The Sendai Framework for Disaster Risk Reduction as a vehicle for conflict prevention: attainable or tenuous?

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1. Introduction

Prevention – of both natural hazard-related disasters ('disasters') and conflict – has long been prioritized within the international system. As early as the 1970s, the UN General Assembly began to recognize the central role of prevention, planning, and mitigation in disaster management (see UNGA Resolution 2717, 1970). This shift gained even more traction in the 1990s, which were designated as the International Decade for Natural Disaster Reduction, and the conclusion of this decade saw then-Secretary-General Kofi Annan affirming that "disaster prevention is a moral imperative, no less important than reducing the risks of war" (Annan, 1999).

Likewise, the concept of conflict prevention has long been central in peace studies (Ackermann, 2003; Ramsbotham et al., 2005; Woocher, 2009). Burgeoning after the Cold War (Ackermann, 2003), conflict prevention gained mainstream visibility in UN Secretary-General Boutros Boutros-Ghali's 1992 *Agenda for Peace* (Boutros-Ghali, 1992), and continued to grow in prominence in 2015 with the UN's return to the basic principle of 'prevention' under Secretary-General Antonio Guterres (2017a, b). In an address to the UN Security Council in 2017, Guterres confirmed the vital role of conflict prevention by declaring, "Prevention is not merely a priority, but the priority" (Guterres, 2017a).

Even in the context of the United Nations 2030 Agenda for Sustainable Development and its broad-based prevention agenda, the prevention of disasters and conflict have been largely treated separately, with different frameworks, institutions and Sustainable Development Goals (SDGs). Despite this separation, as Guterres has repeatedly stated, "The interconnected nature of today's crises requires us to connect our own efforts for peace and security, sustainable development and human rights, not just in words, but in practice" (Guterres, 2017a). UNISDR suggests that "disaster risk reduction promotes civility, civic mindedness and resilience, and therein lies a key element of its potential to boost understanding and contribute to sustainable peace" (Glasser, 2016). These statements signal clear interest in pursuing cross-sectoral approaches to prevention, but to what extent could the Sendai Framework for Disaster Risk Reduction (2015–2030)[1] ('Sendai Framework') (UNISDR, 2015) be a vehicle for conflict prevention?

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[1] The Sendai Framework for Disaster Risk Reduction 2015-2030 (UNISDR, 2015) adopted by UN Member States in 2015, is a non-legally binding agreement designed to reduce existing levels of risk and prevent new emerging risks that are both man-made (industrial and technological disasters) and natural hazards

There is empirical evidence that indicates how often disasters and violent conflicts occur in the same location and as a result of similar vulnerabilities (Wisner, 2009; Harris et al., 2013). Further, academic research has shown that disasters have greater impacts in contexts affected by conflict, where higher vulnerability, reduced coping capacity and insufficient DRR and disaster management practices are all likely conditions (Siddiqi, 2018). As the most recent *States of Fragility* report (OECD, 2018: 61) contends, "disasters are threat multipliers for fragility," and fragility and disaster are "mutually reinforcing". In other fields, a growing body of literature on climate change and its potential security implications is establishing links between disasters (including climate change-induced disasters), armed conflict, and fragility (Adams et al., 2018; Buhaug, 2010; Barnett and Adger, 2007; Gleditsch, 2012; Hsiang, 2013; Nel and Righarts, 2008; Slettebak, 2012; IPCC, 2014; Schleussner et al., 2016).

Despite research exploring and establishing the links between disaster, violent conflict, and fragility, the potential role of DRR and related activities on conflict and peace dynamics is less clear cut. Furthermore, a relationship between disaster and conflict - particularly from a vulnerability perspective - does not necessarily indicate that DRR will lead to a decreased risk or incidence of conflict or an increased likelihood of peace. Since the 2000s, 'disaster diplomacy' research has empirically investigated cases when disaster-related activities do – and do not – reduce conflict or create opportunities for peace, and this body of literature is clear that it is yet to find evidence that disaster diplomacy plays a prominent or sustainable role in conflict resolution (Kelman, 2012). However, a nascent body of evidence within disaster studies considers the potential role of DRR in conflict prevention explicitly from a DRR perspective (see Harris et al., 2013; Stein and Walch, 2017).

This paper contributes to that growing debate about the potential alignment, synergies, and shared ambitions between DRR and conflict prevention, but also points to counterarguments that DRR does not or could not influence conflict dynamics. Specifically, we consider DRR – and the delivery of the Sendai Framework (UNISDR, 2015) – in terms of 1) potential opportunities to influence conflict dynamics through the prevention or mitigation of disasters, 2) challenges in considering the prevention of disasters and conflict together, and 3) lack of concrete evidence that DRR can or could seek to contribute to conflict prevention. It is important to clarify that this is not an empirically driven paper. The aim is to draw parallels between the well-researched drivers of conflict and the priorities of the Sendai Framework, balanced against other claims that DRR-related activities have a limited impact on conflict dynamics.

