









About this paper

This report is part of the project 'When disasters and conflict collide: uncovering the truth', a collaboration between the German Federal Ministry of Economic Cooperation and Development (BMZ), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Overseas Development Institute (ODI). The lead researcher is Katie Peters, Senior Research Fellow, ODI (k.peters@odi.org.uk).

Available in this series

Peters, K. (2018) Accelerating Sendai Framework implementation in Asia: disaster risk reduction in contexts of violence, conflict and fragility. London: ODI (www.odi.org/publications/11153-accelerating-sendai-framework-implementation-asia-disaster-risk-reduction-contexts-violence-conflict)

Peters, K. and Peters, L.E.R. (2018) Disaster risk reduction and violent conflict in Africa and Arab states: implications for Sendai Framework Priorities. London: ODI (www.odi.org/publications/11208-disaster-risk-reduction-and-violent-conflict-africa-and-arab-states-implications-sendai-framework)

Peters, K., Holloway, K. and Peters, L.E.R. (2019) *Disaster risk reduction in conflict contexts:* the state of the evidence. London: ODI (www.odi.org/publications/11340-disaster-risk-reduction-conflict-contexts-state-evidence)

Peters, K., Peters, L.E.R., Twigg, C. and Walch, C. (2019) *Disaster risk reduction strategies: navigating conflict contexts*. London: ODI (www.odi.org/publications/11341-disaster-risk-reduction-strategies-navigating-conflict-contexts)

Peters, K., Dewulf, A., Barbelet, V., Benoudji, C. and Le Masson, V. (2019) *Pursuing disaster risk reduction on fractured foundations: the case of Chad.* London: ODI (www.odi.org/publications/11411-pursuing-disaster-risk-reduction-fractured-foundations-case-chad)

Peters, K., Eltinay, N. and Holloway, K. (2019) Disaster risk reduction, urban informality and a 'fragile peace': the case of Lebanon. London: ODI (www.odi.org/publications/11412-disaster-risk-reduction-urban-informality-and-fragile-peace-case-lebanon)

Mena, R., Hilhorst, D. and Peters, K. (2019) *Disaster risk reduction and protracted violent conflict:* the case of Afghanistan. London: ODI (www.odi.org/publications/11413-disaster-risk-reduction-and-protracted-violent-conflict-case-afghanistan)

Siddiqi, A., Peters, K. and Zulver, J. (2019) 'Doble afectación': living with disasters and conflict in Colombia. London: ODI (www.odi.org/publications/11414-doble-afectacion-living-disasters-and-conflict-colombia)

Peters, K. (2019) Disaster risk reduction in conflict contexts: an agenda for action. London: ODI (www.odi.org/publications/11408-disaster-risk-reduction-conflict-contexts-agenda-action)

Multimedia content

- Online feature including videos from Colombia, Lebanon, and Special Representative of the UN Secretary General for Disaster Risk Reduction, Ms Mami Mizutori (www.odi.org/disasters-conflict)
- Podcast series: When disasters and conflict collide (www.odi.org/opinion/10507-podcast-series-when-disasters-and-conflict-collide)
 - Episode 1: Conflict: the elephant in the diplomatic meeting room
 - Episode 2: The politics of disasters
 - Episode 3: A call to action

All reports and content as well as information on the project can be found online: www.odi.org/projects/2913-when-disasters-and-conflict-collide-uncovering-truth

Acknowledgements

The authors would like to thank the following for giving their valuable time to the drafting, review and preparation of the final report: Wendy Fenton, Cynthia Bakkalian, Alan Beuret, Arno Waizenegger, Regina Kandler, Stefan Scholz, Romea Brugger, Ria Hidajat, Matthew Foley, Hannah Measures and Hannah Bass. Special thanks to Kassem Chaalan of the Lebanese Red Cross, who provided invaluable support and insights throughout the research process.

Contents

About this project			3		
Ac	4				
Lis					
Ac	ronyr	ms	7		
Executive summary					
1	Introduction				
	1.1	Urban informality, the 'fragile city' and the construction of disaster risk	12		
	1.2	Methodology	13		
	1.3	Outline of the study	13		
2	Disasters and conflict in Lebanon				
	2.1	Hazard profile	14		
	2.2	Fragility, sectarianism and displacement	16		
	2.3	Defining 'disaster' and risk perceptions	17		
3	B The evolution of DRR in Lebanon				
	3.1	DRR at the national and city level	19		
	3.2	DRR at the governorate level: Tripoli, Saida and Tyre	21		
4	The	24			
	4.1	Preparedness for armed conflict	24		
	4.2	Conflict preparedness as an entry point for disaster preparedness	25		
5	5 Displacement and DRR				
	5.1	Refugee camps in Lebanon	28		
	5.2	Risks and vulnerabilities for displaced communities	29		
	5.3	Lack of inclusion in formal DRR mechanisms	30		
	5.4	Including refugees and the displaced in DRR frameworks	31		
6	Con	clusions and recommendations	33		
	6.1	Recommendations	33		
Re	feren	ices	38		
An	nex 1	Primary data collection: list of agencies interviewed	42		

List of boxes, tables and figures

D	•	v	^	0
D	U	Ж	U	o

Box 1 Lebanon's conflict history	16
Tables	
Table 1 Palestine refugee camps in Lebanon	30
Figures	
Figure 1 The fragile city: the epicentre of vulnerability	12
Figure 2 Fieldwork sites in Lebanon	13
Figure 3 The evolution of DRR in Lebanon	22

Acronyms

CERT community emergency response team
CNRS National Council for Scientific Research

DRM disaster risk management
DRR disaster risk reduction

GFDRR Global Facility for Disaster Reduction and Recovery

GRIP Global Risk Identification Programme

ICRC International Committee of the Red Cross
IDMC Internal Displacement Monitoring Center

IDP internally displaced person

IOM International Organization for Migration

LRC Lebanese Red Cross

MENA Middle East and North Africa

PARD Popular Aid for Relief and Development

PLO Palestine Liberation Organisation

SPEI Standardised Precipitation Evapotranspiration Index

UNDP United Nations Development Programme

UNDRR United Nations Office for Disaster Risk Reduction
UNHCR United Nations High Commissioner for Refugees

UNIFIL UN Interim Forces in Lebanon

UNISDR United Nations International Strategy for Disaster Reduction

UNRWA United Nations Relief and Works Agency for Palestine Refugees in the Near East

VCA Vulnerability and Capacity Assessment

Executive summary

For too long, policymakers, practitioners and funders in the international community have failed to pay sufficient attention to disaster risk reduction (DRR) in contexts of conflict. As a result, states and citizens living in fragile, volatile and violent situations are often unable to prepare for or mitigate against risk and, when natural hazards occur, the impacts are likely to be disproportionately devastating. There is a clear need for more evidence and understanding on how conditions of conflict increase people's vulnerability to disasters and hamper the attainment of DRR goals.

The Lebanon case highlights many of the complexities and contradictions associated with achieving disaster resilience in conflict situations. It also challenges conventional concepts of what constitutes a conflict context, and reveals new insights on how DRR can be pursued in these situations. Insight into sectarian divisions, urban informality, the marginalisation of refugees, and the prioritisation of conflict risk over natural hazards, help to develop our collective understanding and shed light on the types of DRR approaches and actions that are viable and appropriate in contexts characterised as holding a 'fragile peace'.

A 'fragile peace'

Although on the surface, Lebanon appears to be a relatively peaceful and stable society, digging deeper reveals a turbulent undercurrent, described by interviewees as a 'fragile peace'. This refers to the deep-seated inter- and intracommunity tensions that impede social cohesion in cities and that could flare up into violence at any time. The situation is exacerbated by a fragile political system built on sectarianism, inadequate urban governance and widespread corruption, coupled with inequitable access to rights and resources for displaced and refugee populations.

Geographically, Lebanon sits in an extremely volatile region and is impacted enormously by ongoing conflict in its neighbouring countries. As a consequence, the country currently hosts more than one million refugees from Palestine and Syria; the highest number compared to the population size of any country in the world.

A further complication relates to the fact that 89% of the population lives in towns and cities where there is a relatively high level of urban informality and poverty. There are unresolved issues around the protracted displacement and refugee status of communities displaced from Palestine, some of whom have been living in Lebanon since the 1940s. People living long-term in temporary settlements are often at high risk from natural hazards and conflict, with multiple intersecting vulnerabilities that compound to increase their levels of risk. Yet such populations are not adequately represented in formal DRR policy, planning and funding allocations. As a result, it is difficult to gain a complete picture of the country's true vulnerability to disaster risk.

Uncovering these aspects of complexity helps to unpack the socioeconomic, political, religious and cultural nuances that shape, alter, prevent and enable DRR outcomes across Lebanon. It also provides important insights into the intersection of DRR, urban informality and the 'fragile city'. Furthermore, it helps avoid distortion or underrepresentation of disaster risk by providing a powerful illustration of the need to include marginalised and excluded groups, particularly refugees and displaced persons, in formal DRR policy and planning.

'Conflict-sensitive' DRR

One of the principal contradictions in Lebanon is that people generally believe there is little risk to them from large-scale disasters. With no major earthquakes having occurred in living

memory, public perceptions of seismic risk, and other major hazards, are generally low. Yet during one week of research for the study, several incidents occurred. A harsh winter storm forced evacuation of Syrian refugees, a landslide blocked a major road connecting the capital, and serious flooding affected informal coastal settlements. The risk of conflict, on the other hand, remains high in the public consciousness, and several interviewees used the term 'conflict-sensitive' to denote widespread awareness of conflict dynamics. This finding questions the dominance of the natural hazard profile methodology used in conventional Lebanese DRR and points to an important way forward: that of employing conflict risk as an entry point for a more comprehensive approach to risk management.

The work of the Lebanese Red Cross (LRC) yields valuable insight into how civilian concerns over conflict risk can provide an impetus to advance risk management capabilities more broadly. LRC has focused on establishing relationships and building trust among communities where there is a history of violent conflict; for example, by ensuring equal service provision, using school safety programmes as an entry point, and conducting joint activities with conflicting parties using conflict-sensitive approach to DRR. Efforts to prevent and prepare for conflict have expanded over time to cover threats and hazards that otherwise would not feature prominently in the social consciousness - such as seismic risk, flooding and fires. The work of LRC also demonstrates how compromise and management of competing interests can be effective in building greater social cohesion, in addition to delivering such essential DRR capacities as first aid training and coordination of religious-affiliated ambulance service provision.

Despite being regarded as one of the most advanced countries in the Arab region for DRR, Lebanon's complex and dynamic governance arrangements necessitate further work to be undertaken. We need to gain a deeper understanding of the relationship between sectarian governance and disaster risk management, especially in a situation where conflict risk is real and dynamic, and where assessments of disaster vulnerability warrant closer inspection of these conflict dynamics. Starting with the political context – rather than the hazard profile – could

help inform new approaches to DRR that are mindful of the need to prioritise protection of neglected populations, including Lebanon's urban poor, and displaced and refugee populations.

Recommendations

These new insights point to several recommendations for DRR practitioners, donors and policymakers.

Use conflict preparedness as an entry point

This includes investing in local action while also incentivising the state to protect its citizens and refugee populations. Continued investment in the National Disaster Risk Management Unit and LRC will be required while, at the same time, encouraging the government to prioritise DRR focused on marginalised and underrepresented communities. Documenting examples where the potential for conflict has been used successfully as an entry point for building disaster preparedness would allow replication of this approach elsewhere. There is also a need to shift the focus from hazards to vulnerability, and from risk management to risk reduction. This will require better data and enhanced understanding of vulnerability across the country.

