	14	Bangladesh
5	Burundi	15	Liberia
6	Chad	16	Sierra Leone
7	Sudan	17	Timor-Leste
8	Congo, Dem. Rep.	18	Burkina Faso
9	Guinea	19	Burma/Myanmar
10	Haiti	20	Rwanda

12. For OCHA, data is analysed in four areas: hazards, vulnerability, capacity and demand for humanitarian coordination support.

13. The ranking has been produced by combining data from the Failed States Index 2012, the UNU-EHS World Risk Report 2011, the OHPI Multidimensional Poverty Index 2011 and the CGD Climate Change Vulnerability Index 2011. The Failed States Index was given additional weighting, so represented 2/5 of the outcome, to adjust for the fragile and conflict-affected states focus of this analysis and to balance the other three indices (of which the CGD index also includes extreme event vulnerability). The indices were chosen on the basis of data accessibility and the fact that The World Risk Report includes drought as a measure – many others do not.

3

The impact of natural disasters on conflict

This section examines the evidence for how natural disasters affect conflict and fragility. The evidence is organised around three drivers of conflict – grievances, opportunities and feasibility – commonly used in peacebuilding and statebuilding frameworks (DFID, 2010). Further details of the analytical framework employed here are found in Annex 2.

Summary

On balance, the evidence suggests that natural disasters exacerbate pre-existing conflicts by contributing to *grievances, opportunities and feasibility*. There are a limited number of cases where natural disasters have supported peacebuilding and led to the resolution of conflicts. More often, natural disasters reduce some conflict drivers while exacerbating others. Detailed empirical analysis is required in each case to understand the net impact.

Grievances can be deepened by natural disasters causing greater resource scarcity or more acute imbalances between areas of scarcity and abundance. However, areas with longstanding experience of droughts and floods have shown that local institutions can mediate effectively and reduce tensions when periodic resource scarcity occurs.

Grievances can also increase in intensity through the unequal distribution of ex-post humanitarian aid or ex-ante protective assets by governments, international agencies or non-state actors. Weak government responses can also contribute to conflict. In a few cases, a combination of factors have led to 'disaster diplomacy', where disasters have created opportunities for dialogue between opposing parties – Aceh in 2004-2005 is a celebrated (and much debated) case.

The disruption caused by natural disasters can present economic opportunities for criminal activity or lead individuals to join armed groups. In some cases, however, a lack of post-disaster economic opportunities can reduce violence, and access to reconstruction aid can increase the opportunity cost of conflict.

Disasters can create opportunities for advancing military objectives. Military spending might be increased or troops might be deployed to sensitive areas in the name of disaster management. International responses to disaster may also create political opportunities for increased conflict when humanitarian aid is manipulated. On the other hand there are cases where military activity is deemed politically inappropriate when natural disasters have adversely affected rival groups.

The feasibility of conflict can be affected by natural disasters, either because one side in a conflict is weakened or strengthened or because aid is being appropriated. New balances of power may imply either a reduction or exacerbation of conflict, depending on the circumstances. Moreover, labelling complex political emergencies as natural disasters may help to draw attention away from underlying conflict-related causes of humanitarian crisis and provide cover for human rights abuses.

3.1　Grievances

There is a substantial body of evidence suggesting that natural disasters ignite or exacerbate conflict by deepening grievances. More limited evidence highlights that natural disasters can also affect grievances in ways that help to ameliorate conflict. Most of the evidence relates to resource scarcity and to formal responses to shocks and stresses.

Natural resource and environmental scarcity

Some research suggests that environmental changes associated with natural disasters can fuel armed conflict by increasing migration and undermining the economy (notably agriculture) by fuelling tensions within and between communities, and by weakening institutions (particularly state institutions charged with promoting security, health and education) (Homer-Dixon & Blitt, 1998; Kahl, 2006). It has also been argued that environmental scarcity exacerbates the likelihood of civil conflict through increased competition over scarce natural resources (Homer-Dixon, 1991, 1999; Kahl, 2006; Peluso and Watts, 2001). Natural disasters associated with drought are often singled out. Conditions of drought can increase tensions over natural resources, leading to confrontation between different land users (i.e. farmers and pastoralists). Such tensions are often exploited or exacerbated by governments seeking to gain political advantages (Flint and de Waal, 2005). Groups or individuals who have experienced a major 'squeeze' on their livelihoods (e.g. as a result of climatic change, discrimination or violence) are more likely to be recruited into violent processes, which can further jeopardise the livelihoods of others (Keen, 1994; Young et al., 2009). In post-war Burundi, recurrent drought and food insecurity, coupled with uneven food distribution, have led to violence between migrants and host communities over access to land (Heijman et al., 2009).

The notion that natural disasters generate conflict by making resources scarce has intuitive appeal. Yet a number of studies have portrayed a more complex reality (de Soysa, 2002a, 2002b; Urdal, 2005). Hendrix and Saleyha (2012) suggest that where grievances and resource competition do lead to conflict, this is likely to be relatively

disorganised violence that does not tend to involve the state. Another study found that in poor countries a shortage of land, pasture and renewable (non-mineral) resources was associated with lower levels of armed conflict (de Soysa, 2002a, 2002b) – one rationale being that, under these conditions, local institutions have adapted to effectively deal with issues of scarcity. Research in the West African Sahel has suggested that resource conflicts may be kept in check by traditional conflict resolution institutions that have evolved over generations (Nyong et al., 2006). Lind has noted that local-level 'arrangements to share control and use of resources in some contexts can serve as the foundation for a broader peace between competing groups' (2003: 317).

Other evidence suggests it is not simply resource scarcity that drives conflict, *but some combination of scarcity and abundance*. Fertile and resource-rich areas may attract conflict, raiding or quasi-legal attempts at expropriation from outsiders, including groups that occupy less well-endowed areas but perhaps have superior access to arms or political power (Keen, 1994). Such dynamics may be accentuated by a natural disaster that creates an even greater imbalance between areas of scarcity and abundance (Keen, 1994). Southern Somalia, for example, has persistently been subject to famine despite having many fertile areas – in part because these areas attract interest from violent groups who often inhabit less fertile areas. The southern Somali region of Lower Juba has not only attracted large numbers of migrants (including those fleeing the 1997 El Nino floods) due to its relative fertility, but has also attracted clan raiding, land grabs and skirmishes between relatively well-armed and powerful clans and sub-clans (Keen, 1994; Narbeth and McLean, 2003).

In some cases governments have initiated forced resettlement schemes on the basis of questionable claims that areas are 'ecologically unsustainable' or too exposed to natural hazards. Keen (1994) highlighted this in the 1980s in Ethiopia, where people were moved from Eritrea and Tigray, sowing the seeds of new grievances. Eriksen and Lind's work on the Turkana region of Kenya found that conflict is far from inevitable in 'marginal' areas: carefully managed borehole access can reduce conflict over water and grazing resources (2009: 28). Where conflict did

occur in Turkana, there appeared to be complex patronage by powerful government officials rather than more straightforward inter-communal violence over scarce resources (ibid.).

Resource allocation pre- and post-disaster

The impact natural disasters have on conflict and stability can depend on the way a government responds (Olson and Gawronski, 2003), or how it has invested in disaster preparedness or prevention (Cohen and Werker, 2008; Oliver-Smith, 1996). Grievances have increased when natural disasters have been met with a weak or corrupt government response (Olson and Gawronski, 2003; Olson and Drury, 1997). For example, a cyclone in East Pakistan in 1970 was met with a poor relief response from West Pakistan and half a million people died, giving a major impetus to civil war (Olson and Gawronski, 2003).

In Nicaragua, there was massive government corruption in relief and reconstruction following the earthquake of 1972 (Olson and Gawronski, 2003). This allowed the Sandinista rebels to capitalise politically and begin a military campaign in 1975 (ibid.). After the 2005 Pakistan earthquake, a slow government response opened space for independent Islamic aid agencies to provide relief and criticise the government for its failings (ibid.). Walsh found that areas receiving this relief saw a growth in anti-governmental Pakistani nationalism (2005, in Nelson, 2010: 162).

Natural disasters can often exacerbate existing inequalities in access to government services (Albala-Bertrand, 1993; Cuny, 1983) or further accentuate such inequalities in ways that help to spur political change (Cuny, 1983; Birkmann et al., 2010). Political commentators such as Klein (2007) have also noted that natural disasters have been used as an opportunity for governments to seize valuable land for reconstruction, removing the disaster affected population and appropriating their assets.

Evidence also suggests that government action following natural disasters can sometimes create a climate of empathy that helps to resolve conflict (Quarantelli and Dynes, 1976; Kelman 2012; Brancati, 2007; Nelson, 2010; Slettebak, 2012). The most celebrated – and

debated – of such cases is the impact of the 2004 South Asia tsunami on the conflict in Aceh, Indonesia. Waizenegger and Hyndman (2010: 795) note that in the immediate aftermath of the tsunami Aceh's secessionist Free Aceh Movement committed to a unilateral ceasefire and the Indonesian military was instructed to exercise restraint while relief operations were being carried out. Waizenegger and Hyndman (2010: 794) also suggest that the relief and reconstruction processes opened the region up to international audiences, ending the government-imposed isolation and invisibility (ibid.: 794). The majority of their informants maintained that, without the tsunami, conflict would have gone on for years. Other studies, though, play down the relative importance of the tsunami for bringing about peace, arguing dialogue between the conflict parties pre-dated the tsunami (as did the drafting of a peace agreement) and that a change in government in Jakarta was more significant (Fan, forthcoming).

While there are a handful of 'disaster diplomacy' cases, reconciliation following a disaster can easily be thrown off course. Akcinaroglu et al. (2011) find that disasters can catalyse peacemaking between rival states in the short term, but that this is easily derailed by inter-communal violence and low level cross-border conflict (see also Evin, 2004; Nelson, 2010: 167-168).

International aid responses can also exacerbate grievances, where actors in the conflict perceive that there is unequal distribution of resources (e.g. Buchanan-Smith and Christoplos, 2004; Waizenegger and Hyndman, 2010). Significant steps have been taken however, to increase the use of conflict sensitivity tools in humanitarian responses in complex political settings (Zicherman et al., 2011). Most agencies adhere to humanitarian codes and guidelines and value broad inclusion in all stages of disaster risk reduction (DRR) (Sphere, 2004).

3.2 Opportunities

Natural disasters play a role in creating and shaping economic and political opportunities which, if seized, can lead to violence.

Economic opportunities

Natural disasters can affect the distribution of economic resources, encourage the appropriation of resources by some groups, and present opportunities for criminal activities which can lead to violence. For example, in 2006-2007, drought in Afghanistan's northern Balkh region forced downstream villagers to look for new livelihood opportunities, which for some young men meant joining armed groups (Heijman et al., 2009). The conditions of drought were exacerbated by the unequal distribution of water rights by elites following the fall of the Taliban rule in 2001 (Heijman et al., 2009: 34). Furthermore, diminished economic opportunities during a natural disaster can lead to a state relying on violence to sustain itself.[14] In Sudan, a combination of drought, economic crisis and rising international debt from the 1980s onwards arguably encouraged the government in Khartoum to support militia raiding against the south that was designed, in large part, to secure access to its oil (Keen, 1994). In other examples, increased resource flows into a country for reconstruction can incentivise different forms of violence. For example, Waizenegger and Hyndman (2010: 800) note that in Aceh 'an abundance of tsunami aid is easy prey for many former combatants in an environment with low legal enforcement'. Moreover, local tensions have been raised by the perception that more has been done for tsunami 'survivors' than for ex-rebels and their families, while in reality many people have been left with little or nothing (ibid.).

Conversely, the economic opportunities associated with violence may actually be reduced when a natural hazard means that there is less to steal – as when crops wither or the death of livestock reduces the quantity of livestock that can be raided.[15] Equally, a substantial reconstruction effort after a disaster (whether natural or not) may increase the 'opportunity cost' of going to war (Collier, 2003).

Political opportunities

A natural disaster, and the international response to that disaster, can create political opportunities which may lead to increased conflict. In Sri Lanka, a perceived threat to sovereignty from tsunami relief operations created significant political opportunities for nationalist parties and helped Mahinda Rajapaksa win the presidency (Kleinfeld, 2007; Le Billon and Waizenegger, 2007). International aid agencies faced considerable difficulty and outright Sri Lankan government intimidation when they tried to report on the extent of the humanitarian crisis, especially during the military 'end game' against the Liberation Tigers of Tamil Eelam (LTTE) in 2009 (Keen, 2009). The rather chaotic international response to the tsunami[16] contributed to tense relations between aid agencies and Colombo, adding to the difficulties of responding to conflict-related emergencies thereafter.[17] In some contexts, the state's role in addressing disasters and reconstruction might legitimise sustaining a large military.[18] In Sri Lanka, the military has justified its expansion after the war through its proposed role in reconstruction.[19]

Disaster relief can be seized as a political opportunity to exercise power and 'can easily be used as a political tool by manipulating distribution and redirecting relief in ways that reward supporters and punish opponents' (Williams, 2011: 17). Francken et al. (2008) argue this was the case in Madagascar where communities supportive of the president in the 2001 elections were 65% more likely to receive relief following Cyclone Gafilo in 2004. A more extensively documented case is the repeated manipulation of food aid by the Sudanese government (Keen, 1994; Flint and de Waal, 2005).