While this study is exploratory in nature and based on limited empirical evidence, emerging research findings coupled with anecdotal evidence from DRR practitioners implementing programmes in violent conflict

contexts suggest that a nuanced understanding of the intersections between DRR and conflict prevention is needed.[2,3] Indeed, the OECD *States of Fragility 2018* report suggests that "disaster risk reduction and disaster management initiatives offer opportunities, if done properly, to address climate-related fragility risks and build peace" (Vivekananda, 2018: 62). Greater consideration of the relationship between DRR and conflict prevention also provides means for the DRR community of practice to engage with dominant development and humanitarian trends: the UN Secretary-General's sustaining peace and prevention agenda (Guterres, 2018a,b); the concentration of political, technical and financial investment in so-called 'fragile states' (OECD, 2016, 2018; World Bank, 2018); and the move towards understanding and acting on complex risk, as articulated by the Global Assessment Report 2019 (forthcoming; Opitz-Stapleton et al., 2019). The motivation for and broad interest in this alignment between disaster and conflict prevention has been clearly established, but more research is needed to identify if and how DRR can serve as a vehicle for conflict prevention as it remains focused on preventing disasters.

The paper is structured as follows. First, we establish the key terms used to underpin our collective understanding of disasters, disaster risk reduction, conflict and conflict prevention. Next, we consider the extent to which DRR and conflict prevention align in theory – through socio-economic, governance and political and institutional factors. Then we explore the extent to which they align in practice through early warning systems and food security. The paper concludes by evaluating whether the linking of DRR and conflict prevention is an attainable or tenuous endeavour, and the relevance of the findings for advancing implementation of the Sendai Framework Target E by 2020. The authors conclude by noting the limitations of the paper and outline areas for future research to build on the nascent body of empirical evidence on the cross-cutting potential of the Sendai Framework. Doing so holds potential to elevate the Sendai Framework to a central position within the international prevention agenda, which reaffirms the importance and relevance of attaining Target E as a first step towards that ambition.

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[2] Katie Peters personal communications at the BRACED Annual Learning Event 2018 and Asian Ministerial Conference on Disaster Risk Reduction in Ulaanbaatar, in Mongolia. And based on Laura Peters 30+ in-depth interviews conducted between January-March 2019 with DRR practitioners working in various conflict-affected contexts throughout the Africa, Arab, and South Asian regions.

3 Relatedly, independent analysis of the likelihood of attaining Target E points to the need for an explicit focus on doing so in contexts affected by violence, conflict and fragility (Peters, 2018)

1.1. Defining disasters, disaster risk, conflict and conflict prevention

This section describes the definitions of disasters and DRR which guide the implementation of the Sendai Framework and which this paper also adopts, before moving on to explore common definitions of conflict and conflict prevention.

The paper takes as its starting point the key terms defined by the Open-Ended Working Group on Terminology and Indicators convened by UNISDR (2017) to support the delivery and monitoring of the Sendai Framework (UNISDR, 2015). Specifically, we draw on the definition of disasters as: "*A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts*" (UNISDR, 2017). DRR is defined as "*preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development*" (UNISDR, 2017).

Disasters are the product of a hazard interacting with exposure, vulnerability and capacity (or lack thereof) (Wisner et al., 2004). As Peters (2018: 9) has argued, "The constituent components of disaster risk are therefore governed by the socio-economic and political conditions in which people live. Conditions of violence, conflict and fragility are part and parcel of the discussion on how, where and when disasters happen – and need to be part of the conversation about how disaster risk can be reduced" (see Figure 1).

Figure 1   The role of violence, conflict and fragility in the construction of disaster risk

Source: Peters, 2018: 9.

Adopting this interpretation of the construction of disaster risk together with the UNISDR definition of DRR points to the need to understand conflict in order to understand disaster risk: disasters manifest differently in conflict contexts, which implies that at the very least this should change how we seek to reduce vulnerabilities to natural hazards in conflict contexts (Peters, 2018).

Terms pertinent to this discussion, including conflict and conflict prevention, are not included in the UNISDR terminology guide. Conflict-related terms were rejected for consideration by the Open-Ended Working Group on Terminology and Indicators, as they do not feature in the final Sendai Framework and were considered outside the mandate of UNISDR. Anecdotal evidence suggests that potential inclusion of the terms was regarded as too political.[4]

1.2 An intentionally broad interpretation of conflict prevention

This paper does not attempt to offer authoritative definitions of key terms related to conflict and conflict prevention, but rather to establish a general understanding of the terms employed throughout the paper. Conflict is "natural, inevitable and often a positive part of development and other change processes" (OECD, 2018: 141). However common depictions of conflict-affected contexts include reference to human rights abuses, lack of rule of law, violence and armed confrontation, political instability or repression, and insecurity (OECD, 2016, 2018). This paper uses the term 'conflict' and 'conflict-affected contexts' to reflect a broad understanding of conflict that encompasses both formal definitions of armed conflict and broader definitions of violent conflict (in line with the OECD, 2018).[5] Conflict prevention (discussed further below) seeks to support societal capacity to deal with conflicting interests without resorting to violence. While this paper emphasizes contexts impacted by direct

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[4] Correspondence with Lucy Pearson, GNDR who attended the UNISDR Open-Ended Working Group on Terminology and Indicators. The absence of definitions for the terms violence, conflict, fragility, security and peace has not gone unnoticed (see Peters, 2017; Peters, 2018; Walch, 2015).