Reduce risk creation and generate expertise on disaster-resilient postwar reconstruction

A current lack of enforcement of building codes and unplanned urban development combine to increase the risk to people from earthquakes and this needs to be addressed urgently. To protect its citizens, economy and stability, the Government of Lebanon needs to give a higher priority to seismic-proofing new and existing buildings, and protecting people living in urban slums and temporary shelters. Given its position of relative stability within the region, by investing in DRR technical expertise and demonstrating how to avoid risk creation – through systematic consideration of disaster risk in its economic development pathway – Lebanon could position itself as having the capacity to provide technical

expertise for post-war reconstruction throughout the region.

Accelerate protection against disasters for conflict displaced populations

Refugees and displaced persons should be fully included in DRR policy, strategy and planning; either explicitly or through differentiated agencies and strategies which are linked to formal processes. Current experiences and links (e.g. with LRC) can be used to design and deliver appropriate DRR actions for different situations and sub-sets of society. Lessons learned to date can be used to develop practical guidance for implementing agencies which are cognisant of conflict dynamics. Similarly, Lebanon's proactive engagement in international responses to disaster displacement in conflict zones will yield useful lessons.

The city as a site of action in contexts of 'fragile peace'

Further work is needed to develop a better understanding of the relationship between sectarian governance and DRR, especially relating to marginalised communities including refugees and the urban poor. Using the city as an entry point and building on the success of the Making Cities Resilient campaign, it would be appropriate to continue building capacity at the sub-national level. A sub-group focusing on fragile cities would be a useful starting point for sharing experiences within and beyond Lebanon. By focusing on the intersection of urban poverty, violence and disasters, the research has revealed new insights into how urban disaster resilience can be achieved, but also just how far we need to go to ensure those most at risk are duly protected.

1 Introduction

Lebanon illuminates many of the complexities, contradictions and challenges involved in pursuing disaster resilience outcomes in contexts of conflict. It also demonstrates how a deeper understanding of conflict could help develop collective understanding of and action on disaster risk reduction (DRR). The Lebanon case reveals what *can* be achieved by dedicated individuals striving to enhance natural hazard-related disaster ('disaster') resilience amid what several interviewees for this study described as a context of 'fragile peace'.

In the context of Lebanon, complexities include the limitations of the 'whole of society' discourse in DRR, which inadvertently implies (or is misconstrued to imply) intra-societal cohesion, which is not reflective of reality due to the divisions created by a sectarian society¹ and a fragile political system that seeks, but largely fails, to represent everyone equally. Contradictions include the general perception that Lebanon is neither conflict-affected nor disaster-prone, and yet during one week of research for this study 600 displaced Syrians in refugee camps in the Bekaa Valley were relocated due to a harsh winter storm, a landslide blocked the road between Tripoli and Beirut and settlements along the coast flooded after heavy rains. Finally, challenges include the political realities confronting locallevel risk management, such as in Tyre, where multiple ambulance services each serve different socio-cultural groups.

Like other countries the world over (see Peters et al., 2019a), Lebanon's national policy framework for risk management encompasses natural hazards and conflict, and thus extends beyond the scope of the Sendai Framework for Disaster Risk Reduction 2015–2030 (UNISDR, 2015). The pursuit of DRR similarly reflects

a context where natural hazards and conflict permeate daily life, and where conflict can be an entry point for DRR. There is also an added dimension. Any discussion of DRR in Lebanon is necessarily urban. In 2018, 89% of the population resided in urban areas (World Bank, 2018). The 'slum' urban population was estimated at around 50% in 2001, and the metropolitan area of Beirut includes 24 slums or impoverished neighbourhoods, hosting 20% of the population prior to the influxes prompted by the crisis is Syria (Fawaz and Peillen, 2003). While the Syrian population has received notable media attention internationally, for Lebanon questions of protracted displacement are most apparent with the continuation of the refugee status of Palestine communities, particularly those living in camps outside the purview of the national DRM Unit. Lebanon's legal frameworks exclude refugees from formal disaster risk governance mechanisms. This fragments and fractures the institutional responsibility for DRR among different sub-sets of society, and prevents a true picture of the country's vulnerability to disaster risk.

Lebanon is a complex context in which to unpack the socioeconomic-political-religious and cultural nuances which shape, alter, prevent and enable DRR (Baytiyeh, 2017; Di Peri, 2017). The urban poor living in slums, including migrant and refugee populations as well as some of the poorest Lebanese communities, are at particularly high risk from the impacts of natural hazards. What may on first glance appear to be a relatively peaceful and stable society offers much to learn about the intersection of DRR, urban informality and the 'fragile city'.

This report explores DRR activities, opportunities and challenges in Lebanon to shed

¹ Baytiyah (2017: 64) defines sectarianism as 'the politicisation of a religious-based identity within a clear struggle for social and political control'.

light on what types of DRR approaches and actions are viable and appropriate in contexts affected by violence, conflict and fragility. While sectarianism is a feature of the overall context, we focus on issues of disaster risk governance, urban informality, with a specific focus on displaced Palestine populations, and operational risk management including preparedness for response initiatives. Lebanon's complex and dynamic governance arrangements means that further work is required to understand the relationship between sectarian governance and DRR more deeply, as well as specific groups in conditions of vulnerability, including Lebanon's poor and marginalised communities, Syrian refugees and rural communities. The findings provide part of the picture of DRR in Lebanon, with the intention of understanding 'how vulnerability is dynamic and shaped by interconnected shocks and stresses, and how it must be addressed as such' (Harris et al., 2013: vii).

1.1 Urban informality, the 'fragile city' and the construction of disaster risk

For over four decades, disaster studies have deconstructed the notion of the 'natural disaster', comprising the relationship between a hazard, vulnerability and exposure (Disasters, 1977; Wisner, 2017). Somewhat in the background have been themes around urban systems, informality, conflict, fragility and displacement: themes that intersect in the context of Lebanon.

Various initiatives have sought to refocus and adjust the rural foundations of development and humanitarian approaches to an increasingly urban world. A growing body of work explores disaster recovery operations in urban areas, including in contexts typically labelled as fragile or conflict-affected, such as Haiti and Pakistan (Sanderson et al., 2012), as well as humanitarian interventions in contexts of urban violence (Lucchi, 2014). Efforts to tailor responses to urban contexts still largely default to considering disasters *or* conflict in urban contexts, and pay

less attention to the intersection or co-location of the two. In the DRR field, discrete campaigns such as the widely regarded and successful Making Cities Resilient² campaign, instigated in 2011, have led to real change in disaster resilience in more than 4,000 cities worldwide.³ However, like most DRR initiatives, it tends not to take into account the different types of conflict that exist in cities.

Interviewees for this study described Lebanon's urban areas as in a state of 'fragile peace': the idea that deep-seated inter- and intra-community tensions exist, and that, while things may be peaceful now, that could quickly change. This echoes academic concepts that characterise the 'fragile city' as a site where urban disasters, urban poverty and urban violence intersect (De Boer, 2015 – see Figure 1). Defined by Muggah (2015: 345) as 'discrete metropolitan units whose governance arrangements exhibit a declining ability and/or willingness to deliver on the social contract', the fragile city concept is pronounced in the Middle East and North Africa (MENA), where 62% of the population resides in urban areas (World Bank, 2014).

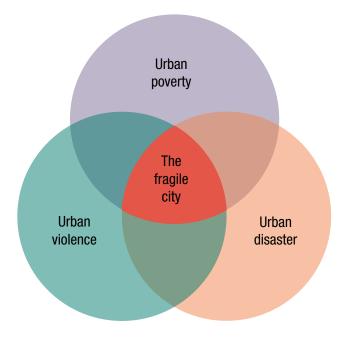


Figure 1 The fragile city: the epicentre of vulnerability

Source: de Boer, 2015.

² See www.unisdr.org/we/campaign/cities.

³ As of 21 March 2019: see www.unisdr.org/campaign/resilientcities/.

The concept of the fragile city lends itself to the study of DRR in Lebanon, where the main source of vulnerability for urban dwellers stems from the 'aggregation of risk – the cumulative effects of multiple risks – that results in the greater likelihood and intensity of urban vulnerability to disaster, extreme poverty, and violence' (Muggah, 2012: viii). This is similar to the concept of the 'threat multiplier', used to describe the combination of climate-related disasters and conflict (Rüttinger et al., 2015), and 'complex risk', which takes a broad approach to understanding the intersection of threats and hazards (see Optiz-Stapleton et al., 2019).

1.2 Methodology

This research comprises a substantive review of secondary literature and policy documents, together with primary data collected in November 2018 and January 2019 across four sites (Beirut, Saida, Tyre and Tripoli). The primary and secondary data collection was conducted in English, French and Arabic. In-depth qualitative primary data collection was conducted in Beirut, Saida, Tyre and Tripoli, through interviews with 51 individuals from 29 agencies, ranging from community emergency response teams (CERTs) through to the DRM Unit within the Prime Minister's Office (see Annex 1 for a complete list).

1.3 Outline of the study

The study is organised into five main sections. Following this first chapter outlining the rationale and methodology underpinning the study, Chapters 2 and 3 provide an overview of

Figure 2 Fieldwork sites in Lebanon



DRR in Lebanon, including a profile of natural, environmental and technological hazards, institutional structures and national policies and local initiatives for building resilience. Chapter 4 explores the impact and implications of conflict and fragility for DRR, including the possibility of using conflict preparedness as an entry point for risk reduction. Chapter 5 takes a closer look at the challenges of displacement, with a focus on Palestine refugees, the place of displaced populations in Lebanon's formal DRR architecture and the impact that displacement has had on Lebanese society. Finally, Chapter 6 presents lessons from the study that may be applicable to other fragile and/or sectarian states, as well as the challenges to and opportunities for developing progress on DRR in Lebanon.

2 Disasters and conflict in Lebanon

Lebanon is a small country with varied topography, putting it at risk of a variety of natural hazards. Its location between Syria and Israel means that it lies in a conflict zone, and the country is host to more than a million refugees from Palestine and Syria (the highest percentage of any country in the world compared to population, with one in six people in the country a refugee under UNHCR's mandate) (UNHCR, 2018: 2). Sectarian divisions throughout Lebanese society have created a fragile political system and raise the risk of internal conflict. The complexity of the context means that this hazard and conflict overview is necessarily indicative.

2.1 Hazard profile

Lebanon faces low disaster risk relative to other countries in MENA, having experienced few major natural hazard-related disasters in its recent history and none that has exceeded government capacity or warranted international humanitarian support. An exception is Storm Norma, which hit Syrian refugee camps in Akkar and the Bekaa Valley in January 2019, though, as refugees, the people affected were not considered under the purview of the Lebanese state. The lack of major disasters in living, collective memory among Lebanese has contributed to a general perception of low disaster risk, making the task of incentivising investment - technical, political and financial - in DRR particularly challenging. While disaster risk is relatively low, Lebanon is vulnerable to several natural hazards, including earthquakes, flash flooding, forest wildfires, landslides, tsunamis, winter storms and slowonset droughts. Environmental, technological and biological hazards include oil spills and problems with waste management (these are included here

given the Sendai Framework's expanded focus to encompass 'natural and man-made hazards and related environmental, technological and biological hazards and risks' (UNISDR, 2015: 5)).

2.1.1 Earthquakes

Located on the Dead Sea fault, between the African and Arabian tectonic plates, Lebanon - particularly southern Lebanon - is at risk of earthquakes. Although there has not been a major event since 1759, when an earthquake killed approximately 40,000 people in Beirut and Damascus, earthquakes are expected every 250 to 300 years, meaning that the next one could strike in the next 30 years or so (Harajli et al., 2002). A small, though not insignificant, earthquake hit Saida in 1956, causing mass displacement and rendering much of the Old City unstable. In 2018, a 4.3-magnitude earthquake struck near the Golan Heights, less than 35 kilometres from Lebanon's southern border and only 60km from Tyre.