On the other hand, natural disasters might *reduce* the political opportunities arising from conflict. For example, a wave of public sympathy for the victims of a disaster might make it politically disadvantageous to wage war on them (Kelman, 2012). There seems to have been an element of this in Aceh after the 2004 tsunami.[20]

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14. David Keen, independent analysis for this report.
15. Ibid.
16. See, for example, Tsunami Evaluation Coalition, 2007.
17. David Keen, independent analysis for this report.
18. Internationally, humanitarian missions arguably became part of the justification for maintaining high military spending in the West after the Cold War (David Keen, independent analysis for this report.).
19. David Keen, independent analysis for this report.
20. Ibid.

3.3 Feasibility

As with grievances and opportunities, the feasibility of violence is shaped by natural disasters in different ways.

Natural disasters may make insurrection easier by weakening or distracting the government apparatus or strengthening the legitimacy of rebel groups. As Nel and Righarts (2008: 162) have noted, 'natural disasters can weaken state capacity and legitimacy, creating opportunities for the disgruntled to engage in violent resistance'. In the aftermath of floods in Pakistan in 2010, militant groups reportedly used the disruption to carry out attacks (Abbas, 2010; Waraich, 2010). Mampilly's study of Sri Lanka's LTTE rebels suggested: 'Following the [2004 tsunami] disaster, the LTTE's expansion of its governance capacity brought it greater international respect and financial resources, convincing rebel leaders that operationally, de facto secession was viable. ... In essence, what the tsunami did was to break the delicate financial dependency of the insurgents on the Sri Lankan state' (2009: 316).

Studies suggest that during the famine of 1984-1985 the Ethiopian government was able to use relief aid to fund the war (Keller, 1992). Relief supplies were used to pay soldiers and militia and to lure people into locations where they were recruited into the military or subjected to forcible resettlement (Keller, 1992; Africa Watch, 1991). When national and international actors labelled the complex crisis a 'drought', this contributed to the impunity of the government forces who were at once actively fuelling conflict and humanitarian disaster.[21]

In Sudan in the 1980s and 1990s, drought similarly served as cover for government-sponsored violence, and again the label 'drought-induced famine' was sometimes accepted internationally. In 1994, international assistance in response to the Rwandan genocide was focused primarily on the relief of hunger and a cholera epidemic among those who fled to eastern Zaire; again, there was a tendency to treat a man-made disaster as if it were a natural disaster, and the human rights abuses underpinning the crisis went largely unaddressed (Eriksson et al., 1996). In 2011-2012, the tendency to label the humanitarian crisis in the Horn of Africa a 'drought' distracted attention from some of the underlying processes of violence that were creating famine, particularly in Somalia (Keen, 2012).

Enia (2008) suggests that evidence for how natural disasters change the feasibility of conflict is ambiguous. Insurgents and governments can use natural disasters to strengthen their own position and this can lead to an escalation of violence *or* to its diminution and cessation (Enia, 2008). For example, natural disasters can speed up or slow down a war depending on the overarching trajectory of conflict (ibid.). If rebels are losing and are further weakened by a natural disaster, then the war is likely to be shortened (Keen and Wilson, 1994). The drought in Mozambique in the early 1990s, for instance, appears to have weakened the already struggling Renamo rebels and helped to end the war (Keen and Wilson, 1994).

This section has underlined the need to conceptualise vulnerability as a dynamic process and understand how different vulnerabilities intersect. In contrast to conventional approaches to measuring vulnerability to natural hazards, which tend to focus on a single hazard over a discrete period of time, more research is needed to understand how vulnerability changes before, during and after disaster events (Birkmann, 2008). Vulnerability assessments which account for such changes would help inform our understanding of the role of natural hazards in dynamics of violence, conflict and fragility.

21. Ibid.
22. Ibid.

4 The impact of conflict on natural disasters

This section considers the evidence about how conflict and fragility affect people's resilience to natural hazards, and explores the question: Does conflict make people more or less exposed and vulnerable to natural hazards?

Summary

There is strong evidence to suggest that conflict and fragility increase the impact of natural disasters. Conflict can increase disaster risk by displacing people into areas more exposed to hazards, such as to informal settlements in exposed locations. Conflict also increases vulnerability to natural disasters through the impact it has on physical and psychological health, basic service provision and secure livelihoods. Conflict can drive individuals to sell assets or to use valuable natural capital, which in turn increases disaster risk.

Conflict can undermine the capacity of government and non-government actors to provide adequate protection from natural hazards. Fragile and conflict-affected states, even if willing, often have difficulty implementing basic early warning systems, devising and implementing building codes, and gaining access to high quality data on risks.

Governments can exacerbate post-disaster suffering by inhibiting aid on security grounds or (mis)appropriating humanitarian aid to support political objectives. Some countries also refuse international help, delay communicating their need for relief, make ambiguous statements about the severity of their situation, or have difficult relationships with international actors.

It is useful to draw a distinction between fragile and conflict-affected states that are *willing but unable*, and those that are *unwilling and unable* to reduce the vulnerability of populations to disaster risks and impacts. Disaster risk management tends to assume a positive state-society 'social contract' exists where the state adopts the management of risk as a public good. But in some states disaster risk management is treated as a benefit available to political supporters. Intervention strategies (discussed in section 5) therefore need to be tailored to suit the context.

4.1 Impact of conflict on the causes of disasters

Disasters result from populations being subject to combinations of vulnerabilities and exposure to natural hazards. Vulnerability and exposure are shaped by household, local and national capacity to manage risk in the context of sets of structural causes like poverty, land access and socio-cultural status. Conflict and fragility affect vulnerability to disasters, and measures to manage disaster risk are more difficult to operationalise in fragile and conflict-affected states.

Violence, conflict and insecurity destroy the livelihoods, infrastructure and basic services that make a population resilient. The role conflict plays in undermining disaster resilience is well noted by Kelman (2012: 1): 'A war-weary population with reduced physical and psychological health is more susceptible to a pandemic. A government focusing on war might neglect promulgation, monitoring, and enforcement of earthquake-related building codes. Conflict frequently interferes with or cuts essential supplies such as food, medicine, and building materials, making it more difficult for people to keep their homes and communities prepared for floods or storms'.

Longer-term disaster resilience is undermined when states fail to provide a set of core functions necessary to prevent and manage natural disasters and conflict. These functions may include effectively managing revenues and building the capacity for accountable and fair social service delivery – inherently linked with 'good governance' (DFID, 2010). Conventional disaster literature assumes that an effective 'social contract' exists between the state and its citizens, or that those governments have a duty of care towards their citizens to create the right conditions for effective disaster resilience (HFA, 2005; Wisner et al., 2004). Clearly, this may not be the case in areas affected by armed conflict and fragility (see Box 3).

Box 3: Building resilience in Chad

The Sahel Working Group, an informal inter-agency network, recognises that fragile states pose particular challenges to humanitarian and development cooperation.

In Chad, for example, state fragility and corruption affect governance and the ability to facilitate international aid and development. Chadian politics is characterised by frequently shifting alliances: to maintain a broad coalition of support, leaders of armed groups are included in government and political structures. As alliances and support for these leaders shift, so too do the coalitions. This has resulted in a lack of continuity in government policy. As acknowledged by the government's own National Growth and Poverty Reduction Strategy, corruption remains a major problem. This has posed challenges for government spending, notably with regard to revenues from oil reserves.

Challenges to strengthening disaster risk management in Chad include:

- A failure to institutionalise early warning systems (EWS): The Chadian government does not consider EWS to be a priority in its strategy for prevention and management of the food crises. This led to donors withdrawing funding for the development of effective EWS, which had been in development since 1986, after the project evaluation highlighted a critical lack of national ownership.

- Poorly developed systems for food security and crisis management: This includes poor structures for collecting information and consequently unreliable and incomplete data. Moreover, the government's narrow focus on food availability over and above more nuanced conceptualisations of food security means international food aid has often been considered the most appropriate response to address food crises. During the 2010 food crisis, for instance, the National Office for Food Security lacked the logistical resources to transport food from major towns to the most severely affected rural areas.

SOURCE: GUBBELS, 2011

A particular facet of this problem is conflict-induced displacement. In Colombia, insecurity has forced people to migrate to informal urban settlements located on flood plains and unstable slopes (Williams, 2011: 24).

Fragility as well as violent conflict or war can make disasters more likely. Institutions and governance structures may have limited capacity to mitigate, prevent, prepare and respond to natural shocks and stresses (Kostner and Meutia, 2011; World Bank, 2011). States may not be willing or able to enact early warning systems, mitigate risks or launch effective response.

In Haiti successive unstable governments have failed to provide either adequate regulation or economic opportunities to those living in chronic poverty. In rural areas 'distress coping' behaviour has caused unmanaged deforestation and soil erosion, heightening the risk of landslides and flash flooding (UNDP, 2011: 16). The concentration of poor and vulnerable communities in low-lying urban areas increases their exposure to the risk of flooding and storm damage (ibid.). This is coupled with an environment of criminality in areas prone to storms and hurricanes which deters individuals from responding to evacuation warnings for fear of looting and theft in their absence (UNDP, 2011: 22-36). In both examples, the weak political voice of those in informal settlements and the absence of political incentives to spend money on disaster risk reduction (DRR) have perpetuated high levels of exposure to natural hazards.

In some situations, the government may be party to a conflict, inherently politicising its decision-making about how it manages disaster risk (de Waal, 1997). In certain contexts, governments neglect particular regions or ethnic groups, making them more vulnerable to the effects of a disaster (ibid.).

Where states have shown the willingness and capability to protect people from a variety of risks, the 'relatively protected' part of the population is likely to be those deemed more politically influential. Individuals or communities who are well connected (politically or through the private sector), have greater economic assets, or are connected to urban centres are likely to solicit more risk-reduction measures than those who are politically weak or marginalised, voiceless, poor and often rural. In Indonesia, higher DRR investment occurs in well-connected, high population density areas such as Western Sumatra and Central Java (Williams, 2011). In Colombia, seismic DRR in major urban areas such as Bogota contrasts starkly with underinvestment in flood-prone La Mojana (ibid.). Williams (2011) argues this illustrates that residents in Bogota have more access to, and influence over, decision-makers than the poorer and more remote fishing communities of La Mojana (ibid.). Conflict dynamics also play a role: the lack of government control in La Mojana due to an active rebel group and communities' weak political voice possibly explain a lack of investment.

Table 2 considers the challenges conflict and fragility present to building disaster resilience to natural hazards through the practical implementation of risk management measures.

Table 2: The practical implications of undertaking disaster risk management in fragile and conflict-affected states

Risk management component	Role in building resilience to natural hazards	Challenges of fragile and conflict-affected states	Example
Hazard profile	A crucial component of reducing disaster risk is monitoring and analysing natural hazard-related information to inform priorities for action and early warning (Priority two HFA, 2005; Twigg, 2004). This requires technical, scientific and institutional capabilities, investment in data collection and skilled technical staff.	Contexts of armed conflict present significant barriers to understanding the natural hazard profile of an area. There may be a lack of investment in data collection, destruction of data, inaccessibility of local monitoring stations, lack of financial support or suspicion over the use and collection of information. In contexts where investment and capability is present, data about the risks of natural hazards may be embedded within the security apparatus and thus not used for DRR.	For hazards that can be forecast, such as hurricanes or volcanic eruptions, there are strong political incentives for ensuring early warning exists and informs preparedness measures. The 'failure to ensure adequate preparedness against such predictable risks would indicate obvious negligence on the part of government, expose leaders to heavy criticism and thus create a very high political cost' (Williams, 2011: 23).
Dissemination of information	Dissemination of information plays a vital role in enabling disaster resilience, enabling individuals and groups to prepare for a hazard and enact disaster plans.	In highly sensitive, fragile and conflict-affected contexts the mode, style and content of messages associated with disaster risks must be treated with caution to avoid becoming manipulated or politicised. Action taken on the basis of information disseminated is not straightforward as disaster risks are weighed-up in relation to other risks associated with conflict and insecurity.	There is evidence of governments withholding information about the extent of the impacts of a disaster from the international community for various reasons. In Burma the government failed to provide neither warning of Cyclone Nargis nor the humanitarian crisis that followed (South et al., 2012: 10). The situation was further exacerbated by many communities being denied access to humanitarian aid by international agencies due to government restrictions on entry to the country.
Infrastructure and building codes	Effective DRR requires enforcement of infrastructure and building codes, quality construction, enforced sustainable land use practices, and penalties for non-compliance (Wilkinson and Mitchell, 2012). Governments and state infrastructure are, or should be, regulators of these standards. Where conflicting priorities are not monitored or regulated, disaster risk can be inadvertently exacerbated.	In contexts with poor regulatory systems and lack of enforcement, particularly with regard to the private sector, construction industry and land management, the infrastructural standards and incentive structures required to enforce DRR may be lacking. Wilkinson and Mitchell (2012: 4) note how political disincentives exist where powerful interest groups are likely to oppose the regulation of private sector activity, even where this may be in the interest of reducing disaster risk.	Drawing on case studies from Afghanistan, Democratic Republic of Congo, Nepal and South Sudan, international support to infrastructure in fragile and conflict-affected states experiences 'an intensified form of the problems of underinvestment, lack of maintenance and weak institutional and policy framework that apply across most low income countries' (Jones and Howarth, 2012: 2).