[5] While there have been many attempts to conceptualise armed conflict, there is no consensus on a particular typology of different types of armed conflict (Vité, 2009), or a clear operational definition of armed conflict itself. Legally, the term "armed conflict" is restricted to particular situations of organized violence in which at least one actor is a state government.[5] While this is a rudimentary articulation of armed conflict, it is the only legal one we have. The Uppsala Conflict Data Program and the Peace Research Institute Oslo (UCDP/PRIO) employs the much-cited definition of armed conflict as "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in one calendar year" (Department of Peace and Conflict Research at Uppsala University, n.d.). It should be noted that both the methodology for quantifying battle-related deaths and the selection of a threshold to determine levels of conflict has been the source of much academic debate (Sambanis, 2004)

physical violence where "human beings are hurt somatically, to the point of killing," (Galtung, 1969: 169) this paper also considers structural violence, or violence that is built into social, political, and economic structures and manifests in inequality and "above all in the distribution of power" (ibid., 175).

To further refine this understanding, this paper generally focuses on contexts affected by violent conflict related to communal political action, defined by Gurr (1993: 168) as "actions initiated by members of a group on behalf of its interests and directed against, or designed to influence, state authorities" or other non-state groups (i.e., not including state authorities). Borrowing from Gurr's scale of communal political action (ibid), this encompasses phenomena such as violent protests, mass riots, terrorism or coups, guerrilla activity, and civil or international war, in order of increasing scope and intensity.

Given the extensive nuances underlying various conceptualizations and definitions of conflict, it is hardly surprising that there is no consensus on the definition of the term 'conflict prevention'. Most academic and institutional positions agree that conflict prevention involves "strategies for preventing disputes from escalating into conflict, and for preventing the recurrence of conflict" (United Nations, n.d.). Conflict prevention refers to two types of strategies: 1) direct conflict prevention, meaning interventions that aim to de-escalate tensions when violent conflict appears imminent, and includes instruments such as mediation and diplomacy; and 2) structural conflict prevention, which refers to longer-term efforts to address the root causes of conflict, such as development and governance (Carment and Schnabel, 2003; Lund, 2002). Conflict prevention – both direct and structural – sees the value in preventing and mitigating situations of armed conflict rather than solely addressing active or post-conflict situations (UN and World Bank, 2018). On reflection of the broad conceptualisation of conflict prevention, UN Secretary-General Guterres has recently described it as "everything that we can do to help countries to avert the outbreak of crises that take a high toll on humanity, undermining institutions and capacities to achieve peace and development" (Guterres, 2017a).

Here conflict prevention is understood as "'Actions undertaken to reduce tensions and to prevent the outbreak or recurrence of violent conflict and which include both short-term actions and longer-term engagement" (OECD, 2018: 141). The authors find this definition useful for considering the relationship between DRR and conflict prevention as it allows for conflict prevention to encompass a wide array of strategies and instruments which gives more scope for alignment with DRR.

2. Linking Disaster Risk Reduction and conflict prevention: socio-economic, governance and politico-institutional factors

Disaster risks do not exist in a vacuum but result from a series of interconnected vulnerabilities (Wisner et al. 2004). The Sendai Framework identifies the multiple and interconnected factors that make people and communities vulnerable to natural hazards, and the ultimate goal of the Sendai Framework is to tackle these "underlying disaster risk drivers" (UNISDR, 2015: 10). Although references to armed conflict were removed from the final text in the Sendai Framework negotiations (Walch, 2015), the Sendai Framework does identify many of the drivers of risk that can give rise to disaster and conflict. One of the most obvious examples of these common drivers of risk is the management of stressed or changing natural resources. Thus, where DRR specifically addresses these common factors underlying both disaster and conflict, there is evidence of at least a theoretical possibility that DRR could also contribute to conflict prevention within a specific context.

We explore this line of enquiry with examples from natural resource management, before moving on to consider socio-economic factors with examples of social inclusion and ex-combatants, livelihoods, armed conflict recruitment and horizontal inequalities. We then consider governance and politico-institutional factors through, institutional strengthening, the social contract and political inclusion. Each section is exploratory, starting with extracts from the Sendai Framework, then conflict prevention field, followed by examples of practice and/or a discussion of the links.