2.1.2 Flooding

Northern Lebanon is vulnerable to flooding, particularly in urban areas of al-Fakeha and Ras Baalbek, which are surrounded by mountainous terrain. These areas suffer flash floods roughly twice a year, and major flash floods affecting agricultural land located downstream of the watershed every two to five years (UNDP, 2018). Efforts have been made to increase vegetation cover, mitigate land degradation from erosion and divert water into storage structures such as percolation ponds. Flood maps have recently been completed on a scale of 1:1,000 by the National Council for Scientific Research (CNRS), covering the flood plains of all 17 rivers in the country.

2.1.3 Forest wildfires

Forest wildfires are common in the summer because of the hot, dry climate and strong winds (GFDRR, 2017). Over a 40-year period, forest fires have destroyed more than onequarter of Lebanon's forests (Ziadé et al., 2014). A forest fire strategy was approved by the Council of Ministers in 2009, and DRR work on this hazard has proved successful. In 2016, two weeks after practising protocols for fighting forest fires, officials in Akkar were able to swiftly extinguish a fire (UNDP, 2017). National-level maps of forest fire-prone areas exist at a scale of 1:100,000 or 1:200,000 (GRIP, 2010), but CNRS hopes to complete more detailed hazard maps, similar to those recently produced for flooding, if funding can be sourced.

2.1.4 Landslides

Much of West Bekaa, a particularly hilly and mountainous area, is prone to landslides (UNDP et al., 2016). In January 2019 (during the research for this study), a landslide caused by heavy rains partially blocked the Chekka–Batroun highway – the main road between Beirut and Tripoli – injuring three people. Landslide hazard zonation has been completed on a national scale using satellite imagery and geographic information systems (GIS) (Baytiyeh, 2017). The CNRS is working on mapping landslide susceptibility using drones and remote sensors.

2.1.5 Tsunamis

The coast of Lebanon, where the country's population is heavily concentrated, is at medium risk for tsunamis, meaning there is a more than 10% chance that a potentially damaging tsunami will occur in the next 50 years – a risk that is likely to increase due to rising sea levels (GFDRR, 2017). Historical events include tsunamis triggered by earthquakes in the sixth century in Beirut and near Santorini in 1956 (Salamon et al., 2007). In 2014, the town of Byblos organised a tsunami simulation with the UN Development Programme (UNDP) and the Lebanese army (UNDP, 2015). The CNRS acts as the tsunami warning focal point for Lebanon.

2.1.6 Winter storms

Eastern Lebanon experiences winter storms annually. The research for this study was undertaken during Storm Norma in January 2019, and that experience coloured many of the interviews included in this report. As of 16 January 2019, 850 settlements and 70,000 refugees in Lebanon were at risk of extreme weather, with 826 sites and 23,578 individuals affected (Inter-Agency Coordination Lebanon, 2019). Many interviewees for this study spoke highly of the way Storm Norma had been handled by municipalities and other organisations, though they also mentioned that the storm had severely tested their capacities and resources.

2.1.7 Drought

The Middle East and North Africa is experiencing more frequent and intense droughts, which will only be exacerbated by climate change. Lebanon is no exception (Verner et al., 2018). According to the Standardised Precipitation Evapotranspiration Index (SPEI), the UNDP Regional Bureau for Arab States classifies Arab cities into extreme, moderate and slight drought risk categories (as an average for all months), with Beirut and Tripoli (Lebanon) falling into the slight drought category (UNDP, 2018). Given the need to prioritise investments, drought is understandably low on the list, with seismic risk dominating interviewees' perceptions of the priority threat for DRR.

2.1.8 Environmental, technological and biological hazards

Environmental, technological and biological hazards in Lebanon have led to economic losses and environmental damage, including an oil spill from thermal power plants south of Beirut caused by bombing during the Israel-Lebanon war in 2006 (UNEP, 2007). In summer 2015, piles of uncollected garbage filled the streets of Beirut and Mount Lebanon after the closure of a central landfill site, triggering an environmental disaster and bringing global attention to Lebanon's waste management crisis. Many of these piles, particularly in the poorest areas of the country, were then burned in the open, resulting in serious health risks, including of heart disease, cancer, skin diseases, asthma and respiratory illnesses (Human Rights Watch, 2017).

2.2 Fragility, sectarianism and displacement

The complexity of Lebanon's governance arrangements and societal composition significantly shape state—societal relations and disaster risk governance (Pelling and Dill, 2008; Olson, 2000). Consideration of Lebanon's political and governance system is therefore necessary context for understanding the relationship between citizens and the state, expectations of the state as a service provider and the context of 'fragile peace' in which DRR ambitions are pursued (Baytiyah, 2017; Di Peri, 2017).

The drivers behind disaster risk in Lebanon are strongly associated with its fragile political system, highly fragmented population, sectarianism, inadequate urban governance and widespread corruption (Baytiyeh, 2017). Several interviewees mentioned inadequate enforcement of building codes as an example of inefficient governance. Many interviewees noted that building codes were hardly ever put into practice, with one interviewee estimating that 80% of buildings in Beirut did not have formal validation.

Article 24 of the 1926 Constitution implemented a confessional system of government in which the president is always a Maronite Christian, the prime minister a Sunni and the speaker of parliament a Shi'a.

Parliamentary seats are also divided equally among Christians and Muslims. This system is based on the most recent census held in Lebanon, in the 1930s. Following the end of the civil war, the Taif Accord of 1989 enshrined the principle of 'mutual coexistence' between the country's various sectarian communities (Salloukh, 2016: 641).

The confessional system of government is a symptom and a cause of Lebanon's highly fragmented society, 'where 18 religious communities live together as separate nations under the umbrella of the Lebanese republic' (Baytiveh, 2017: 64). The sectarianism that characterises Lebanon's political system results in weak and decentralised governance that relies on fragile political compromises to function. This fragmentation also permeates local DRR measures. For example, in Tyre multiple ambulance services are accommodated within disaster preparedness and response coordination mechanisms, each from different socio-cultural groupings - though they are willing to serve the entire community as needed.

Along with strained and divided governance, Lebanon also suffers from widespread corruption: it is ranked fourth in a 2009 World Bank report on corruption linked to construction permits (Baytiyeh, 2015). Favouritism 'permeates the entire governance system' (Baytiyeh, 2017: 63). One interviewee relayed being unable to obtain permission to modify the building

Box 1 Lebanon's conflict history

Lebanon has been involved in various internal and external conflicts since its independence from France in 1943. Following the Second World War, Lebanon offered support to other Arab countries in the 1948 Arab–Israeli conflict (the second half of the 1947–49 Palestine war). In 1958, a small uprising broke out over Lebanon's participation in the United Arab Republic, though this was quickly put down following US intervention. The Lebanese civil war began in 1975, sparked by increasing tensions between Palestinians, Maronites and other sectarian communities. The Syrian army intervened in 1976, hoping to restore peace, but fighting intensified in 1982 when attacks on Israel by the Palestine Liberation Organisation (PLO) led to an Israeli invasion. Fighting continued until 1989, when the Arab League issued a peace plan and a ceasefire was put into effect. The Syrian occupation continued until 2005. In 2006 another armed conflict with Israel broke out following a series of Hezbollah attacks on Israeli territory. Although the conflict only lasted a month, it caused substantial loss of life and damage to infrastructure, particularly in southern Lebanon. Other small conflicts continued between 2007 and 2015.

they were living in to make it disaster-proof and stated that they were planning to see the governor and 'play it in a very Lebanese kind of way' now that they had identified him as the individual who could deliver the right permit. Lebanon's fractious governance has also meant that 'nonstate providers are often more important in the everyday lives of the poor than outposts of the state' (Cammett, 2015: S76). Non-state service provision can weaken government accountability because the state's failures are less apparent when social services are provided by NGOs and international donors (Saavedra, 2016).

Sectarianism is also relevant to displaced communities (Bidinger et al., 2014: 29). In January 2018, it was estimated that 1.5 million Syrian refugees and 34,000 Palestine refugees from Syria had sought shelter in Lebanon, adding to a large caseload of almost 300,000 pre-existing Palestine refugees in the country (Government of Lebanon and UN, 2018). Currently, 76% of Syrian refugees, 89% of Palestine refugees from Syria and 65% of pre-existing Palestine refugees live below Lebanon's poverty line of \$3.84 per day (Government of Lebanon and UN, 2018: 11–12). The Lebanese government response to the Syrian refugee crisis has been based on a 'no-camp policy' (see Sanyal, 2017). This has contributed to the production of 'an informal shelter landscape', creating new obstacles for humanitarian agencies in mapping refugee settlements and providing credible statistical assessments of refugees' needs and vulnerabilities to disaster risks 'as they attempt to provide infrastructure, support and other basic services for the million-plus refugee population while negotiating a complex sociopolitical landscape' (ibid.: 120). In addition to refugees from Palestine and Syria, there are 250,000 migrants and domestic workers in the country, primarily from Sri Lanka, Ethiopia, the Philippines, Nepal and Bangladesh. Newcomers mainly settle in large urban centres and coastal cities exposed to earthquakes, flash flooding and tsunami hazards. Meanwhile, competition over services, jobs and accommodation has disproportionately affected the most vulnerable.

2.3 Defining 'disaster' and risk perceptions

This section draws on primary and secondary data to explore understandings of 'disaster' in Lebanon, and how this shapes individual and collective constructions and perceptions of risk. The emergence of an international discourse on disaster risk during the 1990s and two subsequent international DRR frameworks (UNISDR, 2005; UNISDR, 2015) galvanised political action on DRR, but also conveyed an arguably false sense of uniformity in disaster terminology. Although the Sendai Framework (UNISDR, 2015) is restricted to specific hazardrelated disasters, several countries, including Lebanon, also include conflict in their risk management frameworks. Many interviewees stated that disaster as an overarching term should include both conflict and natural hazardrelated disasters, and made frequent references to the history of conflict in the region. According to one interviewee involved in Lebanon's national DRM Unit: 'Sendai should have a bigger and wider umbrella than the one we have right now, especially in countries with a lot of conflict. In Lebanon, you have all the refugees, the conflict on the southern borders. Man-made disaster is much more important than the natural ones'. A focal point for the South Governorate DRR programme agreed, and claimed that Lebanon was not the only nation to classify disasters in this way: 'Many national DRR strategies take a much broader view of risk, for example including things like conflict'.

Other interviewees made similar connections in environmental legislation. For example, Environment Protection Law 444 of 2002 states that national hazard mitigation action plans are a priority for the country and should be developed to provide adequate disaster risk management tools in case of natural hazard or war. The classification of war as a disaster is also highlighted in the 2016 Lebanese Red Cross (LRC) Guidelines and strategy for safe and disaster resilient communities in Lebanon, which categorises armed conflict as a medium hazard in terms of LRC departments and programmes. The LRC uses Vulnerability and Capacity Assessments (VCAs) in an open-ended manner that allows for

consideration of any kind of threat or hazard. As a result, the Lebanon Humanitarian Country Team (2017) identified conflict with Israel as of most concern, given the potential for a crisis affecting more than a million people. The head of the International Committee of the Red Cross (ICRC) sub-delegation in Tyre remarked: 'Of course earthquake and fire were identified [as risks], but armed clashes come as the first main risk. They can cope with flooding, but when it comes to armed clashes, this is something where they really need their resilience to be built'.

Local communities' understanding of risk is closely linked with recent experiences and collective memory, particularly in the south of the country – another reason why armed conflict is seen as a priority. Interviewees with subnational disaster management structures and civil society organisations in Saida and Tyre, areas affected by the war with Israel, were at pains to communicate the impact of the conflict, and fears of a repeat were routinely cited to explain the need for capacity-building in preparedness and response to conflict. Capacity for preparedness and response has been strengthened, albeit in a piecemeal and limited way, because of perceptions of conflict risk, though many operational agencies and affected communities believe that this capacity will also assist response operations in the event of a natural hazardrelated disaster.