23. Basic development infrastructure includes access routes, water and sanitation, health facilities and a functioning banking system. Structures specifically designed to manage risk include hazard-related building codes and regulations, emergency response equipment and facilities, insurance and reinsurance, and early warning systems for monitoring and dissemination of information.

Table 2: The practical implications of undertaking disaster risk management in fragile and conflict-affected states (continued)

Risk management component	Role in building resilience to natural hazards	Challenges of fragile and conflict-affected states	Example
Environmental protection	UNEP (2009) has documented a range of case studies demonstrating how widespread unsustainable environmental practices and weak enforcement of environmental protection come at the expense of environmental preservation and the exacerbation of disaster risk (UNEP, 2009).	The role of (politically) powerful individuals and their association with private companies means that, in some contexts, 'lobbying power, political donations and position in patronage networks create conditions to enable damaging environmental practices to continue to the financial advantage of a small group of elites' (Williams, 2011: 19). Confronting powerful private industry is perceived to be beyond the ability (or in some cases will) of some governments.	Insecurity can inhibit effective environmental protection, which in turn increases exposure. In Atrato Media, Colombia unchecked exploitation of forests on slopes increases the risk of floods and landslides (Buchanan-Smith and Christoplos, 2004). The authorities' inability to access the area owing to insecurity means that clearance and maintenance of river blockages was not possible, exacerbating the risk of flooding. As a result of armed conflict, the area also lacked institutional capacity to enforce regulations and political incentives to protect citizens from increased risk.
Diversion of resources	In societies affected by armed conflict the diversion of resources to conflict-related activities can be at the expense of broader infrastructural development. The fact that no fragile and conflict-affected state has achieved a single Millennium Development Goal is testament to this (World Bank, 2011). Effective risk reduction for natural hazards takes basic development infrastructure as its starting point (with the addition of special provisions related to the hazard profile of a given area).[23]	Violence, conflict and insecurity destroy livelihoods, infrastructure and basic service provision. The role this plays in undermining disaster resilience is well noted: 'A war-weary population with reduced physical and psychological health is more susceptible to a pandemic. A government focusing on war might neglect promulgation, monitoring, and enforcement of earthquake-related building codes. Conflict frequently interferes with or cuts essential supplies such as food, medicine, and building materials, making it more difficult for people to keep their homes and communities prepared for floods or storms' (Kelman, 2012: 1).	The prolonged complex political crisis in Darfur, Sudan has hindered the development of long-term investment in livelihoods, services, infrastructure and capacity. Despite a substantial amount of humanitarian (and some development) spending in the region, development progress has been severely stunted by the on-going conflict, and its associated challenges.
Revenue collection, taxes and corruption	Revenue collection and taxes are crucial to funding services which support communal DRR. However, revenue collection and taxes can also contribute to a lack of enforced building regulations as 'prohibiting development in hazard-prone areas means losing revenues from development charges and property taxes – two vital sources of funding for local governments' (Henstra and McBean, 2005: 111).	Lucrative financial gains can be made through corruption in public construction, which undermines the enforcement of building codes, quality and control of materials and design, and building management (World Bank, 2010). Corruption further undermines risk reduction efforts and has been witnessed across governmental scales, from local politicians to large-scale national projects (Williams, 2011).	The relationship between corruption and disaster mortality has been studied using a range of econometric indicators. Corruption and avoidance of safety and building codes are believed to be major factors undermining DRR (Escaleras et al., 2007). Where there are weak incentives for government to provide public goods, it is often questioned whether the less visible risk reduction activities actually take place at all, such as inspections, high-quality risk assessment and environmental protection (Williams, 2011: 18). Corruption and perceptions of corruption also influence the way international agencies deliver aid to a country. Concerns over government corruption led donors to deliver Malawi's 2001-2002 disaster response through international organisations (Darcy and Hofmann, 2003, in Harvey, 2009).

Table 2: The practical implications of undertaking disaster risk management in fragile and conflict-affected states (continued)

Risk management component	Role in building resilience to natural hazards	Challenges of fragile and conflict-affected states	Example
Contracting systems	Fair and transparent contracting systems are required to ensure safety is not compromised on the basis of cost saving, bribery or corruption.	Longer-term disaster resilience is undermined by weaknesses in the contracting system for construction projects. In situations where transparency is lacking and a black market or bribery occurs, the enforcement of practices such as DRR which require additional resources is found wanting.	In Aceh, Indonesia, procurement rules were undermined in post-tsunami reconstruction. The pressure to mobilise relief and reconstruction reportedly to lead to a 'relaxing' of the normal procurement rules and existence of negligent practices including the inflation of contract values and bribery (see Williams, 2011: 18).
Coordination	The coordination of sectors, programmes and policies across a range of issues is essential to developing a coherent and consistent environment for building disaster resilience. The state has a crucial role in coordinating internal and external assistance to ensure comprehensive approaches to preparedness and response.	Where states do not have the capacity and ability to act, the coordination of different actors may be severely limited, resulting in the duplication of efforts or the exclusion of some recipient groups over others.	Guatemala passed a law in 1996 obliging all private and state bodies to cooperate with the national disaster management system (Picard, 2007, in Harvey, 2009). In practice this faces many challenges. Coordination problems remain including the bypassing of national coordination structures.
Legalisation and regulation	Disaster risk policies and practice require support and guidance through an effective legislative and regulatory system. In practice, efforts to establish or improve the legal framework for disasters occurs ex-post. For example, Pakistan established the National Disaster Management Authority after the 2005 earthquake.	The legal and regulatory system of a country can help or hinder the ability of international actors to work in a disaster context and determine (or at least influence) their engagement with state structures.	In Pakistan the 2005 earthquake prompted the establishment of the National Disaster Management Authority. Similarly, after the 2004 tsunami, Sri Lanka enacted new disaster management legislation (Harvey 2009: 7).
Security and physical presence of international actors	Enabling DRR requires effective and sustained presence of agencies with the ability to support capacity development in DRR, across a range of scales and geographical areas.	Insecurity can put staff severely at risk, limiting the ability of agencies to undertake risk reduction programmes. Inaccessible communities are often the worst affected, where conflict and insecurity inhibits all aspects of risk reduction.	The expulsion of 13 international NGOs from Sudan following the indictment of Sudanese President Omar al-Bashir by the International Criminal Court is an example of international agencies' ability to work in fragile and conflict-affected states being challenged by the influence of external events.

4.2 Impact of conflict on disaster response

Powerful groups in fragile and conflict-affected states (which can include government) sometimes make it difficult for national and international actors to work with populations vulnerable to natural disasters. The most typical examples concern the impact of conflict on disaster response, where humanitarian space is restricted.

Following Cyclone Nargis in 2008 the Burmese government allowed only limited humanitarian access, and only after substantial delays. Some agencies were denied access and those that were permitted entry were subject to restricted movement (Asia-Pacific Centre for the Responsibility to Protect, 2008: 2). The delay was exacerbated following a defensive military deployment of army units to affected areas in response to warnings by foreign governments and activists that aid would be imposed unilaterally, and attempts to mobilise the 'responsibility to protect' doctrine (South et al., 2012: 10). Thus 'the already stretched resources of the state were deployed on a security setting, rather than in relief and recovery efforts' (ibid.). The army deployment discouraged relief to some vulnerable, cyclone-affected communities as international agencies avoided working with the army out of concern for their human rights records. In the end the external response was framed as 'international assistance with a regional character' in an attempt to ensure the Burmese leaders felt less threatened by the influx of international actors (Belanger and Horsey, 2008 in Harvey, 2009).

Disaster response is not always a simple by-product of a state's capacity to deal with the impact of a natural hazard, but reflective of a number of strategic choices. The labelling of a situation as a 'crisis' has strong political dimensions. Nelson (in Kelman, 2012: 110) found 'states that had recently undergone a major governance transition, such as gaining independence, were more likely to decline aid, claiming to demonstrate internal capacity in dealing with a disaster… whether or not that aid was needed'. For those offering assistance, Harvey (2009: 15) notes that, this is more than a technical matter: 'making such an assessment is an inherently political act, and political considerations often weigh heavily as donor governments decide whether and how to intervene'.

Other ways power-holders may restrict relief are by:

- refusing international help, even when national capabilities have been outstripped (Mozambique flooding in 2007, Pakistan following 2007 floods – IASC, 2007 in Harvey, 2009)
- mistrusting the motivations behind international assistance and delaying or failing to communicate the need for international relief (Myanmar cyclone in 2008 – South et al., 2012)
- making ambiguous or conflicting statements about the severity of the situation (IFRC, 2007: 89, in Harvey, 2009: 6)
- failing to declare a disaster to avoid appearing weak or undermining national pride (Cuba 1998 drought – Kelman, 2012).

4.3 Impact of disasters on individual coping strategies

There is insufficient evidence about how people prioritise disaster risk in conditions of fragility and conflict. Drawing on the experiences of individuals in Darfur, the Occupied Palestinian Territories, Chechnya and Sri Lanka, Jaspars and O'Callaghan argue that during conflict, 'people's options become more limited and the strategies pursued frequently involve extreme risk to people's security. In most cases, the strategies adopted are not voluntary or based on any real choice' (2010: 173). Individuals have to make tough choices to minimise threats to their safety, often at the expense of livelihood assets or security; short-term security gains can come at the price of longer-term risks to their livelihoods (Jaspars and O'Callaghan, 2010: 2). Individual coping or risk management strategies may therefore become difficult or impossible during armed conflict, increasing the need for assistance, including emergency relief.

Amaryta Sen's (1981) work on the dynamics of famine makes it clear that famines occur not as a result of scarcity of food, but as a result of the collapse of entitlements. In an important paper, Alex de Waal (1991) analyses how violence affects famine dynamics. De Waal argues that when environmental and economic factors combine with violence, then the nature and scale

of vulnerability shifts fundamentally. Specifically, he argues that those perpetrating political violence actively seek to undermine precisely the strategies that people would normally use to cope with fluctuations in environmental and economic conditions. Yet in the case of Dinka pastoralists, emergency needs were often assessed on the basis that individuals had their own strategies and resources to draw on (Keen, 1994). In Kenya's Turkana district and Kitui districts, livestock raiding has hampered livelihood strategies (including those designed to cope with drought) and served to increase vulnerability to drought (Eriksen and Lind, 2009). Insecurity has inhibited access to wild foods, trading with neighbouring groups, and use of distant border grazing. It is necessary therefore to consider under what conditions people are resilient[24] rather than simply 'surviving'.

This section has shown how violence, conflict and fragility exacerbate vulnerability to natural disasters and impede efforts to reduce disaster risk. It has underlined how efforts to address disaster risk in fragile and conflict-affected states must pay attention to political barriers and levers. It has shown how risks intersect, and how efforts to reduce some risks may have positive or negative impacts on others. More holistic and innovative ways of approaching risk are required, supporting statebuilding where appropriate, or working *in spite of* state systems where states are unwilling to protect their citizens. More research into the successes of DRR in fragile and conflict-affected states would help to inform and support this undertaking.

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24. And resilient in a holistic sense, as DFID's conception of 'disaster resilience' illustrates with the inclusion of natural disasters, conflict and other conditions of vulnerability and risk (DFID, 2011b).

5 Integrated approaches to managing conflict and natural disaster risk

The previous two sections have set out the relationship between conflict and natural disasters. They found the links to be complicated and the evidence mixed, although on balance the analysis suggests that conflicts exacerbate natural disaster impacts and natural disasters can trigger or aggravate conflict. This section examines current approaches to jointly managing conflict and disaster risk, whether through prevention and risk reduction or through emergency response.

Summary

Conflict prevention and DRR are largely treated as discrete issues in policy and practice; yet on the ground natural disasters and conflict coincide. Misconceptions among actors working to reduce conflict and natural disaster risk can inhibit the potential for stronger collaboration. Some disagree that the actions required for conflict and DRR should be more closely linked at all. Opportunities to redress this disconnect include making the concurrence of natural disasters, conflict and fragility an explicit feature of the post-2015 agenda.

The concept of 'resilience' can be used to leverage better links between humanitarian and development action and encourage joint working. However, this will require agencies to agree on a conception of resilience that bridges their mandates – moving beyond the current situation where agencies are vying for position in relation to the 'resilience agenda'. It will be necessary to continue finding ways to balance the desire to maintain humanitarian space against the need to work collaboratively with governments to build their capacity to reduce and manage risks.

Innovative practices are beginning to emerge where governments and donors are working more collaboratively. By promoting a package of measures and more joined up funding, donors have encouraged political support for tackling risks in a more holistic manner.

Non-governmental organisations are beginning to implement DRR projects in fragile and conflict-affected states, yet there are few examples of integrated approaches to conflict and disaster risk in practice. Interventions tend to span a continuum: at one end, DRR is used as leverage for conflict prevention; at the other, conflict is simply the context in which DRR is implemented. There appears to be growing realisation that disaster risk in fragile and conflict-affected states cannot be addressed as business-as-usual.

Caution needs to be exercised in devising risk-related interventions because reducing one risk can elevate others. For example, in some contexts livelihood diversification can help people survive natural disasters but increases their risk of being targeted in conflicts. Experts on conflict and natural disasters should engage more in each other's contextual analysis to mitigate negative impacts and ensure interventions are more sensitive to the variety of risks and vulnerabilities faced by communities.