2.1 Environmental and natural resource management

The Sendai Framework identifies 'environmental and natural resource management' as an important component of DRR at national and local levels. For example, paragraph 30n affirms that it is important for DRR "To strengthen the sustainable use and management of ecosystems and implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction and climate change as a driver

of disaster risk" (UNISDR, 2015: 20). Relatedly, paragraph 13 of the Sendai Framework refers to addressing climate change as one of the drivers of risk.[6]

There is an established literature that suggests links between natural resources and their management and conflict (Bannon and Collier, 2003; Le Billon, 2001; Lujala, 2010), and a growing literature on climate change-induced natural resource scarcity and conflict (Barnett and Adger, 2007; Gleditsch, 2012; Hsiang et al., 2013; Kelley et al., 2015; Salehyan, 2014; Scheffran et al., 2014; Selby and Hoffmann, 2014; Tir and Stinnet, 2012). The former United Nations Environment Programme (UNEP) identified the environment and natural resources as a contributing factor to violent conflict, though rarely or never the only factor at play (Matthew et al., 2009). However, demonstrating a direct causal link between natural resource scarcity and conflict in specific circumstances is extremely difficult. There is research that refutes the premise of this relationship, particularly in the context of water resources and drought (see Wolf, 1998 and Sletteback, 2012, respectively).

Despite differing signals based on varied resources and contexts being studied, a wealth of evidence underscores the potential role of natural resources in conflict prevention and peacebuilding. Indeed, the UNEP environmental peacebuilding group argues that the environment can be an effective platform for building confidence and enhancing dialogue between divided groups and between states (Matthew et al., 2009). The protection of the environment, like the prevention of disasters, is in everyone's long-term interest in a country and could therefore be used as a catalyst to build peace.

Effective environmental and natural resource management at multiple interacting levels of governance is a core component of reducing or mitigating the risk of disaster, and it is an area of practice wherein the DRR community has much expertise and experience to contribute. However, while natural resources may play a role in conflict in some contexts, understanding the extent to which efforts to address natural resources and disasters will in themselves influence patterns of peace and conflict has yet to be nuanced sufficiently. In other words, while disasters and conflict may be linked, it is not certain that DRR and conflict prevention share similar linkages.

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[6] Paragraph 13 of the Sendai Framework also states that "Addressing climate change as one of the drivers of disaster risk, while respecting the mandate of the United Nations Framework Convention on Climate Change, represents an opportunity to reduce disaster risk in a meaningful and coherent manner throughout the interrelated intergovernmental processes" (UNISDR, 2015: 11)

A deeper enquiry into the relationship between natural resources and conflict reveals human factors at play. For example, Lind (2003) suggests that resources and their use are "socially embedded and politically contingent" and that focusing solely on resource scarcity overlooks essential social and political factors. It is likely that these intermediary factors – socio-economic and political, institutional and governance arrangements – play a much larger role in determining whether or to what extent changes in natural resources, climate, and patterns of climate extremes and disasters will affect conditions of peace and conflict (Ruttinger et al., 2015). This points to the potential influence the Sendai Framework can have on socio-economic and politico factors which may or may not support conflict prevention efforts.

2.2 Disasters, early warning systems and food insecurity

The Sendai Framework places strong emphasis on early warning systems. As one of seven global goals, the Sendai Framework aims to "Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030" (UNISDR, 2015: 12). Under the umbrella of actions to support preparedness for response and Build Back Better principles, early warning systems are articulated with the ambition of enabling "people-centred multi-hazard, multisectoral forecasting" (UNISDR, 2015: 21).

Early warning systems provide an interesting empirical example of the potential for mutual learning between DRR and conflict prevention. Various early warning systems in the prevention of the most extreme forms of conflict related violence up to and including genocide have been developed based on the experience of disaster early warning systems (The Sentinel Project, 2013). In some cases, early warning systems have served dual purposes for both disasters and conflict. Arnado (2012) found that communities with early warning and preparedness systems for disasters have been better able to prevent violence in some regions of the Philippines. In some Lumad indigenous communities in eastern Philippines, emergency sirens are used to warn communities about encounters between the Philippine Army and the rebel group New People's Army (NPA), as well as for upcoming storms (Walch, 2016).

Researchers have considered how disaster and conflict early warning systems might be designed and used more coherently to address crises that are driven by a variety of complex and interdependent factors, such as disasters, food insecurity, fragility and armed conflict, with examples from the Horn of Africa (Meier, 2011). The idea is not new; in 1992, UN Secretary General Boutros-Ghali called for the plethora of early warning systems in existence

– disasters, environmental threats, population movements, disease – to be brought together with political indicators to identify and pre-emptively address threats to peace (Boutros-Ghali, 1992). However, this opportunity should be tempered with the acknowledgement that knowledge does not always translate into action in disaster risk management; one example of this can be seen in the failure to heed early warning systems and take adequate preventative action in Somalia in the 2010 and 2011 drought, leading to widespread famine (Lautze et al., 2012).