DRR actors across the country are acutely aware of the importance of capitalising on the post-disaster space for advancing DRR ambitions. Speaking after Storm Norma in January 2019, a representative of the Union of Tyre Municipalities said (when reflecting on his attempts to encourage action on DRR in his locality):

If I need to go now and speak with them about flash floods, they will listen to me because they are suffering. If I speak with them about the landslides, they will listen to me. But if I speak about earthquakes, they may listen less, but they will still listen because there are a lot of small earthquakes now taking place.

Another respondent remarked that it was difficult to prepare people for a potential earthquake because there is 'no living memory of the previous earthquake'. As a representative from the South Governorate DRM Unit explained: 'The last earthquake that hit Lebanon was in 1956, so they always tell you, "There's no earthquakes here". It's not a daily event or daily hazard. Besides, conflicts are always happening'.

Baytiyeh's (2015: 252) assertion that 'Lebanon faces a chronic lack of awareness with regard to earthquake risks' was borne out by this research. Yet while conflict is regarded as a daily threat, natural hazard-related disasters are potentially just as deadly, with estimates of up to 30% of the population at risk of death in the next major earthquake (ibid.). Even so, recent conflicts and ongoing displacement crises have taken priority, and DRR has only recently started to gain prominence in Lebanon, in large part owing to the work of the national DRM Unit and the LRC, both of which have received external funding.4 While politics at the international level have reinforced the disconnect between conflict and disasters (see Peters, 2017), in Lebanon, particularly at the local level, risk perceptions and concerns over armed conflict provide the impetus and incentive to invest in preparedness and response capacities and coordination mechanisms under one policy framework.

⁴ Including but not limited to UNDP, the German Red Cross and the German Federal Ministry of Economic Cooperation and Development (BMZ).

3 The evolution of DRR in Lebanon

This section outlines the evolution of Lebanon's DRR policy and institutional architecture, with examples of progress in selected cities. Overall, Lebanon's institutional arrangements for DRR are relatively recent, following a common pattern the world over whereby the impetus for formalising a disaster management structure follows a high-impact hazard event. Indeed, disasters are often regarded as 'focusing events' - gaining political and technical attention because of the policy failures they reveal - leading to 'event-related policy learning' (see Birkland, 2006; Johnson et al., 2005). Lebanon is regarded as one of the leading countries in the region in the design and enforcement of DRR policies, plans and legislation, and has been vocal in its support for the Arab States regional DRR mechanisms and the Sendai Framework.

3.1 DRR at the national and city level

Interest in disaster management within the Prime Minister's Office first emerged in 2003, following a series of major storms during the winter of 2002–2003. During this period, the government implemented building codes for earthquakes and fire hazard for existing buildings higher than three storeys (10 metres), and codes governing all future building, including industrial structures and factories. This interest intensified in 2009 with UNDP's support for the 'Strengthening Disaster Risk Management Capabilities in Lebanon' project, which aimed to establish a national DRM Unit, develop and implement a national strategy and systems for DRR, develop national and local DRM capacities, raise public awareness and integrate gender equality initiatives across all

scales (UNISDR; 2012; World Bank, 2014; UNDP, 2018).

These efforts culminated in the creation of the national-level DRM Unit attached to the Prime Minister's Office, supported by UNDP. The Unit 'aims to promote resilience by improving emergency preparedness, establishing protocols and structures that respond quickly to crises, and supporting early recovery processes'. A national operations room for crisis management and the protocols outlined in the Lebanon Crisis Response Plan (Government of Lebanon and UN, 2018) have been tested through highintensity simulations. Regional- and district-level DRM Units and response plans are in place for 15 governorates and districts. The CNRS has provided technical support for four multihazard risk assessments and a national flood-risk assessment, and training has been provided for ministry staff, the army and the security forces (UNDP, 2017: 19). Such efforts illustrate the progress made in strengthening national capacity for DRR and changing structures on the ground, but gaps remain, including in understanding the intersection of vulnerability and exposure within different strata of society.

Much of the progress the country has made has been driven by the LRC, supported by partner National Societies including the German Red Cross, through funds from the German Federal Ministry of Economic Cooperation and Development (BMZ). The LRC's long history and strong commitment to principles of neutrality, impartiality and independence in its approach to DRR has enabled a strong degree of acceptance by almost all sections of Lebanese society. The LRC occupies a unique position in coordinating with a diverse set of actors, and has been able to access areas at higher risk of tension and

armed conflict. Interviews documented how the LRC connects with local authorities and community leaders, using protocols to ensure that volunteers are not overtly connected with any political party, convening dialogues with all key stakeholders in a transparent and inclusive manner and implementing activities in recipient communities in ways that seek to avoid the impression of favouritism towards any one group. The LRC also uses participatory tools that allow communities to map their own vulnerabilities, capacities and priorities, informing prioritisation and project design.

Disaster management in Lebanon has centred on the city as the site of action. Two hundred and fifty-five cities in Lebanon joined the UNISDR Making Cities Resilient campaign,⁵ accounting for more than 80% of participating Arab cities (UNDP, 2018). Tripoli, Saida and Tyre were among the first in Lebanon to join the campaign, and as such offer good examples of how global DRR initiatives have been adopted at the city level.

Tripoli is Lebanon's second-largest city and capital of the North Governorate, with a population of 228,000. A qualitative urban risk profile was completed in 2012, in partnership with the national DRM Unit, and effort has been made to integrate DRM into urban development planning (World Bank, 2014). Tripoli also received support from UN-Habitat's City Profiles initiative in mapping 'cross-sectorial urban vulnerabilities' in order to improve response (UN-Habitat, 2017).

Saida (or Sidon) is Lebanon's third-largest city and the capital of the South Governorate. Its population is 80,000 (rising to 266,000 in the larger metro area). Saida has made substantial efforts to protect its urban heritage and coastal economy (it has the oldest and one of the most important harbours in the Levant), and has developed an Urban Sustainable Development Strategy with the support of Medcities. In 2015, the city engaged in peer-to-peer DRR knowledge-sharing with Dutch cities through an international exchange programme, which helped in the development of the Saida Resilience

Action Plan, with technical support from UNDP. Interviews with the municipality indicated that Saida was less affected than other cities by Storm Norma because the recent separation of the sewage and water networks prevented flooding.

Finally, Tyre (or Sour), the fourth-largest city in Lebanon and the capital of the Tyre district, has a population of 60,000 (174,000 in the metro area). Comprising 65 villages, the Union of Tyre Municipalities was the first municipality to create a municipal-level DRM Unit, in 2010, with the support of the Swiss government.

At the community level, measures to reduce disaster risk and improve preparedness primarily take the form of establishing LRCsupported CERTs of volunteers. This is no mean feat given Lebanon's highly sectarian society, along with the impact of the civil war and the resulting fragmentation of religiouspolitical organisations and community groups, all of which have posed a challenge to pursuing a cohesive DRR approach at the local level (Baytiyeh, 2017). Although sectarian groups are 'deeply embedded in the communities they serve – and are often staffed by local residents - they produce and reinforce social inequalities' (Cammett, 2015: S77). This concern reflects a broader critique of normative approaches to DRR which fail to adequately account for the inherently political nature of disasters (Siddigi, 2018). In Saida, volunteers from different sectarian groups have formed a CERT in Saida Old City, and in Tyre different sectarian groups have been brought together into a joint coordination structure by the district government.

Although on paper the vision for DRR in Lebanon seems robust and optimistic, 'closer scrutiny of the progress and achievements in DRR reveals that these projects are well designed and desperately needed but, nevertheless, remain elementary, uncoordinated, fragmented and unable to lead to a sustainable process that can reduce future disaster impacts' (Baytiyeh, 2017: 66). As noted by the World Bank (2014: 18), 'policies and plans are not supported by adequate budgets, and

As of 22 March 2019. The 'live' number of cities that have signed up to the campaign can be found here: www.unisdr.org/campaign/resilientcities/home/cities.

implementation is often dependent on donor support. Additionally, local governments, which play a critical role in DRM, are often not aware of DRM policy changes and lack the know-how to contribute effectively to disaster response and/or mitigation'. National-level DRM initiatives remain isolated due to the Lebanese government's centralised institutional system, which focuses on investment in DRM at the national level, weakening the participation of local communities in the decision-making process (see also Saavedra, 2016).

One next step in developing disaster management in Lebanon is to move from a focus on hazard mapping to understanding vulnerability and the role of the 'fragile city' in the construction of disaster risk - and subsequent implementation of DRR actions. While Lebanon's policy frameworks for DRM include natural hazard-related disasters and conflict, there is arguably still a need to nuance how vulnerabilities intersect in order to design appropriate DRR approaches and implementation plans. This presents an opportunity: there is space for Lebanon to lead the way in developing guidance on local- to national-level implementation of DRR strategies in contexts of conflict and fragility. Doing so would address a gap as current guidance stops short of making reference to dynamics of conflict as the context in which DRR is pursued, and does not account for the fact that some national and local government conceptualisations of DRR encompass both natural hazards and conflict.

3.2 DRR at the governorate level: Tripoli, Saida and Tyre

In Tripoli, the focal point for the North Governorate DRR programme explained that there are four stages to their DRR work. 'First, they check infrastructure to ensure it is resilient to disasters. Second, they work with municipalities to raise awareness and support community resilience. Third, when a crisis occurs, there needs to be collaboration between different stakeholders, the administration and those working on the ground to ensure an adequate response and reduce the number of people affected. Finally, after a crisis, they evaluate their response, take stock of lessons learned and decide how to prepare for the next crisis'. The DRM Unit in the governorate is sub-divided into different committees, with the LRC heading the training and awareness committee.

In Saida, the focal point for the South Governorate DRR programme explained that they start at the awareness level, distributing leaflets and information regarding upcoming risks and adverse weather conditions and giving demonstrations and performing drills in local schools about what to do during an earthquake, through their support for the LRC's initiative to create safer schools. Regarding preparedness for response, Saida now has a CERT made up of volunteers from various organisations that can respond to emergencies both in and outside of Saida Old City, including at the entrances to Palestine refugee camps, in coordination with the LRC and the Lebanese army. Some infrastructure work has also taken place, such as separating the sewage and water systems and constructing a new electrical network in the Old City. No early warning system is in place. There used to be a siren to warn of upcoming disasters or Israeli raids, but it is no longer functional.

In Tyre, the main focus is on awareness-raising and preparedness for response. Like many other targeted areas, awareness campaigns include focus group discussions with communities and, soon, children's books that describe different types of hazards and how to react in case of disaster will be used in schools for children aged five to 12. In terms of preparedness, Tyre currently has 18 CERTs, with four fully equipped first responder centres. According to the Head of Administration in Tyre Casa, the goal for the DRR Unit over the next few years is to establish more first responder centres and medical centres throughout the union of municipalities to reduce response times.

Figure 3 The evolution of DRR in Lebanon



The evolution of disaster risk reduction in Lebanon

Selected key policy moments, events and legislation



2005 Lebanon endorsed the Hyogo Framework for Action 2005–2015.





2002

Environment Protection Law 444 stated that national hazard mitigation action plans are a priority and should be developed quickly to provide adequate DRM tools in case of natural hazard or war.

Winter storms throughout 2002-2003 prompted the Prime Minister's Office to engage in DRR. Actions included strengthened regulations for the establishment of building codes, and protection for earthquake and fire hazards.

Armed conflict with Israel broke out following a series of Hezbollah attacks on Israeli territory: 'war and political instability stalls all DRR efforts and related institutional reforms' (UNISDR, 2012).



Major forest fires throughout 2007-2008 prompted calls to review the disaster response capacity and coordination. The remit of the High Relief Committee (established in 1977 to organise response and recovery operations and manage funding) was expanded to include disaster preparedness, response, relief and recovery.