While there are good reasons for not investing in ex-ante risk reduction in fragile and conflict-affected states, not doing so makes little sense in the long term. Shunning ex-ante investment only entrenches humanitarian assistance, which can itself exacerbate conflict.

5.1 Managing natural disasters and conflict in silos

In practice, efforts to address the risks or vulnerability resulting from natural hazards, fragility and conflict are operationalised separately. Donors, UN agencies and NGOs typically have separate departments and processes to deal with disaster and conflict risk, which translates to siloed policy and practice. Where good practice does exist, it is primarily documented in grey literature, and has rarely received adequate attention from independent researchers. Thus the small but emerging body of work that takes a more holistic view of risk, incorporating natural disaster and conflict risk with other shocks and stresses, is found in policy and strategy documents which present an agenda for action. For example, the UK Government's new humanitarian policy (DFID, 2012) puts conflict prevention and DRR at the heart of its work on resilience. NGOs such as Cordaid have developed a holistic approach for disaster risk across all sectors including conflict, but still manage programmes related to DRR and conflict transformation through separate departments.[25]

There remains little consensus on how to address the disaster–conflict nexus in practice. At the national level, disaster risk management has largely been framed around the Hyogo Framework for Action (see Box 4). Building a more holistic approach to prevention and preparedness would require an equivalent investment in action for conflict prevention (Kellett and Sparks, 2012).[26] The post-2015 development goals could provide an opportunity to consider more integrated approaches.

Box 4: Policy architecture for dealing with disaster risk

At the national level, government structures, institutional frameworks and the policy environment for building disaster resilience vary widely between states. For example, government departments responsible for natural disasters can function as stand-alone units reporting directly to the head of state or can be embedded within another ministry. Recently, there has been a move away from isolated units towards a more integrated approach where action across a range of departments, sectors and ministries is required (UN, 2007, in Harvey, 2009). Moreover, in response to high impact disaster events over the past five years, a number of governments, particularly in Asia, have advanced their regulatory, legislative and institutional capacity for managing disasters: India, Pakistan, Sri Lanka and Indonesia have all established or progressed their national disaster management authorities (ibid.).

At the international level, UNISDR's Hyogo Framework for Action (2005-2015) provides a normative framework specifying a set of actions, approaches and interventions intended to reduce risk. In most countries, state-level action is complemented by community level action (see Global Network of Civil Society Organisations for Disaster Reduction, 2012). The engagement of fragile and conflict-affected states in Hyogo is variable. UNISDR is limited in the extent to which it can support states affected by armed conflict and fragility to promote DRR; commitment and progress towards the Hyogo framework is voluntary and UNISDR's mandate is limited by the constraints of the UN system.

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25. Cordaid interview undertaken for this study.

26. Conflict prevention and statebuilding largely derives from individual peace agreements, negotiated settlements or targeted programmes.

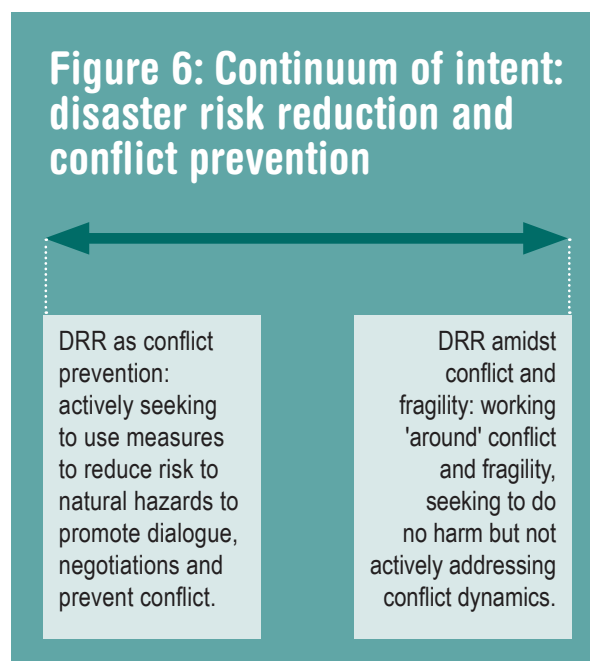## 5.2 Holistic approaches to resilience: integrated risk management

Building disaster resilience in fragile and conflict-affected states

An assessment of current practice reveals that interventions often seek to build the resilience of communities to different combinations of risks; but rarely do these explicitly take into consideration natural disaster and conflict risks together, and even less so ex-ante. While the term 'resilience' has been applied to a range of policies and programmes, as an operational concept it is still at an incipient stage. Most often, resilience interventions include some aspect of enhancing livelihoods in combination with either a focus on a specific hazard, or some form of conflict prevention. The Sahel Working Group's findings provide a useful example, effectively linking different initiatives to address a range of risks (see Box 5). Even here, though, it is focused on preparedness for natural disaster and more could be done to link this with preparedness for conflict.

Specific resilience-related initiatives by bilateral and multilateral donors are beginning to emerge. These include the European Commission's (EC) Supporting the Horn of African Resilience (SHARE) programme,[27] the EC *Alliance Globale pour l'Initiative Resilience-Sahel (AGIR)*,[28] the USAID-led Global Alliance for Action for Drought Resilience and Growth,[29] and DFID's Global Resilience Action Programme (see Harris, 2013).[30] It is anticipated that these funding streams will help contribute towards managing conflict and natural disaster risks and impacts holistically (see Box 6). However, these are recent developments and it is too early to tell if outcomes have been improved or whether these provide any genuine advances over business-as-usual approaches to crises.

Where disaster risk management and conflict prevention have been explicitly linked, this tends to involve NGOs adapting existing disaster risk management practice to fragile and conflict-affected states. The focus is often on local community-based initiatives; for example, Tearfund are working in Afghanistan (see Box 7) and Christian Aid in the Occupied Palestinian Territories and the Democratic Republic of Congo. There are few examples of NGOs

trying to build institutional capacity for national-level disaster risk management. Tearfund's work in Afghanistan is a rare example. Agencies differ in how they proactively engage with conflict prevention in their DRR work. This can be thought of as a 'continuum of intent' (see Figure 6). At one end of the continuum DRR is seen as a vehicle for enacting conflict prevention objectives; at the other end, agencies work 'around' conflict dynamics, but often adopt 'Do No Harm' principles. What can be achieved through DRR in fragile and conflict-affected states is partly about intent, but also about the appropriateness of disaster risk management strategies for particular contexts given the complexity and uncertainty that conflict and fragility pose (Road to Resilience, 2011).

Figure 6: Continuum of intent: disaster risk reduction and conflict prevention

DRR as conflict prevention: actively seeking to use measures to reduce risk to natural hazards to promote dialogue, negotiations and prevent conflict.

DRR amidst conflict and fragility: working 'around' conflict and fragility, seeking to do no harm but not actively addressing conflict dynamics.

27. This is a joint humanitarian and development priority framework, with short-term funding for humanitarian recovery and agricultural production and long-term support to working with the Intergovernmental Authourity on Development and on coordination. At the moment, it is unclear what the longer-term priorities will be (2014-2020 to be announced) and how this presents more than a business-as-usual approach to managing major crises.

28. This focuses on early warning, market access, and linking emergency to development. A regional plan for resilience is being prepared for December 2012. Again it is unclear how this moves beyond a business-as-usual approach.

29. See http://transition.usaid.gov/press/releases/2012/pr120404.html

30. The G-RAP aims to (1) Improve the capability, skills and the professionalism of developing world partners, (2) develop the capability, skills and professionalism of UK-based international NGOs and the private sector and support effective 'cross-sectoral' initiatives, (3) support collaboration and partnership between the private sector and NGOs or civil sector organisations at international and local levels.

Box 5: Building resilience in the Sahel region

Since 2005, donors, the UN and international NGOs have renewed efforts to link emergency relief and development in a bid to address the chronic vulnerabilities in the Sahel region. For example:

- DFID has supported a number of DRR programmes including the West African Humanitarian Relief Fund.

- The European Commission's Sahel Strategy (EC, 2011) outlines actions for security and development including DRR support to address chronic food and nutrition security.

- The UN formed a Central Emergency Response Fund to rapidly assist those affected by natural and/or man-made disasters.

- Various international NGOs are engaged in research (including household economy analysis), capacity building (such as promoting agro-ecological techniques), DRR and climate change adaption mainstreaming, and the design and implementation of EWS.

Despite these activities, it remains a struggle to develop a long-term approach for effective aid in the context of chronic food crisis in the Sahel. In 2010 more than ten million people in the Sahel suffered from an acute food crisis. *Escaping the Hunger Cycle: pathways to resilience in the Sahel* (Gubbels, 2011) documents the action needed to prevent recurring humanitarian crises. The recommendations centre on avoiding a separation of crisis and normality, recognising the links between chronic hunger and poverty. A number of underlying challenges to development in the Sahel were identified, including: deficits in the institutional capacity of governments and partners for scaling up initiatives; difficulties in addressing the root causes of crises through humanitarian and development aid; the lack of government support or interest in investing in social protection; scarce natural resources; and the failure of markets to distribute food effectively.

Focusing on lessons from 5 years' experience in Chad, Niger, Burkina Faso and Mali, the Sahel Working Group identified the following priorities for immediate action to support resilience:

- Strengthen preparedness and early response.

- Design and implement national programmes and policies for social protection that meet the needs of the most vulnerable.

- Strengthen rural livelihoods through sustainable intensification of food production in marginal areas, and through support for animal production and marketing in pastoral areas.

- Develop and apply a regional strategy for DRR.

- Support coordinated, multi-sector investments to achieve sustainable reduction in child malnutrition.

SOURCE: GUBBELS, 2011

Box 6: The Nepal Risk Reduction Consortium – practical funding for resilience

The Nepal Risk Reduction Consortium was launched by the Government of Nepal in 2009 and is supported by a wide group of international institutions and donors. The consortium has five flagship areas with a coordinating institution assigned to each. It has a proposed budget of $146.8 million over three years. The flagships are: school and hospital safety (Asian Development Bank/World Health Organisation); emergency preparedness and response capacity (UN OCHA); flood management in Koshi River Basin (World Bank); community-based DRR and disaster risk management (International Federation of the Red Cross and Red Crescent Societies); and policy and institutional support for disaster risk management (UNDP).

By August 2012 funding for the consortium had reached $65.2 million, suggesting the NRRC is a successful model for collaborative funding for tackling risk. It also employs many features often regarded as characteristic of resilience in practice:

- Joined up funding: multiple stakeholders are brought together under an agreed framework, including government, UN agencies, NGOs, international financial institutions and communities.

- Based on all risks: preventing and preparing for risks are brought together under the same umbrella programme.

- A package of measures: the humanitarian–development divide is bridged through a shared agenda, with short- and long-term interventions, and multiple funding sources for the same activities.

- Political support across sectors: development actors directly tackling risk are supported by political leadership from international and national actors.

Box 7: Tearfund's DRR work in Kandahar, Afghanistan

The cumulative impact of decades of armed conflict and natural disasters has left a legacy of precarious human development, high vulnerability and complex humanitarian needs in Afghanistan. Recognising the challenges faced by rapid onset floods and earthquakes, as well as slow onset land degradation and desertification, Tearfund has made DRR a priority within their humanitarian operations.

Tearfund's DRR approach combines community-based DRR and statebuilding activities. The former includes assessing community vulnerability to hazards, formulating and implementing community-owned disaster action plans, and integrating plans into government disaster planning and resource allocations. The latter consists of training the Afghanistan National Disaster Management Authority (ANDMA) in DRR, familiarising government staff with provincial disaster plans, and strengthening disaster response capacity.

The programme's successes include strengthening provincial capacities to enable ANDMA to assume full responsibility for the Kandahar Provincial Disaster Management Committee secretariat (serving as chair and coordinator). In other provinces (Kapisa and Jawzjan), state-society relations were also strengthened as communities shared their disaster plans with local government and vice versa. In isolated cases, this has developed into an on-going relationship between villages and the provincial agriculture department.

Successes were dwarfed, however, by the problems created or exacerbated by armed conflict: a weak state, lack of technical skills, and mistrust between state and civil society. The on-going conflict pushes DRR further down the government's list of spending priorities and hampers existing institutional capacity. It also poses a number of practical challenges as government and NGO staff are restricted from visiting disaster-affected areas.

Tearfund staff had mixed opinions on whether government capacity building has represented the best use of time and resources. Many emphasise the successes, which came about despite all the contextual challenges and unreliable funding. The same staff also emphasise the irreplaceable role of local government in effective DRR. Others suggest that building government capacity is difficult at the best of times, and that the additional barriers posed by conflict (such as reduced incentives to prioritise DRR, difficulty in retaining trained staff and weak processes of institutionalisation) make sustained success extremely challenging.

Opportunities for integrating DRR and conflict programming
Tearfund staff identified specific programming activities to help build resilience to conflict as well as to natural hazards:

- Help communities develop participatory natural resource management systems.

- Introduce technologies and/or techniques that reduce pressure on contested resources, and support appropriate income diversification.

- Advocate more equitable, participatory policy-making through the proper involvement of key stakeholders and full participation of people on issues of land rights, ownership, water access and pasture land.