The development and operationalisation of early warning systems for disaster and conflict must also address the complex social, political, economic, and environmental factors that underlie the effectiveness of these systems. Early warning systems that are not matched with the institutional or governance capacity to respond in a timely and appropriate way could lead to even more grievances and exacerbate conflict, due to a larger gap between what affected populations expect and what governments are capable and willing to provide (Schneider, 1992). Such ideas also presuppose that early warning systems could provide parallel functions, noting that natural hazards, weather and climate variations can be detected with scientific instruments while spatiotemporally precise predictions of conflict are known to be more challenging.

Another example of how implementation of the Sendai Framework may be able to contribute to conflict prevention is through strengthening food security. The Sendai Framework includes provisions to enable households to become more resilient to external shocks and therefore less likely to suffer from the effects of disasters, including food insecurity. Under Priority 3, the Sendai Framework calls for "strengthen[ing] the protection of livelihoods and productive assets, including livestock, working animals, tools and seeds" (UNISDR, 2015: 19). The field of conflict prevention has also taken an interest in DRR in relation to its potential for improving people's food security, particularly through the umbrella concept of building resilience (Kurtz and McMahon, 2015).

There is growing evidence that, in specific circumstances, food insecurity can lead to unrest, and food insecurity can increase the incentive to participate in conflict (Wischnath and Buhaug, 2014; Fjelde and von Uexkull, 2012). Communities in Egypt, Sudan, Somalia and Yemen that are better able to cope with drought are often less food insecure, and their members are in turn less likely to join armed groups as an alternative livelihood option (Breisinger et al., 2014). Needless to say, deeper analysis into the specific drivers of food insecurity are required to understand the conditions in which food insecurity is being experienced to understand why it exists and how it feeds into conflict processes. Indeed, in some contexts food insecurity may be more of a consequence and less of a driver of conflict.

3. Socio-economic factors

The Sendai Framework describes that it is "urgent and critical to anticipate, plan for and reduce disaster risk in order to more effectively protect … socioeconomic assets" (UNISDR, 2015: 10). To do so, the Sendai Framework highlights the need to implement wide-ranging measures to reduce disaster risks, while also acknowledging the negative impacts that disasters can have on socio-economic conditions. The guiding principles of the Sendai Framework also emphasize that DRR "requires empowerment and inclusive, accessible and non-discriminatory participation" (Sendai Framework, 2015: 13). Relatedly, there is an emphasis on integrated and inclusive policies and social safety-net mechanisms, livelihood enhancement programmes, access to healthcare services, access to housing and poverty reduction as core principles of DRR.

Political science and related fields have produced a substantial amount of research demonstrating how socio-economic factors can trigger and fuel armed conflict (Gurr, 1970; Stewart, 2000, 2009; Horowitz 1985, Ostby, 2008). Inequalities in access to basic services such as education, healthcare and employment are often linked to the discrimination or marginalization of certain groups. These horizontal inequalities are a root cause of grievances between groups in a society, and in certain circumstances can lead to conflict (Stewart, 2001, 2009; Horowitz, 1985; Ostby, 2008; Collier et al., 2008). For example, in the Moro rebellion in the Philippines, Magdelena (1977) demonstrated a connection between relative deprivation of the Muslim population and conflict intensity. Similarly, Lopez (2016) finds in Colombia an absence or differential presence of the state in regions where the conflict was most intense, which helped fuel the insurgency for over five decades.

Like disasters, conflicts are the product of the conditions in which they arise. The socio-economic structural factors underlying most conflicts can often be addressed before they escalate to armed conflict (Carayannis and Stein, 2018). Stein and Walch (2017) thus argue that implementing the socioeconomic components of the Sendai Framework has the potential to tackle certain vulnerabilities that put people and communities at heightened risk of both disaster and conflict, and in this way, the authors argue, may indirectly support conflict prevention and efforts towards sustainable peace.

3.1 Disaster Risk Reduction, social inclusion and ex-combatants

When considering DRR more broadly, Twigg (2015) shows how DRR programmes that provide livelihood support to at-risk communities can help create the conditions for reinvigorated economic activity and opportunities for employment and income; when viewed through a conflict prevention lens, efforts such as these

have the potential to reduce the economic and social stressors that could aggravate perceptions of inequality and harden grievances between groups. Similarly, it is not inconceivable that DRR efforts that are inclusive and bring together different groups to work towards common goals may serve to build trust and relationships and help reduce perceived and/or actual inequalities.

For example, in Liberia, Walch (2010) examined how ex-combatants were provided with opportunities to get involved in DRR programs, with the explicit intention of enabling social reintegration. The reintegration of ex-combatants through various community-based projects has been found to be crucial for peacebuilding in many countries in Central America, where former combatants have been engaged in home building and training in the mediation of local conflicts (Bendana, 1997: 250; Spencer, 1997: 65). According to some scholars, it is necessary to ensure that ex-combatants do not become politically marginalised after demobilisation, and actively involving them in the planning, implementation, and monitoring of programmes has been shown to help their long-term reintegration in societies (Bendana, 1997; Spencer, 1997; Nilsson, 2005; Utas, 2003). Being involved in DRR initiatives may provide ex-combatants with a new respected role in society, as many ex-combatants feel they lose status once demobilized and often look for new roles in society that grant them an equivalent level of prestige and appreciation (Nilsson, 2005). By contrast, a failure to socially and economically reintegrate ex-combatants into civilian life can lead to increased involvement in criminal activities and violence, threatening the development of sustainable peace in a fragile post-conflict context (Dzinesa, 2007; Kingma, 1997; Michael, 2006; UNDPKO, 1999). Meaningful inclusion in DRR may provide marginalised groups such as ex-combatants with the opportunity to participate in decision-making and planning processes in their communities and serve as a segue into broader societal inclusion and dialogue.