UNDP supported the Strengthening Disaster Risk Management Capabilities in Lebanon project, aiming to establish a national DRM Unit, national strategy and systems for DRR. Regional DRM units and DRM plans for 15 governorates created.

A National Committee for DRR was established, as well as a 'National Response Task Force and National Response Plan, the creation of a new law on DRM to reflect coordination structures and mechanisms' (UNDP, 2012).

Alongside ongoing hazard mapping, CNRS completed four multihazard risk assessments, a national-level flood-risk assessment, and trainings for ministry staff, the army and internal security force.



The Making Cities Resilient campaign was launched, with Tripoli, Saida and Tyre among the first in Lebanon to join.

The Union of Tyre Municipalities was the first to create a municipal-level DRM Unit.

In partnership with GFDRR and the DRM Unit, a rapid hazard risk assessment for the Municipality of Tripoli was completed.



Lebanon submitted a national progress report on the implementation of the Hyogo Framework for the period 2013-2015.

The President of the Council for Development and Reconstruction, Lebanon made an official statement at the Third UN World Conference on DRR.

Lebanon endorsed the Sendai Framework for Action 2015-2030.

At the sub-national level, the Saida Resilience Action Plan for 2015 was established with technical support from UNDP.



Official statement made at the Global Platform on DRR by the Permanent Mission of Lebanon to the UN.

The national DRM Unit established the National Coordination Committee on DRR.

Lebanon submitted a national progress report on the implementation of the Hyogo Framework for the period 2011–2013.



Storm Norma prompted interagency response operations and a review of the existing preparedness plans and response capabilities.

Official statement made on behalf of the Government of Lebanon at the Global Platform on DRR in Cancun, Mexico.

The Lebanon Crisis Response Plan 2017–2020 (updated 2019) was released – a joint plan between the Government of Lebanon and national and international partners to 'ensure the protection of displaced Syrians, vulnerable Lebanese and Palestinian refugees; provide immediate assistance to vulnerable populations; support service provision through national systems; and reinforce Lebanon's economic, social and environmental stability'.

Lebanon submitted a Sendai Framework Data Readiness Review report.

22 23

4 The impact of conflict and fragility on DRR

This section draws on a number of examples to demonstrate the diversity and complexity of the intersection of urban violence, poverty and disaster risk across Lebanon – revealing the multiple ways in which the 'fragile city' affects the pursuit of disaster resilience.

4.1 Preparedness for armed conflict

In each of the locations for this study, the types of natural hazards prioritised are similar, with a heavy focus on earthquakes and flooding due to their location on the coast, but there is a need for tailored DRR approaches that take various conflict threats into account, including responding to inter- and intra-community tensions, and between and within sub-national governance structures. Such nuances, while apparent on the ground, are not reflected – intentionally and unintentionally – in formal disaster risk governance policy documents, plans and approaches. The examples below illustrate these differences, and how they affect programme implementation.

In Tripoli, the Syrian conflict led to heightened tensions and clashes between the neighbourhoods of Jabal Mohsen and Bab al-Tabbaneh from 2011 to 2015. Many Syrians had settled in Tripoli prior to the conflict due to family ties and the city's large Sunni Muslim population. Refugees were also drawn there. Jabal Mohsen has a sizeable Alawite population that backs Syrian President Bashar al-Assad and the Syrian government (Ismail et al., 2017). As such, the fighting between these two neighbourhoods was structured along

the same lines as the Syrian conflict itself. The fighting resulted in physical damage to infrastructure, a deterioration in social services and reduced economic productivity and social cohesion. A number of interventions (labelled as DRR and DRM) centre on social cohesion and integration, alongside first aid training for youth, firefighting and emergency response. Several NGOs and civil society organisations are delivering projects, with a strong emphasis on local communities as the first and – as interviewees put it – perhaps only responders if clashes break out again. LRC projects centre on safe schools, which it uses as entry points into the community, alongside ensuring equal service provision and joint activities between the two conflicting communities to reduce tensions, increase social acceptance and ensure safer access. The LRC programme teams believe that these constitute 'conflict-sensitive' DRR in practice, or at least provide a starting point for longer-term engagement with communities.

In Saida, the main conflict threat stems from proximity to two Palestine camps: Ein El Hilweh, the largest in Lebanon, and Mieh Mieh. Ein El Hilweh is at risk of armed conflict between factions in the camp, as well as conflict between camp residents and the Lebanese army. When there are clashes in either camp, the CERT in Saida, comprising different sectarian emergency response organisations, stations ambulances outside the camp entrance points and coordinates with community leaders to remove the wounded. Thus, as with other areas at risk of heightened tension, DRR work in Saida includes first aid for weapon wounded – an area that would not

⁶ The term 'conflict-sensitive' was used frequently by interviewees to denote awareness of conflict dynamics.

typically be included in traditional natural hazard-related DRR programmes as prescribed by commonly used guidance such as that endorsed by the United Nations Office for Disaster Risk Reduction (UNDRR).

During the 2006 war with Israel, Saida was less directly affected than other areas of Lebanon, but hosted many of the people displaced from the south. This, coupled with short-term displacements from the Palestine camps during clashes, shapes the city's DRR work on preparedness for displacement. When Palestine refugees are displaced from Ein El Hilweh due to clashes, the municipality oversees efforts to ensure their safety and meet their needs, in cooperation with various other agencies. To deal with these displacements, the city DRR team reported that they must be prepared, with effective communications systems, shelter and response team capacity.

In Tyre, the main threat of conflict stems from proximity to the border with Israel. Located 26km north of the Blue Line, Tyre is the only major city in Lebanon within the mandate of the UN Interim Forces in Lebanon (UNIFIL) (UN-Habitat, 2017). During the 2006 war, Tyre was cut off from the rest of Lebanon, and the response within the district was ad hoc and uncoordinated. As one respondent explained, 'the people are hungry to receive training on first aid, on firefighting, on having equipment to feel they are safe'.

This demand was met through the establishment of the DRR Unit in the Union of Tyre Municipalities. In one example, the Union of Tyre contributed to establishing a regular coordination mechanism at the Union level between the four ambulance services working in the area, run by the LRC, Civil Defence, the Al Risala Islamic Scouts and the Islamic Health Association, the latter two associated with the political parties Amal and Hezbollah respectively. The four services were unwilling to unite under a single lead organisation, reflecting the broader sectarian environment, so a compromise was found where, rather than having one lead organisation as is typical in

coordination structures, all four were designated as lead organisations, as well as each leading their own teams and having a representative in DRR Unit meetings.

4.2 Conflict preparedness as an entry point for disaster preparedness

Because of the emphasis that many in Lebanon place on preparedness for conflict over natural hazard-related disasters, where successful conflict preparedness is taking place this can be used as an entry point to make risk management interventions seem more relevant to people's current situation and experience. There may also be instances where, conversely, natural hazard-focused work on earthquakes, fires and flooding could be undertaken in ways that integrate Do No Harm and conflictsensitive approaches, and/or explicitly consider conflict as a threat (the specific nature of which would depend on the locality). Using the example of the school safety programme, this section demonstrates how this is already happening, at least to some degree. By extension, schools can be useful entry points into the community, enabling work on preparedness, social cohesion and mitigation for a range of threats.

Schools were used as shelters for refugees fleeing conflict during the 2006 war, and continue to be used during clashes in the Palestine camps and between Lebanese neighbourhoods. Schools run by the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) have been directly affected by armed conflict and violence. While schools are used for shelter in times of armed conflict, they can also be inherently unsafe, particularly with regard to natural hazard-related disasters. According to Naja and Baytiyeh (2014), schools are highly vulnerable to earthquake risk because they are old, poorly maintained and structurally deficient: they are often constructed with rigid, reinforced concrete and non-ductile frame

⁷ The Blue Line is effectively the border between Lebanon and Israel. It was demarcated by the UN in 2000 to determine whether Israel had fully withdrawn from Lebanon following the civil war.

systems, and are typically narrow and shaped like a rectangle, L, T or U – all of which are particularly vulnerable to seismic activity. Schools are unlikely to be retrofitted for earthquake risk as most are rented by the government from private landlords and are exempt from building regulations because they are less than three storeys high (many respondents felt that the authorities could be persuaded to take action if the case was effectively made to make schools safer and more resilient shelters during episodes of conflict). Naja and Baytiyeh (2014: 162) demonstrate how schools used as shelters 'can promote a culture of safety and contribute to community resilience through disaster awareness activities. Such a role in predisaster mitigation and post-disaster rehabilitation can have a positive impact on a community'.

In Tripoli, during the early recovery phase following the armed conflict between Bab al-Tabbaneh and Jabal Mohsen, the LRC held awareness-raising events with parents, inviting mothers from the two opposing communities to the same event. In Saida, the LRC implemented a Schools Emergency Preparedness Project in a public elementary school whose playground shares a wall with Ein El Hilweh. The premises are patrolled by the Lebanese army, with the coordination of UNRWA, due to its proximity to the camp. The shared wall was reinforced and heightened to prevent the entry of fighters into the school (as happened several years ago), and an emergency escape route was created through the basement that leads onto a safe street away from the fighting.

School administrators themselves, as well as support from the Ministry of Education and Higher Education for school safety programmes, have been critical to advancing preparedness activities across the education system as part of the government's efforts to enhance DRR capacities. It can be argued that DRR in schools works under the right conditions, including a physical component, such as resilient construction suited to threats and hazards in situ, and a social component, including willingness by the local community to learn from and adopt risk management practices and behaviours.

Within the broader context of disaster risk governance in Lebanon, the Crisis Response Plan 2017–20 (Government of Lebanon and UN, 2018) emphasises mainstreaming 'conflict sensitivity',

gender, youth, people with specific needs and environment. The LRC also uses conflict sensitivity training, including Do No Harm (Anderson, 1999), with their volunteers. It should be noted that the term 'conflict sensitivity' was often used by respondents to refer to a range of different ideas, from the application of Conflict Sensitive Approaches (Conflict Sensitivity Consortium, 2015) as a programming approach, through to a general awareness that Lebanon is a context of 'fragile peace', where a fractured society permeates disaster risk governance decision-making processes and priorities. As one respondent from the government put it: 'no one really knows how, but Lebanon just works. It shouldn't work on paper, but it does'.

Although in some respects Lebanon is at the early stages of establishing and advancing DRR and disaster risk governance, in other ways it is unusual in its willingness to discuss DRR in terms of natural hazard-related disasters and conflict. Harris et al. (2013: viii) argue that 'in both policy and practice, conflict prevention and disaster risk management are treated as discrete issues, with limited crossover of expertise or joint working'. Although written more than six years ago, this remains largely the norm internationally - with Lebanon providing a rare exception. Through the examples in Lebanon's cities and the work of the LRC, action on disaster management, specifically preparedness, engages with natural hazards, conflict and other threats concurrently. While preparedness measures will vary based on the nature of the threat or hazard, some skills and capacities, such as emergency response, search and rescue, first aid and firefighting, are transferable, and offer a potential entry point to more hazard- and threatspecific prevention and mitigation actions – such as in response to winter storms. Or, as an emergency responder from a religious organisation in Tyre argued, when reflecting on the disaster response agencies working on Storm Norma:

The preparedness for the natural and for the man-made hazard is not completely the same ... If we talk about first aid, firefighting, it is the same. There is no change. But, for example, their work was not taking into consideration the current snow storm [Storm Norma]. There is no clear plan in place. Experiences with disasters such as Storm Norma continue to highlight the need for sufficient response equipment, capacities and coordination mechanisms to respond to such hazards.