Staff also proposed the following 'next steps' for continued DRR and statebuilding, which would continue the incremental progress achieved in key provinces so far:

- Develop a coordinated information database mapping out capacity and vulnerability in Afghanistan's disaster-prone areas, with an inventory of the DRR or emergency response projects implemented so far.

- Provide the government Emergency Operations Centre with the resources it needs to function.

- Develop rapid assessments and need assessments using formats agreed and used by all actors (governments, UN agencies and NGOs).

SOURCE: TEARFUND, 2012

Caution must be exercised over claims that actions to reduce natural disaster risk can also prevent conflict or build peace. There are examples of DRR programmes adopting conflict sensitive principles and increasing short-term security, but there is no substantive evidence that the drivers of conflict have been addressed through DRR measures (Woodrow and Chigas, 2009). Tearfund recognised this challenge through its DRR work in Afghanistan. It found that the water scheme did not prevent conflict between internally displaced persons and the state in Kandahar, but partially (and probably temporarily) mitigated some aspects of conflict through the enactment of the community disaster plan.

Resilience to the effects of conflict

When considering resilience in relation to conflict, it would seem helpful to distinguish between conflict prevention on the one hand, and resilience to *the effects of conflict* on the other. Many aspects of promoting disaster resilience adhere to mitigating the effects of conflict. As a coping strategy, splitting herds is a practical example: not only can it reduce exposure to drought, but it can also increase the chances of recovery from raiding (since only one part of a herd may be attacked and stolen) (Eriksen and Lind, 2009; Christoplos et al., 2004). But it should not be assumed that the best livelihood strategies for combating natural hazards are always the best strategies for reducing (or mitigating the effects of) conflict (see Box 8).

Box 8: Disaster-conflict linkages and community based DRR in Karamoja

In the Karamoja region, north-eastern Uganda, inconsistent rainfall has contributed to crop failure, livestock losses, disease and displacement and left some groups dependent on relief aid for survival (Cordaid and IIRR, 2011). Competition over water, livestock and pasture can exacerbate inter-clan tensions and result in greater migration, sometimes to restricted areas, in search of grazing. Traditional mechanisms for negotiating and mediating the management of natural resources have been undermined by a range of external influences. These include the presence of new power dynamics related to cross-border movement, the role of the government, external interventions and the presence of small arms. Natural disasters and conditions of vulnerability have contributed to conflict and instability by exacerbating inter-clan conflict, cattle raiding, small arms violence and criminal activity.

Disarmament versus livelihood security
Ugandan government responses to these complex problems have often exacerbated the vulnerability of some groups (Powell, 2010; Molenaar, 2011). Considering pastoralism a non-viable and ecologically damaging livelihood option, the government has favoured policies and interventions for sedentary and agricultural populations (Molenaar, 2011: 13). A series of disarmament programmes have also been undertaken, but the interplay of natural resource scarcity, natural hazards, insecurity, inter-clan conflict and contested governance has continuously undermined such programmes. For example, after participating in the disarmament programme in 2001-2002, one group was subjected to more frequent raiding from neighbouring groups (who retained their arms) (Powell, 2010: 11).

Cordaid has worked with a variety of local institutions over time to promote community-managed DRR. It undertook an assessment which revealed that strengthening livelihood security could reduce the risk of natural disasters. Subsequently the organisation sought to strengthen the local resilience of some groups through a range of activities: a grain banking business; constructing water diversion systems; reducing animal losses to disease by training animal health workers; and supporting diversified livelihood opportunities to increase household security. Cordaid's approach was designed to indirectly reduce the likelihood of violent confrontation over scarce resources, yet it was not without its challenges; there is 'a substantial difference in skills and capacity amongst public officials and NGO staff, weak community organisations and gaps in national policy and legislative frameworks not least their translation into practice for the benefit of vulnerable groups' (Cordaid and IIRR, 2011: 7).

Lessons for linking disaster and conflict prevention
The Karamoja context is incredibly complex. Local people are confronted with a range of risks on a daily basis and their priorities for action reflect differentiated – and often competing – demands on local natural resources, services and livelihood opportunities. Attempts to implement programmes in ways that better recognise the dynamics of disasters and conflict concurrently are more likely to reflect this complex reality; but questions must be asked about the value of interventions which cannot or do not address the broader underlying causes of vulnerability. If resilience is to be built, effective community-based initiatives need to link with activities across scale that seek to address the challenges related to the potential compatibility of different livelihood and governance systems.

Livelihood diversification has long been highlighted as a way of dealing with natural hazards, but it may sometimes *increase* vulnerability during a war. Luka Biong Deng (2008) notes that in Sudan many Dinka pastoralists, having previously diversified into farming, moved *away* from farming during the second civil war to maintain maximum mobility in the face of repeated raiding.

In tailoring livelihood strategies it is important to understand how local people prioritise risks and whether risk management strategies respond to single or multiple risks.

The role of the state

In line with UN resolution 46/182, governments have a responsibility to help protect their population and reduce the risk of natural disasters. Thus, Harvey writes: 'For good or ill the central role of governments in disaster response cannot be avoided. Substitution for the state may sometimes be appropriate, particularly in conflict, and in both conflicts and natural disasters there will always be a need for independent and neutral humanitarian action. However, one of the goals of international humanitarian actors should always be to encourage and support states to fulfil their responsibilities to assist and protect their own citizens in times of disaster' (Harvey, 2009: 41). He notes that 'where states are weak but have some willingness to meet needs, a combination of substitution and capacity-building will probably be appropriate' (2009: 16).

Kostner and Meutia (2011: 12) suggest ways to address these challenges, including: working through a range of institutions and approaches; using independent monitoring agents, external financial management and procurement agencies; building the confidence and capacity of national institutions in parallel with externally-led initiatives; and handing over to national institutions over time. Where the authority and legitimacy of a state and its leaders are contested, an alternative is to try to work with inclusive (or 'inclusive-enough') coalitions encompassing representatives from a cross-section of society (Kostner and Meutia, 2011). This may present an opportunity to help build the legitimacy of the state and strengthen state-society relations. It may also be feasible to build into these coalitions mechanisms to address both

ex-post responses and the underlying drivers of violence. There can of course be significant political benefits gained from relief, including opportunities to provide visible assistance to those in need, often supported by positive news coverage (Williams, 2011: 17). Colombia provides an example where the central government uses public and media attention to increase their visibility after a disaster (ibid.). Here, funding is largely directed at relief and post-disaster rehabilitation, creating a system that promotes direct support during emergencies at the expense of longer-term investment in prevention and preparedness (Williams, 2011: 17).

While many fragile and conflict-affected states have disaster risk management policies, infrastructure and mechanisms in place (see Box 9), many of these are significantly underfunded and external support is often limited (Kellett and Sparks, 2012).

5.3 Forging stronger links between disaster and conflict specialists

For those working on disasters and conflict, more constructive cooperation depends on breaking down mutual misunderstandings (see Box 10). Cooperation will also require more explicit recognition of the different risks faced by recipient individuals and communities, and the way action to address one risk may or may not be compatible with reducing other risks (see as an example Box 11 on protection and livelihoods).

Simply identifying a coping strategy during conflict does not necessarily imply that it should be supported. Some researchers have noted the importance of civilians establishing relationships with local armed groups – groups that may themselves be interested in limiting violence and exploitation in the interests of 'winning hearts and minds' (Slim, 2007; Atkinson, 2011; Justino, 2011). Such unofficial arrangements have included those between local communities and armed groups in Burma or unofficial markets linking areas of rebel strength to government-controlled areas in the Nuba Mountains in Sudan (South et al., 2012). There may be ways of supporting these, but outside assistance might sometimes draw attention to arrangements that work best when they are hidden.

Box 9: Reducing disaster risk in a fragile state – Nepal

Six years after the peace agreement between the Nepalese government and the Maoists, Nepal is widely regarded as a fragile state: weak governance and rule of law make the population vulnerable to natural hazards while also contributing to political conflict and tensions (Vivekananda, 2011: 8). Yet the policy framework for DRR in Nepal is well developed, with the Natural Calamity Relief Act of 1982 accompanied by a Disaster Management Act currently under development (IFRC, 2011: 55). The 1982 law focuses on a limited range of DRR activities within the scope of disaster response and relief while new legislation hopes to create a broader approach to facilitate long-term natural disaster reduction. In parallel, the development community is taking steps to engage in conflict sensitive approaches to development through the World Bank's 'peace filter' and the UN's mainstreaming of the Do No Harm approach (Pandley, 2011: 5).

While there is a strong political foundation for disaster risk management in Nepal, the country's complicated rule of law creates challenges for implementation. For example, political reform and local governance for DRR has been undermined by the broader political crisis reflected in the slow progress of the new Disaster Management Act (IFRC, 2011: 27). At the state level, environmental conservation is not integrated into the disaster management framework and national legislation is limited in its scope by autonomous local administrations. Furthermore, prolonged conflict and instability has left a number of communities without councils or committees, which limits their ability to address conflicts over natural resources or vulnerability to natural hazards. In some instances this has led to ill-informed interventions from central or district governments (IFRC, 2011: 28; Vivekananda, 2011: 9).

As an example, Vivekananda (2011: 9-10) documents how Raamechhap district's mountain villages faced severe water shortages following three consecutive failed monsoons. The community requested assistance from the district government, which provided a one-off cash hand-out just before the local elections. The community was given no further guidance and subsequently chose to invest in a tap to pump up groundwater – without the knowledge that groundwater levels were depleting and uncontrolled surface water extraction would intensify water scarcity. The water ran dry, exacerbating local frustration at the lack of government support for the community's basic requirement for clean water.

In other cases, local frustrations have led to violence and unrest (Vivekananda, 2011: 8). For instance, flooding and overflow from the Koshi River in the Terai region in 2008 resulted in the resettlement of 60,000 residents in surrounding communities. The increased stress on the natural resources within these communities translated into increased tension, further escalated by political groups who used flood victims' dissatisfaction over lack of clean water and shelter to feed anti-government sentiments. When this became violent, 200 policemen were sent to maintain order in the camps (ibid.).

Box 10: Misconceptions among actors working to reduce risk to conflict and natural disasters

Misunderstandings are rife. Academics, policy makers and practitioners can have strong perceptions about what it is others actually 'do' in reducing risk or addressing vulnerabilities to conflict and natural disasters. These perceptions are not always accurate. For example, there is a common perception that those working on natural hazards adopt a technical approach to risk reduction and neglect analysis of the politics of vulnerability, while those working on conflict fail to take seriously the impact of natural hazards on conditions of vulnerability (for related concerns see Buchanan-Smith and Christoplos, 2004; Molenaar, 2011). Honest reflections from Cordaid offer a unique example: 'While people from the Conflict Transformation Team thought that community-based DRR is only focused on community level and on reducing the risks of natural hazards, people from the Disaster Risk Reduction Team had the idea that conflict transformation pays very little attention to people's capacities' (Molenaar, 2011: 25). An exchange of knowledge, ideas and approaches would help rectify these misconceptions and identify commonalities in approaches (Molenaar, 2011: 25).

There is also a lack of understanding of how concepts relate to one another across communities of practice, how they overlap and/or differ. Within each field there are on-going debates over how to define and operationalise concepts such as 'resilience'. Definitions of concepts can be somewhat arbitrary in practice where the boundaries between natural disasters and conflict – and other forms of shocks and stresses – are often blurred.

Box 11: Assessing protection and livelihoods

Building resilience means taking account of the trade-offs that occur when individuals make choices which may increase their security or protection (even if only temporarily) at the expense of livelihood security. Yet assessments for livelihoods and protection are largely segregated for a variety of reasons: the difficulty of establishing multifunctional teams; time restrictions; or because the detail required for such analysis may be beyond the capability or scope of a programme (Jaspars and O'Callaghan, 2010: 3). Where threats to livelihoods and protection coincide (such as a rural population at risk of displacement), joint working may be more achievable. But where protection concerns outweigh livelihood threats, support to protection can 'run counter to the principle of impartiality' (ibid.).

Livelihoods specialists, Jaspars and O'Callaghan find, 'often view advocacy as too politically sensitive, and advocacy is often only prioritised when an agency has protection capacity' (2010: 4). Thus we have to ask, what are the limits on livelihood work without protection? Jaspars and O'Callaghan (2012: 4) argue that combining livelihoods and protection is not only more effective but more likely to reduce the risk that interventions will 'exacerbate unequal power relations or further endanger communities'. Yet agency mandates, scale, capacity and funding inhibit more joined up protection-livelihoods interventions More action is needed in this regard, including for example, community-oriented protection interventions.

Furthermore, disaster relief efforts may sometimes generate new risks instead of facilitating the conditions required for longer-term resilience. Kostner and Meutia (2011: 4) argue that the parallel mechanisms established to respond to natural disasters in the absence of state measures 'facilitate short-run accomplishment by bypassing national organisations and institutions [which] can undermine national institution-building in the longer term'.[31]

In some respects the lack of attention given to the complex links between disaster risk and conflict reflects the underlying belief still held by some beyond the DRR community that natural hazards lie at the root of 'natural' disasters and thus their causes are largely outside human control. The paradigm shift that placed vulnerability and issues of governance, inequality, poverty and exclusion at the centre of 'disasters theory' has taken time to propagate into non-DRR communities of practice. So for some, addressing disaster risk is still a predominantly technical exercise associated with natural sciences and advancements in technology and physical construction. The evidence suggests otherwise: efforts to strengthen disaster resilience require a detailed understanding of the socio-economic and political factors that cause people to be at risk (IPCC, 2012; Wisner et al., 2004).