3.2 Disasters, livelihood opportunities and armed conflict recruitment

The Sendai Framework articulates the impact of disasters on economic losses, with devastating impacts disproportionately in developing countries (UNISDR, 2015: 10). Reducing economic impacts is an explicit focus as one of the seven global goals: "Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030" (UNISDR, 2010: 12). The Sendai Framework describes a range of measures to strengthen fiscal policy, enhance public-private investment, strengthen financial institutions and support economic recovery.

Existing research indicates that the loss of income from disasters may affect conflict dynamics through three complementary processes: lowered opportunity costs of rebelling, increased opportunities for recruitment, and

heightened grievances (Wischnath and Buhaug, 2014; Brancati, 2007; Nel and Righarts, 2008; Maystadt et al., 2013; Kahl, 2006; Nillesen and Verwimp, 2010; Eastin, 2016, Fjelde and von Uexkull 2012). In contexts where individuals have few economic alternatives to agriculture-based livelihoods that are impacted by disaster, it has been argued that individuals are more likely to value the expected short-term benefits and pay-offs of joining a rebel group, and they are therefore more easily recruited into rebel groups (Eastin, 2016; Wischnath and Buhaug, 2014; Collier and Hoeffler, 2001). Motivation to join or launch a rebellion could be increased through grievances generated by absent, manipulative or unfair aid assistance by the state following disaster (Macrae and Zwi, 1992; Raleigh, 2010). As more civilians join rebel groups, armed conflict could be prolonged or escalate in intensity (Eastin, 2016; Wischnath and Buhaug, 2014; von Uexkull, 2016).

Practical examples of this have been recorded in various case studies. In India, for example, Wischnath and Buhaug (2014) found that loss of harvest is significantly associated with an increase in severity of fighting during subsequent years. Similar findings are cited in the Philippines (Eastin, 2018), Somalia (Maystadt et al., 2013) and sub-Saharan Africa (Fjelde and von Uexkull, 2012). In these cases, it is argued that individuals who experience economic shocks and food insecurity will be more likely to join armed groups because of increased grievances, alternative livelihood opportunities or a combination of both (Grossman, 1991; Wischnath and Buhaug, 2014; Eastin, 2018).

By addressing important socio-economic factors well-known to increase the risk of conflict, the Sendai Framework has the potential to serve conflict prevention objectives. However, this is contingent on how the Sendai Framework is applied in a given country. For example, DRR plans might only be conducted in regions that are supportive of the government, therefore doing nothing to mitigate the connections between disaster and conflict and potentially even increasing inequality and grievances in other parts of the country. DDR-related activities may replicate the current state of inequality and exclusion that have led to conflict in the first place (Hyndman, 2011), and the Sendai Framework is not likely to upturn the status quo of conflict unless the implementing agency or government actively seeks to do so. Further, while DRR-related activities may operate in the same context as conflict, the inequalities addressed by DRR may be different to those fuelling a conflict. For these reasons, there is much more work to be done to weigh up the relative contributions of DRR to socio-economic conflict drivers in specific contexts.

4 Governance and politico-institutional factors

Under the Sendai Framework, the state holds primary responsibility for delivering actions that will collectively achieve the Sendai Framework's outcomes. Under Priority 2 the importance of institutional capacity and effective disaster risk governance is emphasised, as foundational to achieving effective and sustainable DRR (UNISDR, 2015: 17). The Sendai Framework also highlights the importance of implementing "national and local disaster risk reduction strategies and plans, across different timescales, with targets, indicators and time frames, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience" (Sendai Framework, 2015: 17).

Through a state-centric approach (Peters, 2017), the Sendai Framework's emphasizes the importance of effective, well-regulated and transparent institutional arrangements and governance arrangements that are able to prevent, respond to and recover from disasters (Stein and Walch, 2017). It calls for cohesive and coordinated efforts across national and local frameworks of laws, regulations and policies to address DRR, recognizing that at the heart of effective DRR efforts lies an institutional and governance system that can coherently design, execute and manage these policies. The Sendai Framework also recognizes that for DRR to be effective and sustainable, institutions need system-wide approaches that can tackle disaster risks spanning multiple sectors, including health and economic sectors.