There are, however, clear limits. It may be that, as understandings of vulnerability mature, stakeholders involved in disaster risk governance in Lebanon move from a focus on risk management and response to longer-term risk reduction. As seen in other contexts, more nuanced understandings are often coupled with a separation of policies and programmes tackling specific threats – thus separate policy responses to natural hazard-related disasters and conflict may emerge (see James et al., 2014; Siddiqi et al., 2019).

5 Displacement and DRR

Lebanon is currently hosting more refugees compared to population than any other country in the world (UNHCR, 2018). These groups are, however, neglected in Lebanon's formal DRR architecture at the national, sub-national and local levels. Lebanon is not unique in this, prompting agencies such as Internal Displacement Monitoring Centre (IDMC) (2017), UNHCR (2017) and International Organization for Migration (IOM) (2018) to call for greater attention to displaced populations in disaster discourse globally, recognising their particular vulnerabilities and needs, as well as their capacities and potential contribution to risk reduction efforts. Literature exploring disasters and conflict as a driver of displacement has more recently been extended to include evidence of disaster and conflict displacement leading to increased exposure and vulnerability to disasters8 - as in the case of Syrian refugees from Storm Norma, or in other contexts, notably Rohingya refugees in Bangladesh (Johnson et al., 2019) and Venezuelan refugees moving into flood-prone areas in Colombia (Brodzinsky, 2018). The focus here is on Palestine refugees.9

5.1 Refugee camps in Lebanon

Lebanon has hosted Palestine refugees since the war in 1948, and Syrian refugees since the conflict in their country began in 2011. Palestine refugees are scattered among 12 camps and 42 'gatherings' across the country, with 53% living in camps (Government of Lebanon and UN, 2018; UNRWA, 2019). The gatherings are integrated more closely into communities, while the 12 camps are surrounded by checkpoints and, in some cases, security walls and barbed wire. Palestine refugees are often dependent on UNRWA for education, health and social services, are prohibited from legally acquiring, transferring or inheriting property in Lebanon and face discriminatory employment practices.

Most of the Palestine camps were established in 1948, resulting from the exodus of 750,000 Palestinians to Jordan, Lebanon and Syria. Established and run by UNRWA and national Red Cross Societies, refugee camps in southern and central Lebanon (Tyre, Saida and Beirut) were the first point of arrival, with a second generation of camps further to the north (Tripoli) established between 1952 and 1956 to accommodate the continuing influx of refugees from Palestine (see Table 1). Several of the camps have been partially destroyed, including Burj Barajneh, Dbayeh, Rashidieh and Shatila during the Lebanese civil war; Ein El Hilweh between 1982 and 1991; and Mieh Mieh in 1991. Three have been completely destroyed and not rebuilt (UNRWA, 2019). In 2007, fighting between the Lebanese armed forces and the radical militant group Fatah al-Islam destroyed virtually all buildings and infrastructure and forced 27,000 refugees to flee from Nahr el-Bared to nearby Beddawi camp, doubling its population almost overnight (UNRWA, 2008). In mid-2009, around

⁸ For example, see the Internal Displacement Update, which differentiates between disasters and conflict (www.internal-displacement.org/).

⁹ Palestine refugees are those (and their descendants) who fled Palestine in 1948, whose normal place of residence was Palestine and who lost their homes and livelihoods because of war. According to an UNRWA employee interviewed for this study, this also includes 60,000 Lebanese nationals displaced from Palestine.

^{10 &#}x27;Gathering' refers to concentrations of at least 25 Palestinian households living as a distinct social group in a geographically defined area outside of official camps (UN-Habitat, 2017).

10,000 of the 15,000 who fled to Beddawi were still there (UNRWA, 2019).

5.2 Risks and vulnerabilities for displaced communities

The archetypal image of the refugee camp in Lebanon is an informal space, with restrictions on land ownership and the use of permanent construction materials. This is the case even though some Palestine refugees have lived in the camps for more than 70 years. From the outset, Lebanon has strongly upheld the principle of the Palestinians' 'right of return' to their homeland and has 'forcefully reject[ed] the integration of Palestinians into Lebanese society' (Andersen, 2016: 27–28). Even now, one UNRWA worker explained that they are only allowed to rehabilitate existing buildings, most of which were built quickly and haphazardly, rather than construct new ones, and 'not even one kilogram of cement is allowed inside the camps without the permission of the Lebanese government'. Such permission is often rejected.

Whereas, for the Lebanese government, camps seem permanent – hence the no-camp policy for recently arrived Syrian refugees - for Palestinians they invoke temporariness (Ramadan, 2010; Cornish, 2018). Palestine refugees have been reluctant to change their temporary status and 'have opposed efforts to resettle them in exile permanently (even as in practice many have indeed settled elsewhere)' (Feldman, 2014: 248) due to a misplaced belief that settlement in a third country would negate their right of return to Palestine (Andersen, 2016). This has led to a lack of strategic planning, and attempts to correct informal construction through longterm improvement projects in the camps have been consistently resisted 'because of fears that these projects were being undertaken as an alternative to return'. This attitude seems to be changing, with camp improvement projects in Nahr el-Bared cited as proof that some refugees may no longer view sustainable improvement as incompatible with the right of return (Gabiam, 2012: 104). In addition to partnerships between

state entities, non-state groups and camp authorities, concerted effort is required to adapt conventional approaches to the communication of risk information. Specific consideration is required of the complex psychosocial tensions in and around the camps and gatherings, associated with issues of contested rights, individual and group sense of place and risk tolerance to different hazards and threats, which are likely to vary considerably within groups and with the Lebanese population.

Camps in Beirut face higher earthquake risk because, according to one respondent, 'they are very tall buildings, up to 30 storeys, with no engineers present approving anything, so it's very shaky'. Shatila, for example, covers roughly a square kilometre of the city. Surrounded by other neighbourhoods, residents are forced to build vertically rather than horizontally to accommodate newcomers, including many Syrians over the past seven years. This informal construction does not follow a strategic plan or building codes. Open wiring exposed to dripping water from leaky pipes heightens the risk of electrocution, with multiple deaths annually, and concrete made with salt water crumbles easily, weakening buildings and threatening their collapse (Cornish, 2018). According to a respondent working for UNRWA, there are approximately 10 deaths every year in Ein El Hilweh camp in Saida due to exposed electrical wires.

Finally, though not an urban context, it is worth noting that, as a result of Lebanon's experience with Palestinians and the subsequent no-camp policy (Sanyal, 2017), almost 350,000 Syrian refugees live in informal settlements, concentrated in Baalbek and the Bekaa Valley (Government of Lebanon and UN, 2018). Here, they are at risk of winter storms, particularly as their temporary shelters are ill-equipped to deal with severe winter weather, increasing their exposure and vulnerability to natural hazards. Storm Norma affected 'at least 600 Syrian refugees in Bekaa, who had to relocate because of heavy floods or damage to their shelters' (UNHCR, 2019).

Table 1 Palestine refugee camps in Lebanon

Camp	Beddawi	Burj Barajneh	Burj Shemali	Dbayeh	Ein El Hilweh	El Buss
Location	North Lebanon, 5km north of Tripoli	Beirut, near the international airport	South Lebanon, 3km east of Tyre	12km east of Beirut	South Lebanon, Saida	South Lebanon, 1.5km south of Tyre
Date established	1955	1948	1948	1956	1948	1939
Founding organisation	UNRWA	League of Red Cross Societies	UNRWA (1955)	UNRWA	ICRC	French government (for Armenian refugees)
Number of registered refugees	>16,500	>17,945	>22,789	>4,351	>54,116	>11,254
Camp	Mar Elias	Mieh Mieh	Nahr el-Bared	Rashidieh	Shatila	Wavel
Location	Beirut, south-west	South Lebanon, 4km east of Saida	North Lebanon, Tripoli	South Lebanon, 5km from Tyre	Beirut, south	Bekaa Valley, near Baalbek
Date established	1952	1954	1949	1936	1949	1948
Founding organisation	Mar Elias Greek Orthodox convent	UNRWA	League of Red Cross Societies	French government (for Armenian refugees)	ICRC	UNRWA (1952)
Number of registered refugees	~662	>5,250	5,857 (2014) 15,723 IDPs	>31,478	>9,842	~8,806

Note: Figures as of 1 July 2014, and are likely to be significantly underreported. For example, the head of the ICRC sub-delegation in Tyre stated that more than 70,000 people were living in Ein El Hilweh. The focal point for the South Governorate DRR programme put this number at 80,000–90,000.

Source: UNRWA (2019)

5.3 Lack of inclusion in formal DRR mechanisms

The informality of Palestine camps and refugee gatherings raises questions around how national-level DRR can integrate a community that has historically been viewed as temporary and without the same rights as Lebanese citizens. The lack of legal status and protection has created marginalised communities exposed to the risk of urban violence and vulnerable to disasters, yet these most vulnerable spaces are neglected in Lebanon's formal DRR architecture. It is unclear whether this is the result of a decision by the Lebanese authorities or by UNRWA: some interviewees stated that UNRWA was not allowed to sit at the decision-making table,

though it was seen as part of the community and part of the coordination mechanism when conflict or disaster involved the Palestinian camps. Other interviewees claimed that UNRWA did not want to be involved.

The lack of trust that Palestine refugees have in the Lebanese government is evident in the reconstruction efforts in Nahr el-Bared. As one refugee explained:

We believe that our property rights were taken away [during the reconstruction] by reducing the size of our properties, with the new planning layout of wider streets and public spaces reducing the original size of our properties before the camp destruction. The compensation of

land total area deducted was replaced with coverage of building costs for extra floors. Yes, we agree that it provided healthier spaces for ventilation, better exposure to sunlight, private parking spaces near properties and spaces for social occasions.

Trust was also mentioned as an issue in the Storm Norma response. According to a source at the Tyre Union of Municipalities, during the storm Syrian refugees were unwilling to leave their informal settlements when asked to do so by Lebanese emergency responders, even though they were told they would be allowed to return. Their refusal likely had little to do with their being 'stubborn' or 'uncooperative', as some anecdotes suggested, but rather resulted from a lack of trust among the refugees in the Lebanese authorities given the context of coerced returns by the Lebanese government over the previous year (Mhaissen and Hodges, 2019). As an alternative, Lebanese first responders worked with the Syrians to make sandbags to help prevent flooding within the settlements. This example highlights the importance of understanding intergroup trust and perceptions of the state in enhancing local DRR, including preparedness measures. Although beyond the scope of this study there would be value in DRR approaches considering issues of intra- and intergroup social relations, post-traumatic stress and personal experiences of state-society relations in previous and current countries of residence - again, themes not conventionally considered by natural hazard-focused DRR interventions.

Given their exclusion from the formal DRR architecture, Palestinian camps (and to some extent refugee gatherings) are often reliant on UN and non-governmental organisations to assist in improving their resilience through ad hoc DRR programmes. For example, according to one respondent annual flooding in the coastal gatherings near Tyre has been 'ignored by government officials as they do not want the gathering to be located there and, thus, are unlikely to improve living conditions that would encourage the residents to stay'. One of these gatherings, Jal al-Bahar, home to more

than 3,000 individuals, is located on the coast, where heavy storms have previously destroyed shelters (PARD, 2017). Through community-based protection projects, the ICRC has been working to prevent flooding at the site – an ad hoc response to an immediate problem. Although the ICRC considers DRR the remit of the LRC, the ICRC has drawn on its protection mandate to deliver flood prevention action to the most vulnerable in Jal al-Bahar. For the ICRC, while its mandate is conflict-affected persons, not natural hazard impacts, investment in emergency preparedness and response also contributes to building overall risk management capacities.

DRR in the Palestine camps is also complicated by competing priorities and a lack of resources. The Office Director of the Lebanese Palestinian Dialogue Committee remarked: 'The focus is more on the political agenda, which is trying to grant Palestinians some basic rights in Lebanon until their right to return is realised, but we lack needs to go on programmatic level and design programmes that respond to such risks like natural disasters'.