While new approaches to managing disaster risk in fragile and conflict-affected states are emerging, there is little evidence of truly integrated approaches to disaster and conflict prevention. We still lack evidence on whether multiple gains can be made by developing integrated risk programming and how barriers can be overcome. 'Resilience' raises new and old questions about the status of the humanitarian and development divide. In the context of fragility and conflict, balancing the objectives of country ownership, statebuilding, capacity building, and the independence of humanitarian action continues to be a difficult challenge (Harvey, 2009: 22). Where the state is unwilling or unable to provide adequate support, more innovative ways of building resilience may be required which engage new actors beyond the state – regional level actors or more informal actors at sub-national level, for example. Learning from experience on conflict prevention and statebuilding, it is highly unlikely that business-as-usual disaster risk management will work in such settings.

Some are starting to take innovative action which can inform more integrated approaches to risk – notably NGOs at the community level for whom the interrelated nature of risks is apparent. Yet more needs to be done. Options are available: 'first, assistance during a transition process needs to pay more attention to risk management and reduction efforts and related capacity building. Second, to achieve effective results, disaster risk management efforts cannot afford to ignore investing in conflict prevention and aiding the transition process' (Kostner and Meutia, 2011: 8-9).

Simply put, if conflict is a factor in increasing natural disaster risk and vice versa, then we need to see much more crossover and integration. First, as a minimum, it is necessary to make sure that interventions in one field do not exacerbate risks in another. Conflict sensitive approaches to humanitarian and development action could have a role to play here. Second, opportunities for conflict prevention and disaster resilience programmes to contribute to alleviating each other's risks should be explored – for example by contributing to joint analyses, regional approaches, and broad-based risk assessments. A third step would be to ensure that managing risk in fragile and conflict-affected states is a key feature of the post-2015 agreement on DRR (Hyogo Framework 2) and that there are clear institutional mandates set to tackle this.

There is space for critical agencies to lead the agenda in this regard. As an example, the forthcoming World Development Report (2014) on risk, crisis and uncertainty should link explicitly to the findings of the 2011 World Development Report on Conflict, Security and Development. In doing so, better links could be made between conflict prevention and disaster preparedness in the context of other risks that exist in any given context (Kostner and Meutia, 2011).

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31. Moreover it is argued that the involvement of local communities and community groups in the delivery of relief aid continues to be viewed as a hindrance (see Tripartite Core Group and World Bank and ASEAN discussion note, in Kostner and Meutia, 2011: 4).

6 Conceptualising the linkages

The previous sections reviewed the evidence on the links between conflict and natural disasters and highlighted existing approaches to managing conflict and disasters simultaneously. This section considers how changes to existing conceptual frameworks can be adapted to foster greater integration.

Summary

Interventions aimed at reducing natural disaster risk can have positive or negative effects on conflict dynamics; conversely, interventions aimed at preventing conflict can have positive or negative effects on the likelihood and impact of natural disasters. The ideal scenario is to have interventions that reduce the likelihood and effects of both natural disasters and conflict.

Disaster risk management should be integrated more systematically into peacebuilding and statebuilding frameworks and should employ conflict sensitive approaches. The reverse should also happen. Integrating conflict and fragility into natural disaster frameworks (as in the case with the Pressure and Release Model), can help elucidate the links between natural disasters and conflict. Greater cross-integration of frameworks will help move from collision to collaboration between the two communities.

Over time, it may be necessary to move beyond adapting existing tools and approaches to devising integrated approaches to natural disaster and conflict risk through a conceptual framework based on field-testing. The joint framework should encourage accountability, learning, evidence-gathering, cross-organisational exchanges and draw on conflict sensitivity and political economy analysis. It should aspire to understand the factors that produce vulnerability to disasters and conflict and highlight the points of convergence between interventions where there is the most to gain.

6.1   Unintended consequences

It should now be clear that interventions designed to build peace or to mitigate, prepare and respond to natural disasters may have unintended consequences. It may also be the case that an intervention has neither a positive or negative effect on other aspects of a given situations – either intentionally (through the application of approaches such as Do No Harm) or unintentionally (see Figure 7).

The ideal scenario is to undertake interventions that contribute helpfully in each of four ways: preventing conflict, mitigating conflict's effects, preventing natural hazards, and mitigating natural hazards' effects. In reality, a particular intervention could contribute positively in some ways and yet still contribute negatively in respect to others.

6.2   From 'collision' to collaboration

If natural disasters can exacerbate or trigger conflicts, then they should be considered within conflict and statebuilding frameworks and conflict analysis tools. If conflict and fragility increase vulnerability and exposure to natural disasters, then they should be considered in disaster risk assessments and natural disaster frameworks. As time progresses, conceptual frameworks for natural disasters and conflict could coalesce to support integrated risk management approaches and resilience. Figure 8 shows how this process might evolve.

Figure 7: Characterisation of the relationship between actions to address natural disasters and conflict

Natural disasters

Reduce likelihood of natural disasters and their negative effects

Neutral (do no harm)

Exacerbate likelihood of natural disasters and their negative effects

Focus of disaster risk reduction actions

Most desirable

Least desirable

Focus of conflict prevention actions

Dynamics of conflict

Exacerbate likelihood of conflict and its negative effects

Neutral (do no harm)

Reduce likelihood of conflict and its negative effects

Figure 8: Schematic to show how conceptual frameworks for natural disasters and conflict could evolve

Entry point one: Conflict and state-building frameworks (integrate risks and vulnerability associated with natural hazards).

Entry point two: natural hazard related disasters (integrate considerations of statebuilding, and risks and vulnerability associated with conflict, fragility and violence).

Develop a conceptual framework with appropriate tools and methods to promote an integrated approach to risk including but not confined to risks associated with natural disasters, conflict and fragility. Moreover, depending on the context, other forms of risk may be used as the entry point for promoting more integrated approaches to risk.

Field based testing of conceptual framework – followed by use in practice.

Entry point one: conflict prevention and statebuilding

Conflict prevention and statebuilding initiatives have expanded in recent years. A diverse range of externally driven activities now occur in fragile and conflict-affected states, including institution building, developing state functions, addressing the causes and effects of conflict, and supporting inclusive political settlements and processes. Understanding and responding to public expectations has also become a critical consideration (see for example DFID's statebuilding and peacebuilding framework, represented in Figure 9).

The evidence presented in this report demonstrates that each of the components in this framework can affect and be affected by natural disasters. DRR therefore has a role to play in developing effective approaches to conflict prevention and statebuilding, and in ensuring the gains made towards developing peaceful states and societies are not undermined by natural disasters. Figure 10 presents an adapted version of DFID's peacebuilding and statebuilding framework to show how DRR and management activities are relevant to each of the framework's components.

As another illustration, natural disasters can be integrated into conflict analysis (see Figure 11) in the following ways:

- The vulnerability of different groups to natural disasters should be considered as **structural** and **proximate causes** of conflict.
- Natural hazards – and the responses to them – should be considered as potential **triggers** for conflict.
- **Contextual analysis** should include a hazard profile (which incorporates uncertainty associated with changing climate extremes).
- Formal and informal disaster risk management mechanisms should be included within the **profile** of a context, including an assessment of their effectiveness in previous natural hazard-related disasters.
- **Actor mapping** should include formal and informal disaster risk management agencies, departments and critical individuals, and the distribution and equity of the risk reduction measures they support.
- The **dynamics** component should include consideration of the impact of the disaster–conflict interface on conditions of peace and conflict.