Conflict prevention efforts in recent decades have focused on state- and institution-building, with a particular focus on governance and rule of law issues (Carayannis and Stein, 2018), positing that strong and inclusive institutions are one of the main pillars for sustaining peace. The importance of good governance and institutions in sustaining peace is reaffirmed in Sustainable Development Goal 16, which throughout its targets identifies effective, accountable and transparent institutions, and responsive, inclusive, participatory and representative decision-making as pivotal. State–society relations, and whether state authority at the national and local levels is perceived as legitimate, is also a vital aspect of conflict prevention (OECD, 2018). Stein and Segura (2018) argue that mechanisms that promote institutional coordination can serve to create policies and programmes that enable conflict prevention, though what that looks like in practice is context-specific. For example, in 2017 Malawi established a National Peace Policy, which included extensive consultations with the three branches of government as well as non-state stakeholders, including faith groups, women's groups, and youth representatives. UNDP Resident Representative Claire Medina (2017) described Malawi's National Peace Policy as "A choice to invest

in Peace rather than respond – too late – to violent conflict". Fostering inclusive governance at multiple levels involving a diversity of stakeholder groups can help foster strong and stable institutions.

Conversely, unequal distribution of political power, including uneven political opportunities among different groups, can increase the risk of violent conflict, "making political inclusion a particularly significant goal for violence prevention" (UN and World Bank, 2018: 112). The Sendai Framework promotes the creation and maintenance of governance structures that are inclusive and require a close working relationship between the national government, local authorities, civil society groups and communities at large. Consultative processes that engage political actors at different levels can help to bridge differences between groups, while promoting positive interactions between state institutions and communities (Stein and Walch, 2018). Such efforts can help improve citizens' perceptions of and trust in the state, particularly at the local level, where historically marginalized communities have the opportunity to be heard and directly involved in the provision of services and related processes (UN and World Bank, 2018).

There is evidence suggesting that the provision of basic services improves state legitimacy, particularly if the quality of the services being provided is high (Brinkerhoff et al., 2012; Stel and Ndayiragiie, 2014; Sturge et al., 2017). The way in which basic services are delivered and the inclusiveness and perceptions of fairness in service delivery matter as much as – or perhaps even more than – the quality (Sturge et al. 2017). As a result, success stories of disaster risk management may play an important role in building the state's legitimacy and reducing grievances. For example, Walch (2018) found that, in the state of Odisha in Eastern India, successful disaster response following Cyclone Phailin in 2013 increased trust in local government (Walch, 2018).

The Sendai Framework has the potential to improve the effectiveness and efficiency of state institutions responsible for reducing disaster risk and disaster response. Doing so is intended to reduce or limit the negative impact of disasters on the population, and through these DRR activities, it is possible that states could become more resilient to social, political, or economic shocks or other destabilising events.

It has been argued that while disasters themselves do not lead to armed conflict, armed conflict following a disaster can be linked to weak governance and state institutions (von Uexkull et al., 2016; Adams et al., 2018). The failure of the state to properly manage disaster response (von Uexkull et al., 2016; Raleigh, 2010) has the potential to create grievances among marginalized populations with unmet disaster recovery needs. Through improved management of disasters – including strengthened institutions and processes of governance, the Sendai Framework could play a role in reducing the conditions which create and sustain such grievances.

While there are various possibilities for how the Sendai Framework may contribute to conflict prevention through governance and politico-institutional factors, more research is needed to consider how DRR can operate effectively in conflict contexts. For example, DRR actors becoming more politically engaged may lead to new areas of conflict and contestation (UN and World Bank, 2018), while a lack or loss of trust in policy-makers is already known to be a significant obstacle to DRR (Twigg, 2015) so closer connection to some political actors may be a further hinderance to progress. State institutions in conflict contexts may not be able or willing to protect the most vulnerable groups (Mitchell and Smith, 2011), demonstrating that neglect in institutional reach and capacity may be purposeful and cannot be remedied by DRR strategies. Thus the potential for actions under the Sendai Framework to have a positive effect on governance and politico-institutional factors which in turn mitigate or reduce conflict is yet to be determined.

5. Linking Disaster Risk Reduction and conflict prevention: attainable or tenuous?

The idea that DRR could contribute to conflict prevention has been around for less than two decades – disaster researchers and non-governmental organisations have directly and indirectly explored this relationship since the early 2000s. Since then, a burgeoning empirical base has explored the links between disasters and conflict (e.g., Kelman, 2012; Siddiqi, 2018; Harris et al., 2013; Walch, 2010); we have witnessed numerous disasters in violent conflict contexts, with Aceh, Indonesia and Sri Lanka often cited as examples (Waizenegger and Hyndman, 2010; Mampilly, 2009); and we have experienced political shifts which include the UN system refocusing on prevention and sustaining peace. And yet there remains much we do not know about the disaster-conflict interface.

This paper has explored whether and how the Sendai Framework has the potential to contribute to conflict prevention. While this addresses a gap in existing literature, there is still a need to gather empirical evidence of DRR strategies and actions in specific contexts that have made a measurable and sustained impact on conflict and peace dynamics. Robust research has yet to be conducted on whether the Sendai Framework, its delivery, and its impacts may hold the potential to contribute to conflict prevention.