Several examples of good practice in DRR in Palestine camps exist, outside of the formal DRR framework. Based on its experience in the camps over the past 10 years, UNRWA has created an emergency response plan, updated annually, to prepare for violence both internally and externally, as well as natural events such as earthquakes. This includes mapping stakeholders in each camp and their capacities. Coordination meetings with these stakeholders are held at the beginning of a crisis, and there is an emergency coordination forum on WhatsApp. Infrastructure improvements to reduce risk include constructing water and sewage systems to prevent flooding and rehabilitating structures that have been built haphazardly. Reconstruction of Nahr el-Bared has also included earthquake preparedness measures, though these are far from comprehensive.

5.4 Including refugees and the displaced in DRR frameworks

Displacement in MENA is a major concern, with almost 4.5 million people moving to escape conflict and violence in 2017 (NRC, 2018). Violent conflict, climate change, rapid

urbanisation, water scarcity, environmental degradation and socioeconomic inequality are all increasingly recognised as drivers of increasing vulnerability to disasters. However, there is very little consideration of how human mobility, whether within countries as IDPs or as refugees, is accounted for under different DRR plans, or how to integrate the newly settled (IDPs or refugees) effectively to ensure they are informed about and protected from natural hazards. This presents missed opportunities for strategic collaboration between operational agencies concerned with IDPs and refugees, and issues of peace, conflict and disasters, to develop a holistic understanding of compound risk factors and vulnerability to disasters in conflict settings.

The wholesale inclusion of marginalised and excluded groups, particularly IDPs or

refugees from particular socio-religious groups, into formal DRR policy and service provision in Lebanon may not currently be politically palatable. Alternatives will have to be found. This could include linking up discrete DRR policies and plans, each designed for different groups with particular needs, but which together constitute a coherent and strategic approach to DRR; as UNISDR (2017b) notes, DRR strategies 'may be one comprehensive strategy document or a system of strategies across sectors and stakeholders with one overarching document linking them'. Finding ways to account for refugees and displaced people in risk management in Lebanon may require this kind of approach, perhaps involving UNIFIL, the Palestinian Red Crescent, the ICRC and other actors with their own mandates, responsibilities and modes of operation.

6 Conclusions and recommendations

Lebanon is widely regarded as one of the most advanced countries in MENA for DRR, with high-level political support demonstrated by the housing of the DRM Unit within the Office of the Prime Minister, the highest number of cities in the region signing up to the Making Cities Resilient campaign and a national commitment to deliver Lebanon's contribution to the global goals under the Sendai Framework.

The focus to date has primarily been on preparedness and response capacities. Hazard maps have sought to bring scientific rigour to the discussion, and governorate and local-level strategies, plans and coordination mechanisms have been mobilised, with significant technical support from the Lebanese Red Cross. Yet, aside from the national DRM Unit, there has been little buy-in, particularly sustained and systematic financial commitment on the part of the Lebanese government, and the majority of DRR activities are funded externally through grants and programmes – a system that is both unsustainable and unlikely to change in the near future.

At first glance, Lebanon appears to be a typical example where opportunities created through high-level political support for DRR enabled foundational institutional and policy architecture to form, and it is frequently showcased as such in regional and international DRR forums. Closer inspection, however, reveals significant challenges to translating policy into practice. Lebanon's political system has to be navigated at all scales in great detail in order to achieve even the seemingly simple groundwork for preparedness and response coordination mechanisms. While technocratic approaches to DRR may be portrayed by some agencies, such as the LRC, as a politically sensitive way to pursue DRR

in Lebanon, in practice the inherently political nature of disasters needs to be brought into focus in order to understand the contextual specificities of disaster vulnerability. In the context of a confessional system of governance, sectarianism, urban informality, poverty and income inequality, displacement and violent conflict and natural hazard-related disasters, disaster risk in Lebanon is far from apolitical. Further work to understand its 'fragile peace' thus presents opportunities to extend DRR, as well as providing lessons for the Arab States region more broadly.

6.1 Recommendations

A number of recommendations for risk reduction are outlined below:

Using conflict preparedness as an entry point and deepening understanding of vulnerability

Continue to invest in local-level action, while incentivising the state to protect its citizens

First responder capability is critical to ensuring that sufficient capacity is built in the event of a disaster, particularly a seismic hazard. Given the time investment required to develop the necessary personal relationships to provide the foundations for advancing DRR capacities, strategies, plans and coordination mechanisms, continued investment in the LRC and the national DRM Unit is paramount, not only for Lebanon but also as a demonstration case for the region that DRR is an important and necessary component of effective governance. That said, finding ways to avoid circumventing state responsibility for service provision in

Lebanon requires further consideration. It has been well-documented in other contexts that service provision by non-state actors fills an important gap, but can unintentionally reduce the potential drivers which may prompt citizens to hold governments to account for failing to provide those services. In addition to funding discrete DRR programmes, greater consideration could be given to ways to incentivise government across all scales to see DRR as part of the social contract between the state and Lebanese society.

Enacting nationwide DRR measures in Lebanon is feasible – the country does not face many of the constraints or barriers that neighbouring countries do, but even so making progress at local level has required overcoming complexities that could be debilitating at a national scale because of the politics surrounding the country's governance. This is an area where there is virtually no guidance specific to DRR. Until there is, the continued support of nonstate actors such as the LRC, who manage to retain a position of neutrality and who have demonstrated an ability to pursue a long-term vision for DRR, will be critical to maintaining progress on DRR in Lebanon.

Interest in conflict preparedness should be harnessed to advance natural hazard-related disaster preparedness

A number of examples at the local and governorate level show how risk perception, and the prioritisation of and interest in advancing conflict preparedness, have been capitalised on to pursue preparedness for earthquake, flood and fire risk. This could be utilised more purposefully as an entry point, with documentation of the LRC's approach in a way that enables replication elsewhere. In a similar vein, the LRC should be supported to expand coverage of preparedness and risk reduction measures in schools (to fire, earthquake and armed conflict risk), in conjunction with the Ministry of Education and Higher Education. Beyond this, as Lebanon moves from a focus on preparedness and into the domain of risk reduction and mitigation, challenges are likely

to emerge regarding different technical and operational means to address specific hazards and threats. In other countries the maturity of risk management is coupled with a separation of policy frameworks, departmental responsibilities and technical capacity by specific threats. Given this, the DRM Unit should be supported to think more strategically about how to manage different hazards and threats, and what the implications of a shift to longer-term risk reduction would mean for its current policy framework and programming priorities.

A shift is required from the current focus on hazards and exposure to a focus on vulnerability

As part of the development of Lebanon's conception of disaster risk, technical maturity is required to move from risk management to risk reduction. Foundational to this shift is a deeper understanding within the DRM Unit and primary DRR actors of the construction of disaster risk, building on hazard and exposure mapping to include vulnerability mapping. The LRC and other operational NGOs already conduct VCAs oriented around project interventions. Broadening the coverage, deepening the analysis and using findings to inform monitoring of national DRR plans is an important next step. This is going to be challenging when there are no precise numbers on population distribution, 11 a lack of accurate data on disaster losses, and disaster vulnerability is amplified by protracted displacement. There is currently insufficient understanding of vulnerability across Lebanon. Significant investment in understanding the distribution of disaster risk across geographies and social strata would be an important step forward in developing more tailored and targeted risk management interventions. This will also require consideration of intersectionality, the nuances of which will vary depending on the locality, social composition, history of conflict and relationship with the state. This is likely to reveal some uncomfortable truths about where

¹¹ Including per sect, since the only population census performed took place in 1932 under the French mandate (Cherri et al., 2016).

the greatest vulnerabilities to disaster risk are located; likely within displaced, marginalised and excluded communities.

Reducing risk creation and generating expertise on disaster-resilient post-war reconstruction

Immediate action is required to curb risk creation

Avoidance of risk creation remains a neglected area of work, with a lack of enforcement of building codes and urban informality exacerbated by (but not limited to) the absorption of conflict-related displaced populations. In seeking to present itself as a stable and developed country in the region, the government needs to consider the risk of a major earthquake to its citizens, its economy and its stability. This applies not just to new development and retrofitting of existing buildings in Lebanon, but also the viability of reducing risk creation among displaced populations. For example, the government could reconsider the restrictions on building materials in Palestine refugee camps when used to stabilise and retrofit homes to meet basic safety standards, including for more frequent hazards such as household and electrical fires. Any such progress would need to be coupled with politically astute risk communication and information-sharing which links individual concerns around rights including the right to return - with the rationale behind taking action on disaster risk mitigation and prevention in homes and buildings.

Invest in building technical expertise on DRR to leverage opportunities in disaster resilient post-war reconstruction

In 2018, the 4.3-magnitude earthquake near the occupied Golan Heights, less than 35km from Lebanon's southern border and only 60km from Tyre, led to renewed calls for adopting seismic retrofitting in post-war reconstruction and implementing proactive DRR measures in hazard-prone areas. Building Lebanon's technical expertise in disaster resilience – in conjunction with the Ministry of Education and Higher Education through secondary

and tertiary education – could provide a source of future revenue given the significant reconstruction challenges in the region over the coming decade. Post-war reconstruction is a potential growth industry that could help provide a new kind of incentive to develop DRR expertise, and in turn raise the standards of reconstruction expertise at home.

Accelerating responses to disaster and conflict displacement

Extend work on DRR and the protection of displaced populations

Calls to 'ensure that migrants, displaced persons and mobility issues are better incorporated in Disaster Risk Reduction (DRR) policy, strategy and planning, in order to more effectively address the mobility dimensions of disasters' (IOM, 2018: 1) could begin with a concerted effort to learn more about the possible avenues for protection of displaced populations in contexts where recipient governments take different approaches to short- and long-term displacement, as is the case for Palestine and Syrian refugees in Lebanon. Building on the experience of the LRC, ICRC and Palestinian Red Crescent, and the strong links established with communities, guidance should be developed to support government and non-state actors to pursue DRR under different types of responses to displacement, be they camps, 'gatherings', informal settlements or other manifestations of urban informality. Given the political sensitivities involved, focusing initially on evidence from non-state actors – especially the long history of conflict-sensitive interventions by the ICRC across Lebanon - could be an important intermediary step towards harnessing a more diverse set of experiences from which to build a robust set of practical guidance notes for operational agencies.

Proactively engage in, and learn from, international responses to disaster displacement

Regional and international responses to disaster displacement would benefit from stronger engagement with Lebanon and other countries in MENA, where the challenge of managing disaster and conflict displacement is acute. Non-binding agendas for protection such as the Nansen Initiative (2015) and subsequent Protection Agenda implemented by the Platform on Disaster Displacement, is confined to displacement from natural hazards and is 'not applicable to disasters caused by violence and armed conflict' (Nansen Initiative, 2015: 52). The Syrian refugee crisis in Lebanon, together with evidence from other contexts, raises interesting questions around protection in a context where the relationship between climate change, drought and political instability is contested, and where there are multifaceted drivers behind human mobility. Political sensitivities notwithstanding, Lebanon's engagement in international solutions could help ensure that grounded experiences are brought to bear around how to manage high volumes of conflict-related displacement into highly exposed areas. Based on insights and best practice globally, Lebanon's DRM Unit could consider designing an innovative DRR strategy to act as an umbrella framework, ensuring that all individuals in Lebanon are accounted for and have legal frameworks and agencies responsible for their protection from disasters. Systematically mapping which initiatives cover which populations, and ensuring that all individuals are considered - accounting for various different forms of legal status – could be a way to map different protection mechanisms, identify populations excluded or unaccounted for and consider options for harmonisation or coalescence.