Figure 9: 'Building peaceful states and societies' framework

Support inclusive political settlements

Develop core state functions

Address causes & effects of conflict and fragility

Respond to public expectations

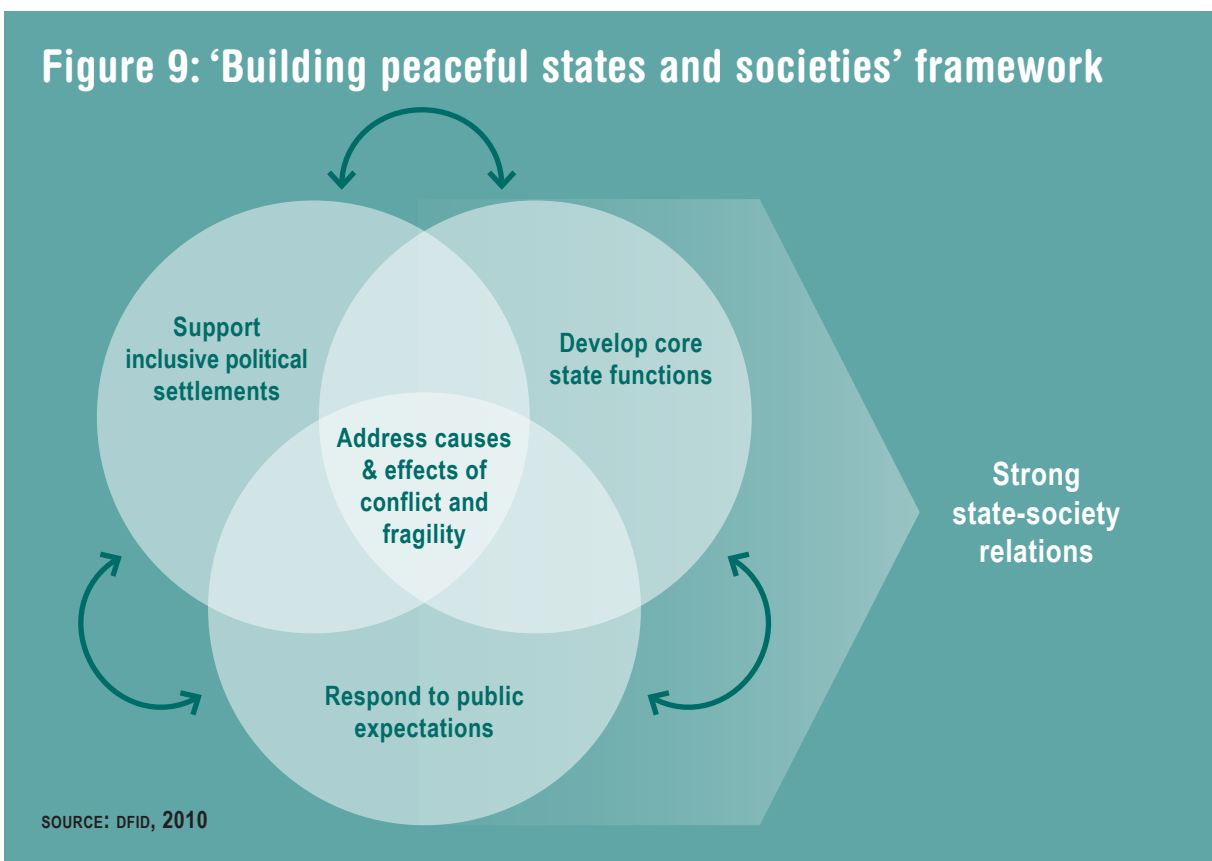Strong state-society relations

SOURCE: DFID, 2010

Figure 10: Adapted version of DFID's 'Building peaceful states and societies' framework illustrating the 'natural' disaster components of the peacebuilding and statebuilding agenda
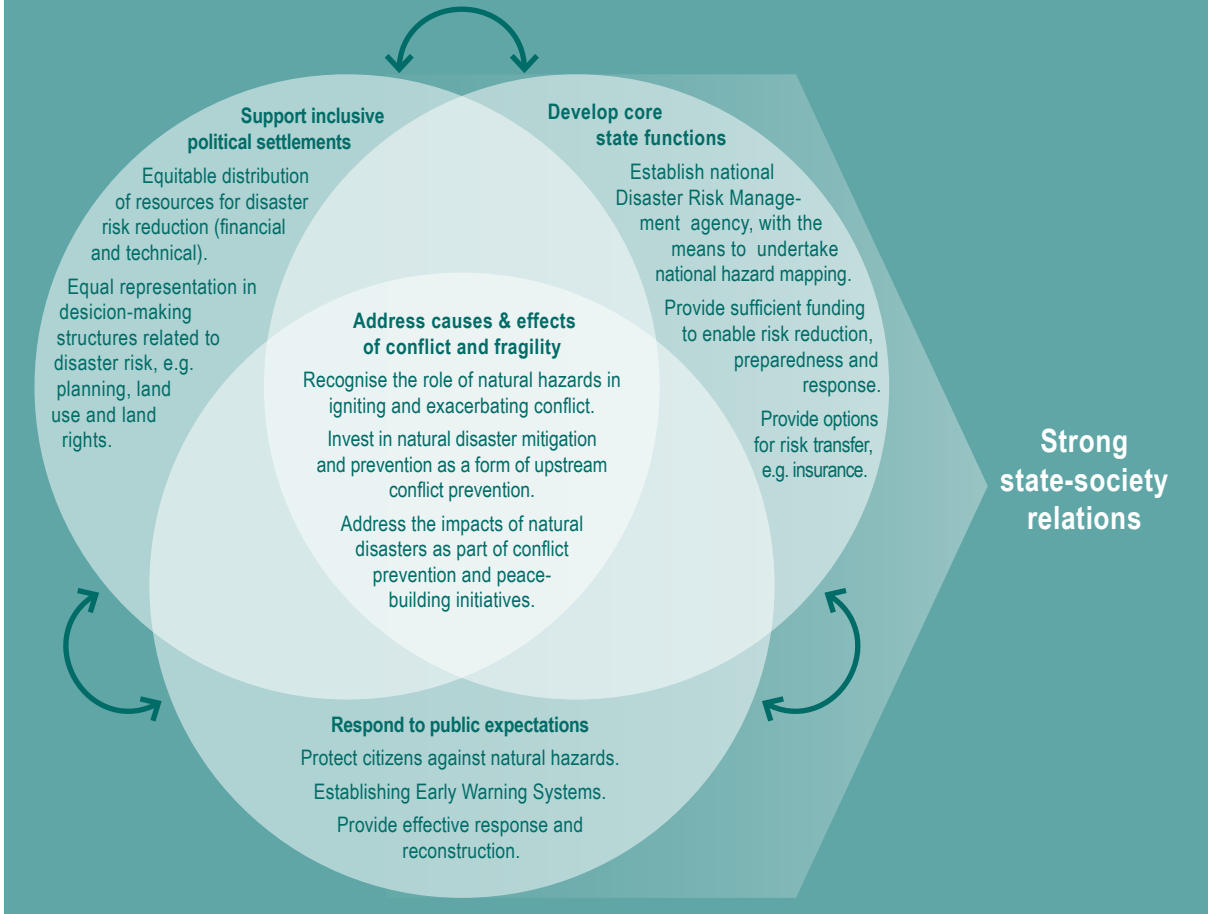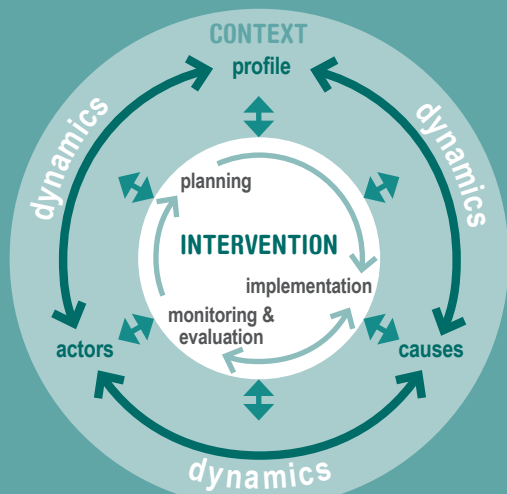
Support inclusive political settlements

Equitable distribution of resources for disaster risk reduction (financial and technical).

Equal representation in desicion-making structures related to disaster risk, e.g. planning, land use and land rights.

Develop core state functions

Establish national Disaster Risk Manage-ment agency, with the means to undertake national hazard mapping.

Provide sufficient funding to enable risk reduction, preparedness and response.

Provide options for risk transfer, e.g. insurance.

Address causes & effects of conflict and fragility

Recognise the role of natural hazards in igniting and exacerbating conflict.

Invest in natural disaster mitigation and prevention as a form of upstream conflict prevention.

Address the impacts of natural disasters as part of conflict prevention and peace-building initiatives.

Strong state-society relations

Respond to public expectations

Protect citizens against natural hazards.

Establishing Early Warning Systems.

Provide effective response and reconstruction.

Figure 11: Operationalising conflict sensitivity

CONTEXT
profile

dynamics

dynamics

planning

INTERVENTION

implementation

monitoring & evaluation
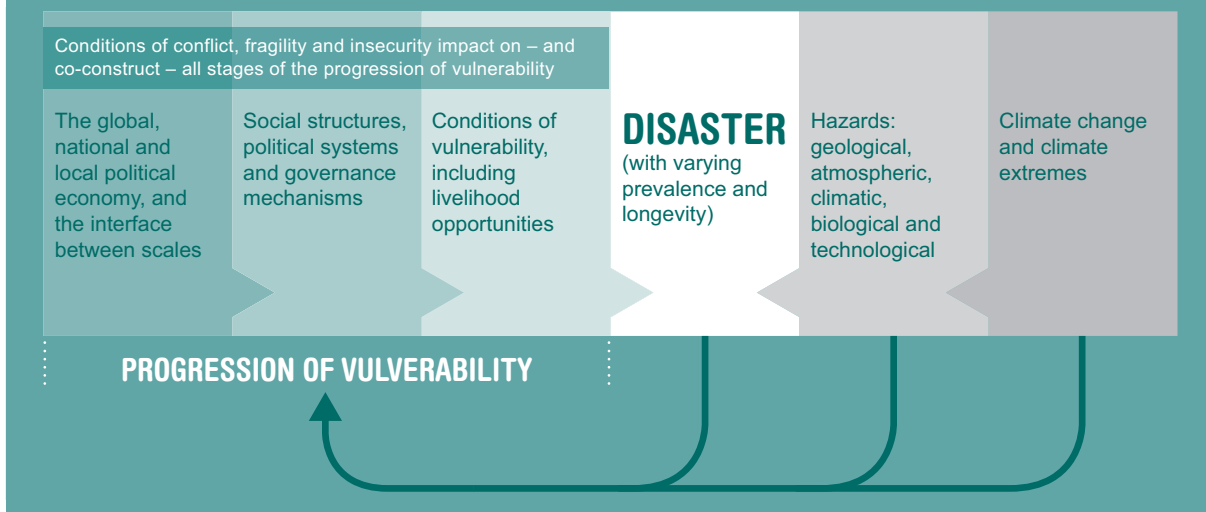
actors

causes

dynamics

SOURCE: RESOURCE PACK, 2004: 2

Entry point two: natural disasters and risk management

There is extensive evidence on the relationship between vulnerability and hazards (see Wisner et al., 2004; Cannon, 2008) and between vulnerability and armed conflict and fragility (World Bank, 2011). Vulnerability refers to 'the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard' (Wisner et al., 2004: 11). Thus vulnerability is a crucial concept for understanding the socio-economic and political dimensions of disasters. This basic idea is represented in the Pressure and Release model (Wisner et al., 2004) which is widely used in the disaster risk management community. An adapted version of the model (see Figure 12) provides more explicit consideration of the way violence, conflict and fragility increase vulnerabilities, including

40 WHEN DISASTERS AND CONFLICT COLLIDE: IMPROVING LINKS BETWEEN DISASTER RESILIENCE AND CONFLICT PREVENTION

Figure 12: Situating conflict within an adapted Pressure and Release Model

Conditions of conflict, fragility and insecurity impact on – and co-construct – all stages of the progression of vulnerability					
The global, national and local political economy, and the interface between scales	Social structures, political systems and governance mechanisms	Conditions of vulnerability, including livelihood opportunities	**DISASTER** (with varying prevalence and longevity)	Hazards: geological, atmospheric, climatic, biological and technological	Climate change and climate extremes

PROGRESSION OF VULVERABILITY

vulnerability to disaster. Climate change has been added to reflect the impact of climate extremes on the prevalence of natural hazards, and a feedback loop has been introduced to emphasise how disasters themselves can increase vulnerabilities.

Conflict sensitive approaches have much to offer natural disaster practitioners working in fragile and conflict settings. However, while most agencies have conflict sensitive approaches on paper, they tend to be used solely by advisors or departments dealing explicitly with issues of violence, fragility and conflict (see Zicherman et al., 2011). These approaches must be applied to DRR, especially where DRR interventions designed for relatively stable societies are (re)applied to contexts mired by violent conflict and fragility.

The added value of conflict-sensitive DRR could be:

- a better understanding of the conflict context and more appropriately tailored interventions
- reducing the negative unintended impacts of interventions
- increasing cross-departmental learning through knowledge exchange on the application of conflict sensitive approaches.

Addressing the disaster–conflict interface requires an understanding of (1) the interconnected nature of risks faced by individuals and communities in conditions of vulnerability, and (2) the most appropriate entry points for external interventions. This should be based on sound contextual analysis informed by a political economy approach.

Linking the conceptual frameworks of conflict prevention and disaster resilience should not be principally about management approaches, but more about understanding the processes that produce vulnerability and the way individuals and communities make choices about risks. It will be important to include scientific analysis – for example on the changing nature of climate extremes – while also recognising that external interventions will be mediated through a complex combination of assets, power and institutions. Such a framework has to be able to answer the questions: 'what needs to happen to reduce vulnerability to disasters and conflict?' and 'how do we avoid undoing hard won peace and development dividends?'

It is possible some preliminary principles to guide a shared approach, namely:

- include natural and man-made shocks and stresses
- span the humanitarian-development continuum
- be shaped by conflict sensitivity analysis
- include political economy approaches as an aid to designing interventions
- define what preparedness means for both conflict and natural disasters
- bolster the evidence base of the intended and unintended impacts of interventions on resilience
- encourage learning, accountability and greater cooperation and collaboration between actors
- highlight the points of convergence for maximum gain and the trade-offs for action.

7 Recommendations

The co-location of natural disasters and conflict undermines peaceful development. The impact of climate change, both on conflict and the severity and frequency of natural hazards is likely to intensify this situation as the majority of the world's poor will be living in fragile and conflict-affected states by 2025 (Kharas and Rogerson, 2012). The relationship between natural disasters and conflict is complex, the evidence mixed and interventions fraught with trade-offs and possible unintended consequences. Nonetheless, the weight of evidence and the overlap between drought, conflict, poverty and climate vulnerability provide an indication of where and how efforts should be prioritised.

Achieving statebuilding, humanitarian and development goals will require changes to the way the disasters–conflict nexus is conceptualised. Avoiding oversimplification is critical. Natural disaster risk reduction must be included in statebuilding and conflict prevention frameworks and vice versa. Given the way that multiple risks intersect in fragile and conflict-affected states, it makes sense for conflict and natural disaster experts to join forces to help strengthen resilience.

The 'natural' disaster–conflict nexus is explored here as an illustration of how shocks and stresses that occur concurrently in reality can be compartmentalised in the operationalisation of humanitarian and development action. It is important to understand, however, that in reality conditions of vulnerability and risk stack up for populations; issues related to disasters and conflict are situated in a wider set of dynamics. Thus the key to making progress for communities confronted with 'natural disasters', conflict and fragility is to understand more about how vulnerability is shaped by interconnected shocks and stresses.

DFID has already started doing this by committing to integrate disasters, conflict and climate in country-based resilience programming by 2015. The cross-agency 'Political Champions for Disaster Resilience' group is also making steps in the right direction. This momentum needs to be sustained. The post-2015 development agenda sets the stage for defining a new global approach to addressing poverty and vulnerability. Natural disasters, conflict prevention and statebuilding must be a critical part of this.

International policy

In order to raise the profile of the conflict–disaster nexus in fragile and conflict-affected states, UN member states and **international agencies** should:

- Ensure that managing risk in fragile and conflict-affected states is a key feature of the post-2015 agreement on DRR (Hyogo Framework 2) and that there are clear institutional mandates set to tackle this. The World Bank **2014 World Development Report** on risk, uncertainty and crisis should link back to the 2011 World Development Report: Conflict, Security and Development and set a new agenda for managing risks in fragile and conflict-affected states.
- Resilience, vulnerability, disaster and conflict should be featured themes of **post-2015 development goals**.
- The **Political Champions for Disaster Resilience Group** should promote inter-agency co-ordination to build resilience in fragile and conflict-affected states, developing regional and national approaches to ex-ante risk management in such settings.

Programming and finance

- The **Global Facility for Disaster Reduction and Recovery (GFDRR)** should scale-up programming in fragile and conflict-affected states, and forge closer links with the conflict prevention work of the World Bank, such as the Global Centre on Conflict, Justice and Development.
- **Bilateral donors and UN agencies should**:
  - Constitute joint risk taskforces in key fragile and conflict-affected states to integrate conflict, natural disaster and climate change practitioners, plans and programmes.
  - Explore new partnerships and new ways of working and build the evidence base about how to better invest in ex-ante risk management measures in fragile and conflict-affected states.
- Donors must be prepared **to risk greater levels of up-stream investment in fragile and conflict-affected states**.
- Donors and other financing bodies should work to ensure that short-term funding restrictions do not inhibit resilience building opportunities. Where possible, **multi-year funding** should be the norm and the UN should look to expand the use of multi-year consolidated appeals.

- Civil society organisations and donors alike should invest in the **capacities of programme staff** in fragile and conflict-affected states to better link approaches to conflict, disasters and climate change. This may require training and new ways of formulating strategies and designing programmes. Donors, NGOs and other implementing agencies should develop **integrated monitoring and evaluation frameworks** for assessing needs, results, value for money and outcomes in fragile and conflict-affected states.

Research and evidence

We do not currently know how to measure the scale and nature of risk facing fragile and conflict-affected countries, nor which interventions are likely to be most effective in managing risk and building resilience in these environments. Priorities for investment in improved evidence include to:

- Develop a **multidimensional risk index** which integrates existing data on conflict and fragility, natural hazards, vulnerability, poverty and climate change. Ideally this should be sufficiently high resolution to consider sub-national areas and should include a process for weighting risk factors depending on the focus of different agencies. Monitoring changes to this index over time will help to highlight the co-dependency between different aspects of risk and vulnerability and allow progress to be tracked and subsequently analysed.