Nevertheless, this paper cautiously posits that taking a broad interpretation of conflict prevention – with a particular focus on longer-term efforts to address the root causes of conflict – opens up space for actions to reduce disaster risk under the Sendai Framework to also potentially contribute to conflict prevention. This overlap is in

part due to common and/or linked vulnerabilities between disasters and conflict. This paper identifies these vulnerabilities under the themes of socio-economic, governance and politico-institutional factors. This leads to the conclusion that there is value in the hypothesis that the Sendai Framework for Disaster Risk Reduction could be a vehicle for conflict prevention, albeit conservatively and under specific conditions.

This conclusion is accompanied by the recommendation that more research should be conducted to test this hypothesis in various contexts, including at subnational levels and considering different types and stages of conflict. The links between DRR and conflict prevention must be situated within the broader social-political-economic conditions in which vulnerabilities are created and disaster and conflict impacts play out. As noted by the UN and World Bank in their joint Pathways for Peace joint study (2018: 5), "There is no single, simple formula for prevention. Preventing violent conflict and building peace call for different approaches in different circumstances and in different contexts". If there is no single formula for the prevention of violent conflict, then there is surely no single formula for integrating DRR and conflict prevention approaches and ambitions.

While DRR may potentially contribute to conflict prevention, it may also inadvertently contribute to conflict escalation if the Sendai Framework and related DRR strategies under Target E are designed and implemented in ways that marginalize and exclude certain groups, communities or regions of the country. It is important to remember that in many situations of armed conflict the state is an active party in the conflict and may have biases or use violence against certain groups. While the Sendai Framework advocates inclusive processes in DRR, in a context of violent conflict this may be a very difficult and challenging objective that requires political buy-in across conflict lines, and the process of inclusion may lead to new areas of unanticipated contestation (UN and World Bank, 2018).

Discussions about inclusion open questions about who should be included in decision-making, implementation, and monitoring and evaluation processes and to what degree, and, by extension, which groups are seen as legitimate and/or equal by the state (e.g. should extremist or terrorist groups be involved in the DRR process, and should their perspectives be given the same consideration as non-violent groups?). A veneer of inclusivity may hide the reality that disaster recovery processes are appropriated by those already occupying positions of privilege and power (D'Alisa and Kallis, 2016; Siddiqi, 2018). These questions also imply a need to grapple with culturally appropriate spaces for different groups to be involved in dialogue together safely and meaningfully, and mechanisms to address grievances or conflicts that arise in these spaces. The complex dynamics

of inclusion have the potential to be controversial and may open as many spaces for conflict as conflict prevention. It is clear that any broad-brush statements about the potential of DRR strategies to positively affect conflict prevention ambitions must be treated with caution; moving the idea from paper to practice requires allocation of time, financial resources and technical expertise. For example, to adopt conflict-sensitive or do no harm (Anderson, 1999) approaches to DRR, or explicitly affect conflict dynamics through DRR-realted actions.

With limited empirical evidence on which to draw, it is unsurprising that debate is still rife over whether the DRR community should be considering issues of conflict and conflict prevention. There has not yet been a substantial investment in research to mature the discussions and empirically test the extent to which commonalities between efforts to reduce disaster and conflict risk could, or should, be capitalised upon. There is thus a strong caveat to this paper – evidence is piecemeal and is often focused on individual contexts in specific timeframes. A commitment of resources and further research is needed to ground-truth the suppositions on which the relationship between DRR and conflict prevention are based, empirically test the idea that joint outcomes can be achieved in practice and develop guidance for designing and implementing joint prevention strategies and tools, including a compilation of best practices. As this paper shows, ex-combatant reintegration, livelihood opportunities, natural resource management, early warning systems, and food security are useful starting points. Moreover, while literature specifically exploring the nexus of DRR and conflict prevention is limited, there is much we can draw on from other disciplines, including an extensive catalogue of evidence and understanding on protracted crises, environmental peacebuilding[7] and social-ecological systems, which often include aspects of the interconnectedness of vulnerabilities to disasters and conflict through their respective lenses, albeit labelled under different terms.

While it is politically sensible for DRR to be situated in the UN's prevention agenda, any consideration of this topic should avoid determinism – there is no clear or linear relationship between vulnerabilities to disasters and conditions of conflict, and vice-versa. Until a stronger empirical evidence base has been developed, the jury is out on whether DRR actions can contribute towards conflict prevention. However, as practitioners working on disasters in areas of violent and armed conflict have argued, there is ample anecdotal evidence which points to this being an

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[7] See the Environmental Peacebuilding Association, for example.

important and timely question to ask. This paper reaffirms a renewed – and urgent – interest in developing a deeper understanding of the intersection of disaster and conflict as well as potential overlap between DRR and conflict prevention. As this paper has shown, the Sendai Framework could offer creative opportunities to contribute to conflict prevention while pursuing its goals of reducing disaster risk.

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