- Develop and test **conceptual frameworks and analytical tools**. This should include modifying existing analytical tools (such as conflict sensitivity frameworks and statebuilding and peacebuilding frameworks) to reflect disaster risk and vice versa. This process could provide the model for more integrated risk modelling.

- Increase the evidence base of what works in increasing resilience to multiple shocks and stresses in fragile and conflict-affected states.

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Annex 1: Quality of the evidence

As a relatively new concept, 'disaster resilience'[32] is only just beginning to gain prominence in research. Attempts have been made in recent years to advance the quality and quantity of available evidence examining the relationship between natural disasters, conflict and fragility. A significant body of qualitative, case study based evidence has been complemented with an increasing number of quantitative studies examining the relationship between conflict and natural disasters across countries and at sub-national levels. There remain, however, important limitations to existing evidence and significant areas have not been adequately researched. In particular, it is clear that further research is needed to understand the interactive dynamics of vulnerabilities to conflict, fragility and natural disaster risk, and to elaborate the concept of disaster resilience and its relationship to concepts associated with vulnerability, disaster risk, and different types of conflict and state fragility.

Overview of available evidence

Natural disasters and conflict have been studied across various fields, including political science, economics, geography, social psychology and disaster studies since the 1900s, but they have tended to be compartmentalised and treated as separate issues. Today, an emerging body of literature examines the relationship between disasters associated with natural hazards and the incidence or escalation of conflict.[33] Significantly less attention, however, has been given to the impact of conflict and fragility on ex-ante DRR, such as disaster prevention, preparedness and mitigation. What literature does exist in this area has focused primarily on the challenges that conflict and insecurity present to humanitarian relief.

The findings in this report are based on a sample of literature drawn from over 300 articles, published both in peer-reviewed journals and as grey literature by multinational organisations, government agencies and NGOs.

There is an evolving literature base on the question of how natural hazards and conditions of conflict relate to and impact upon one another, set in the context of broader shocks and stresses. This includes both peer-reviewed research and a large body of grey literature produced by humanitarian organisations, think tanks and government agencies. Links between conflict and slow onset disasters, and the occurrence of several high profile rapid-onset disasters over the last 5 years have contributed to a focus within the recent literature on a limited selection of cases in the Horn of Africa and South Asia. Arguably there has been an overconcentration of research in the same few selected cases. The relationship between climate change and conflict, including the impact of increased climate extremes, has also emerged as a new area of research, with the focus primarily on slow onset disasters related to poor natural resource management, contentious trans-boundary water sources and 'climate induced' migration.

In recent years, a number of comparative empirical studies have set out to identify the relationship between natural hazards and intra- and inter-state conflict. These studies have

32. As defined by DFID (2011b), which takes a broad range of shocks and stresses, including those related to natural disaster, fragility and conflict.

33. This is particularly the case with regard to famine, complex political emergencies, natural resource scarcity and recurrent crises. This literature is greatly aided by the conceptualisation of disasters as 'unnatural', meaning it is the societal conditions that determine whether, how and to what extent a natural hazard event may result in a 'disaster' (Wisner et al., 2004).

mostly undertaken cross-country comparisons, including datasets with entries for over 150 countries, with a few studies examining the relationships at sub-national levels (e.g. Slettebak and Theisen, 2011). Few studies have undertaken to combine large N quantitative studies with in-depth qualitative research findings.

Limitations of the available evidence

The limited evidence available means appropriate caution should be exercised when drawing conclusions and policy recommendations. Among these are organisational bias, particularly in much of the grey literature, and definitional challenges linked to the ways in which terms, including 'conflict' and 'disasters' are used to refer to different and often quite contrasting phenomena. For example, 'conflict' can include a range of violence (physical, psychological, sexual, structural) through to armed conflict and civil war. 'Disaster' can be used to mean both natural and man-made risks, from floods, earthquakes, volcanic eruptions through to nuclear explosions, industrial accidents and conflict.

Inadequate contextual analysis and the inability of cross-country quantitative studies to allow for contextual variations limit both the reliability of particular studies and the value of comparisons across the literature. Both quantitative and qualitative research tends to treat natural hazard related disasters as unique events isolated from other phenomena or processes (Hewitt, 1983). Quantitative studies often include only a token contextual analysis that is largely delinked from the analysis that follows. Qualitative studies of specific hazards, meanwhile, largely fail to engage meaningfully with the historic processes that have led to conflict vulnerability, exposure and insecurity, and are limited in their ability to extrapolate findings that can usefully inform policy. The paucity of contextual considerations is compounded in recent cross-country quantitative studies which draw comparisons between contexts without adequately acknowledging variations between different countries.

Constraints involved in conducting research on natural disasters in conflict-affected contexts also significantly limit the ability of researchers to collect and assess appropriate data. Analysis is often conducted with a small sample size, in regions less severely affected, or within short timeframes for events that have long-term effects. As a result, such research risks under-representing the poorest and worst-affected populations, failing to consider how local conditions have impacts beyond the local level, or failing to assess how natural hazards may impact on longer-term disaster resilience.

Finally, a number of methodological criticisms have been raised against the quantitative research produced on the disaster–conflict nexus. These include: the need to identify more nuanced indicators of conflict than civil war, which is rare and whose standard of measure is blunt and subject to significant criticism; the subjective or arbitrary omission or weighting of variables, whose inclusion or different weighting often changes studies' conclusions and throws into question researchers' claims of causal links; and the failure of modelling techniques to describe the specific mechanisms driving proposed causal relationships between conflict and disaster.

Gaps in the available literature

In addition to these limitations, there remain significant relationships, concepts and questions related to the conflict-disaster nexus that have not received adequate attention. Within both qualitative and quantitative research on the conflict-disaster nexus, very little evidence exists that explicitly examines 'disaster resilience' and its relationship to conflict prevention and transformation. Indeed, the focus on 'resilience', though linked to concepts such as vulnerability, adaptive capacity and 'coping strategies', is still emerging. Where the term is used in the literature,[34] it is framed primarily as disaster management, resulting in a rather narrow focus on the technical aspects of reducing, transferring or managing risk.

In part, the failure to examine questions of resilience and conflict is linked to the tendency in the literature to focus on risk factors as opposed to 'protective' factors. Researchers tend to gravitate toward studying problem areas, while humanitarian organisations are not present in areas where hazards do not become disasters.

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34. Of the few examples that exist many were published prior to DFID's approach paper (DFID, 2011b).

So evidence of the factors or characteristics that enable disaster resilience is much scarcer than that of fragility or vulnerability. More theory and evidence is needed to help identify conditions under which conflict or peace are likely to emerge in areas where natural hazards are prominent.

Much of the literature takes a dysfunctional view of conflict as its point of departure and examines resilience as a characteristic of a community or society as a whole, rather than a more politicised experience in which some groups are more resilient than others (Harris, 2011). Thus, few research projects have explored the possibility that some resilience strategies may have identifiable victims (Duffield, 2001) or that the result of boosting resilience may restore or even reinforce exploitative systems (Leach, 2008). Only recently have researchers begun to employ political economy analysis to understand the various incentives, power relations and politics that determine how (and whose) experiences of disaster and conflict influence levels of risk and vulnerability.

Finally, there remains a significant evidence gap in understanding the tensions and trade-offs arising from the different timeframes associated with humanitarian responses, the long-term investment required for disaster resilience, cycles of peace and conflict, and donor funding and political cycles. Exploring the way these timeframes intersect could yield a better understanding of the costs and opportunities of building disaster resilience.

In sum, important progress has been made in developing an emerging empirical evidence base for the conflict-disaster nexus. But far more attention needs to be given to the impact of conflict, fragility and natural hazards on disaster resilience in order to elaborate the conceptual framework around disaster resilience. The introduction of political economy analysis, which combines quantitative and qualitative studies and is grounded in comprehensive contextual analysis, would be an encouraging development. Moving forward, this analysis will need to be bolstered by far more robust methods of triangulation, and work on the inter-linkages between disasters and conflict in order to identify the social, political and economic drivers of vulnerability. Moreover, efforts are needed to increase the long-term evidence base from which meaningful comparisons can be drawn across the literature – thereby forming a more rigorous empirical basis from which to inform policy.

Annex 2: Background: grievances, opportunities and feasibility of conflict

While the grievances-opportunities-feasibility framework has been developed primarily to relate to internal war, it would also seem to be helpful in analysing motivations for international conflicts (where the importance of government actors is self-evident) (DFID, 2010).

Grievances are widely seen as contributing to conflict. Relevant grievances are likely to include 'horizontal inequalities' between groups in a society (Stewart, 2008), which may be economic inequalities or inequalities in access to political power. Grievances may be fuelled by government actions and inactions – exploitation, neglect, corruption and so on. Grievances may exist among state and non-state actors.

Opportunities include both economic and political opportunities. Many people make money from conflict. Political opportunities may include gaining electoral advantage from a war or using war as an opportunity to suppress or delegitimise dissent. Economic opportunities may include looting, protection rackets, illegal mining, and trading drugs. Armed conflict may also present opportunities for more 'psychological' benefits – for example, in restoring a sense of power or achieving a measure of 'respect' through violence. A given set of opportunities from conflict may look more attractive where the alternatives are meagre: for example, where there are large numbers of unemployed young men. Thus, high unemployment may feed into armed conflict not just by stoking grievances but also by making the opportunities arising from conflict more attractive.

Feasibility centres on the ability of various groups to conduct violence. For example, where central government and its security forces are relatively weak, the feasibility of rebellion is likely to be greater (DFID, 2010: 14). Feasibility is also relevant when it comes to government violence. For example, where rebels are relatively weak, violence against these rebels may be more feasible. Where governments enjoy a degree of international support (for example, because they are confronting a reviled rebel or terrorist group), then the feasibility of violence by government actors is likely to be increased.

All of these causes of violence (grievances, opportunities, feasibility) may be subject to change, impacting on the likelihood of peace. Natural disasters may have a significant impact on each of these possible causes of violence, and this in turn may encourage armed conflict or peace.

Annex 3: Climate change and conditions of conflict

There is an emerging body of literature on the impact of climate change on dynamics of peace and security (see *Journal of Peace Research* 2012, Special Issue), and with this a number of competing perspectives on the topic (see Lind, Ibrahim and Harris, 2010).

The role of state functions in mitigating the risk of violent conflict suggests that where state functions fail, the risk of violent conflict may be higher (Goodhand, 2003; Keen, 2000; Barnet and Adger, 2007). Yet climate change may exacerbate the conditions under which states fail to provide basic services, meet the expectations of society and enact its basic functions (Smith and Vivekananda, 2007: 20). Thus the direct and indirect impacts of climate change – including climate extremes – have been attributed to an increased risk of violent conflict in some circumstances (Barnett and Adger, 2007). Smith and Vivekananda (2007: 3) identify 46 countries at higher risk of violent conflict because of the compounding impact of climate change, and 56 countries where the failure of the state to manage climate change impacts creates a high risk of political instability. Poverty, poor governance and a historical context mired by violent conflict means the impacts of climate change will put additional pressure on fragile social and political systems, creating a cycle of violent conflict, failed adaptation and instability (Smith and Vivekananda, 2007: 9).

Like disasters related to natural hazards and conflict, the impacts of climate change cannot be understood in isolation of broader socio-economic-political and governance context.

Climatic and environmental changes will impact on individuals and societies in a variety of ways, largely determined by the extent to which state and society have the capacity to manage these changes, reduce vulnerability and exposure, build adaptive capacity and increase resilience. In Timor-Leste, for example, the overdependence on agriculture and subsistence livelihoods with no state system of income support means that climate-sensitive livelihoods act as an exogenous trigger for underlying social problems (Barnett and Adger, 2007: 641).

If the impacts of climate extremes are framed as a security issues, the responses may be more likely to involve military and security apparatus, focused on protection and defence (Harris, 2012; Barnett, 2003). A shift in understanding the impact of climate change as a security concern, rather than an environmental or developmental concern, has led to increased attention (and proposed solutions) from the defence arena, which includes an increased role for the military in humanitarian response – a contentious proposition for many contexts affected by disasters and conflict and/or fragility.

In many countries, 'the government is going to be either unwilling or unable – or both – to take on the task of adaptation and peacebuilding. In many of the countries most at risk, the government – and more than that, the system of governance – is part of the problem' (Smith and Vivekananda, 2007: 23). Thus in order to support adaptation in contexts of violent conflict and fragility, more attention needs to be paid to what fragile states 'can do' rather than what they 'must do'. This is

a critique often directed at the Intergovernmental Panel on Climate Change and the focus on state-led initiatives (Barnett and Adger 2007: 18). Adaptation is inherently political, but like DRR, is often framed as an apolitical challenge requiring a technical 'fix'. Lind, Ibrahim and Harris (2010: 3) find that adaptation is often conceived as a means to promote peace, yet 'it is an error to consider adaptation as a panacea that will prevent conflict relating to climate variations and stress, since adaptation is a political process involving its own struggles and negotiations between various actors and groups'.

Only recently have efforts been directed at considering the role of intermediary factors in understanding the relationship between conditions of peace and conflict, and changing climatic and environmental conditions. Intermediary factors include disaster risk reduction, natural resource management and effective and equitable governance mechanisms (see Harris, 2012).