The city as a site of action in contexts of 'fragile peace'

Fill the gap in evidence, understanding and practice on how to facilitate DRR in a context of 'fragile peace'

There are multiple avenues for future study related to DRR in fragile and conflict contexts – drawing on the additional complexity of operating in a sectarian society, of DRR in urban areas characterised by high levels of urban informality, of inter- and intra-societal

tensions and the combination of threats in the 'fragile city'. The Lebanese context requires new DRR approaches, for example utilising religious groups as a vehicle for risk information, which has been explored in other contexts (Gianisa and Le De, 2018). This is feasible in Lebanon at the local level, but there are challenges in coordinating across political/religious lines. Lebanon's sectarian context makes much of the mainstream guidance on developing whole-ofsociety approaches unsuitable. This presents an opportunity for Lebanon to document the innovative means being pursued to achieve disaster resilience. With sufficient financial backing, nascent work in this area has the potential to be substantially scaled up, starting by building on preliminary discussions on resilience building in conflict contexts, city profiles and extending early work on systematically applying conflict sensitivity to DRR approaches.¹²

Capitalise on the city as an entry point – building on the success of the Making Cities Resilient campaign – to develop a sub-group focusing on fragile cities

Beyond the scope of this study but an area for future investigation is the specific nature of the link between confessional government arrangements, sectarianism, political fragility and the effectiveness of different approaches to disaster risk governance in urban areas. Given that the Union municipalities in Lebanon have demonstrated an effective entry point for action on DRR – including for example commitments at the city level to campaigns such as Making Cities Resilient and Tripoli and Beirut's city profiles (UN-Habitat, 2017) – the sub-national level represents an effective scale on which to continue building capacity and incentives for taking decisions that help pursue DRR outcomes. Establishing a sub-group in the convening space offered by the Making Cities Resilient campaign focused on fragile cities would be a useful starting point – allowing experience and insights to be shared among sub-national government bodies. From a research perspective, in Lebanon the Union of Municipalities represents a site of study through which to learn more about the complex

¹² Extending the discussions initiated at the 2018 Conference on Strengthening Community Resilience in the MENA Region, convened by the Lebanese Red Cross and German Red Cross.

sectarian dynamics that shape political structures and decision-making outcomes related to the prioritisation of need, distribution of resources and political commitment to action.

The distinct but interrelated trends of poverty and vulnerability in fragile and conflict-affected contexts, together with 'unprecedented urbanisation' (de Boer, 2015: 1), intersect with a growing focus on cities as an entry point and site for action on DRR. The result is a complex and multifaceted operating environment, where the construction of disaster risk cannot be uncoupled from considerations of urban poverty and violence.

This research has sought to demonstrate how closer inspection of the intersection of urban

poverty, violence and disaster offers new insight into the challenges that must be overcome in order to achieve disaster resilience. As such, issues of violence, conflict and fragility warrant substantially more attention in mainstream discussions of urban disaster resilience.

Translating the insights from this case study into programmable actions, with priorities, costings and timescales, requires consideration of factors such as which administrative levels should be targeted, who needs to finance what and who needs to take the first steps in creating the political opportunity for making DRR in Lebanon a reality for Lebanese and displaced individuals within its borders.

References

- Andersen, L. (2016) *The neglected: Palestinian refugees in Lebanon and the Syrian refugee crisis*. Copenhagen: Danish Institute for International Studies (http://pure.diis.dk/ws/files/739488/DIIS_Report_2016_12_Web.pdf)
- Anderson, M.B. (1999) *Do no harm: how aid can support peace or war*. Boulder, CO: Lynne Rienner Baytiyeh, H. (2015) 'Developing effective earthquake risk reduction strategies: the potential role of academic institutions in Lebanon' *Prospects* 45: 245–258 (https://doi.org/10.1007/s11125-015-9344-3)
- Baytiyeh, H. (2017) 'Socio-cultural characteristics: the missing factor in disaster risk reduction strategy in sectarian divided societies' *International Journal of Disaster Risk Reduction* 21: 63–69 (https://doi.org/10.1016/j.ijdrr.2016.11.012)
- Bidinger, S., A. Lang, D. Hites, Y. Kuzmova, E. Noureddine, and S. Akram (2014) *Protecting Syrian refugees: laws, policies and global responsibility-sharing*. Boston: Boston University School of Law (www.bu.edu/law/files/2015/08/syrianrefugees.pdf)
- Birkland, T.A. (2006) 'Lessons of disaster: policy change after catastrophic events' *Journal of Public Administration Research and Theory* 19(4): 989–992
- Brodzinsky, S. (2018) 'Vulnerable Venezuelans find help in Colombia' *UNHCR News*, 5 October (www.unhcr.org/news/stories/2018/10/5bb71ad34/vulnerable-venezuelans-find-help-colombia.html)
- Cammett, M. (2015) 'Sectarianism and the ambiguities of welfare in Lebanon' Current Anthropology 56(S11): S76–S87 (https://.doi.org/10.1086/682391)
- Cherri, Z., González, P.A. and Delgado, R.C. (2016) 'The Lebanese–Syrian crisis: impact of influx of Syrian refugees to an already weak state' *Risk Management and Healthcare Policy* 9: 165–172
- Conflict Sensitivity Consortium (2015) Conflict-sensitive approaches to development, humanitarian assistance and peace building: tools for peace and conflict impact assessment. Conflict Sensitivity Consortium
- Cornish, C. (2018) 'Beirut: when home is a refugee camp' FT Magazine, 22 November (www.ft.com/content/b27283ce-ed29-11e8-8180-9cf212677a57)
- De Boer, J. (2015) 'Resilience and the fragile city' *Stability: International Journal of Security and Development* 4(1): Art. 17 (http://doi.org/10.5334/sta.fk)
- Disasters (1977) 'Editors' introduction' Disasters 1(1): 1
- Di Peri, R. (2017) 'Beyond sectarianism: hegemony, reproduction and resilience in Lebanon' *Mediterranean Politics* 22(3): 426–431
- Fawaz, M. and Peillen, I. (2003) *Understanding slums: case studies for the global report on human settlements* 2003 the case of Beirut. Beirut: United Nations-Habitat (www.ucl.ac.uk/dpu-projects/Global_Report/pdfs/Beirut.pdf)
- Feldman, I. (2014) 'What is a camp? Legitimate refugee lives in spaces of long-term displacement' *Geoforum* 66: 244–252 (https://doi.org/10.1016/j.geoforum.2014.11.014)
- Gabiam, N. (2012) 'When "humanitarianism" becomes "development": the politics of international aid in Syria's Palestinian refugee camps' *American Anthropologist* 114(1): 95–107 (https://doi.org/10.1111/j.1548-1433.2011.01399.x)
- GFDRR Global Facility for Disaster Risk Reduction (2017) *Think hazard! Lebanon*. Washington, DC: World Bank (http://thinkhazard.org/en/report/141-lebanon/TS)
- Government of Lebanon and UN (United Nations) (2018) *Lebanon crisis response plan* 2017–2020. Beirut: Government of Lebanon and UN (www.data.unhcr.org/syrianrefugees/download.php?id=7723)
- Gianisa, A. and Le De, L. (2018) 'The role of religious beliefs and practices in disaster: the case study of 2009 earthquake in Padang city, Indonesia' *Disaster Prevention and Management* 27(1): 74–86

- GRIP Global Risk Identification Programme (2010) Disaster risk assessment in Lebanon: a comprehensive country situation analysis. Geneva: GRIP
- Harajli, M., Sadek, S. and Asbahan, R. (2002) 'Evaluation of the seismic hazard of Lebanon' *Journal of Seismology* 6(2): 257–277 (https://doi.org/10.1023/A:1015687602473)
- Harris, K., Keen, D. and Mitchell, T. (2013) When disasters and conflicts collide: improving links between disaster resilience and conflict prevention. London: ODI (www.odi.org/publications/7257-disasters-conflicts-collide-improving-links-between-disaster-resilience-conflict-prevention)
- Human Rights Watch (2017) 'As if you're inhaling your death': the health risks of burning waste in Lebanon. New York: Human Rights Watch (www.hrw.org/sites/default/files/report_pdf/lebanon1117_web_1.pdf)
- ICRC International Committee of the Red Cross (2010) *World disasters report 2010: focus on disasters risk*. Geneva: ICRC (www.ifrc.org/en/publications-and-reports/world-disasters-report/wdr2010)
- IDMC Internal Displacement Monitoring Centre (2017) *Positioned for action: displacement in the Sendai Framework for disaster risk reduction*. Geneva: IDMC (www.internal-displacement.org/publications/positioned-for-action-displacement-in-the-sendai-framework-for-disaster-risk-reduction) IDMC (2018) *Global report on internal displacement*. Geneva: IDMC
- IOM International Organization for Migration (2018) *Taking Sendai forward: IOM progress report on disaster risk reduction and resilience 2018*. Geneva: IOM (https://reliefweb.int/report/world/taking-sendai-forward-iom-progress-report-disaster-risk-reduction-and-resilience-2018)
- Inter-Agency Coordination Lebanon (2019) *Winter storms: situation report 16 January 2019*. Beirut: UNHCR (United Nations High Commissioner for Refugees) (https://reliefweb.int/report/lebanon/winter-storms-situation-report-16-january-2019)
- Ismail, K., Wilson, C. and Cohen-Fournier, N. (2017) Syrian refugees in Tripoli, Lebanon. Refugees in Towns case study series. Tripoli: Feinstein International Center, Tufts University (http://fic.tufts.edu/assets/Tripoli-FINAL-5-July.pdf)
- James, S., Oven, K., Manyena, B. and Aryal, K. (2014) 'Governance struggles and policy processes in disaster risk reduction: a case study from Nepal' *Geoforum* 57: 78–90
- Johnson, C.L., Tunstall, S.M. and Penning-Rowsell, E.C. (2005) 'Floods as catalysts for policy change: historical lessons from England and Wales' *International Journal of Water Resources Development* 21, 561–575
- Johnson, T., von Meding, J., Gajendran, T. and Forino, G. (2019) 'Disaster vulnerability of displaced people in Rakhine State, Myanmar' in Asgary, A. (ed.) Resettlement challenges for displaced populations and refugees. Sustainable development goals series. Berlin: Springer
- Lebanese Red Cross (2016) Guidelines and strategy for safe and disaster resilient communities in Lebanon. Beirut: Lebanese Red Cross
- Lebanon Humanitarian Country Team (2017) 2017–2018 Contingency Plan: Lebanon. Strategic summary. Beirut: UN OCHA (United Nations Office for the Coordination of Humanitarian Affairs) (https://fscluster.org/sites/default/files/documents/fss_contingency_plan_2017-2018.pdf)
- Lucchi, E. (2014) *Humanitarian interventions in settings of urban violence*. London: ALNAP (www.alnap.org/help-library/alnap-lessons-paper-humanitarian-interventions-in-settings-of-urban-violence)
- Mhaissen, R. and Hodges, E. (2019) *Unpacking return: Syrian refugees' conditions and concerns*. Beirut: Sawa for Development and Aid (https://reliefweb.int/sites/reliefweb.int/files/resources/SAWA_Unpacking%20Return%20Report.pdf)
- Muggah, R. (2012) Researching the urban dilemma: urbanization, poverty and violence. Ottawa: International Development Research Centre
 - (www.idrc.ca/en/article/researching-urban-dilemma-urbanization-poverty-and-violence)
- Muggah, R. (2015) 'Deconstructing the fragile city: exploring insecurity, violence and resilience' *Environment and Urbanisation* 26(2): 345–358
- Naja, M.K. and Baytiyeh, H. (2014) 'Towards safer public school buildings in Lebanon: an advocacy for seismic retrofitting initiative' *International Journal of Disaster Risk Reduction* 8: 158–165 (https://doi.org/10.1016/j.ijdrr.2014.03.005)

- Nansen Initiative (2015) Agenda for the protection of cross-border displaced persons in the context of disasters and climate change. Volume I. Geneva: Nansen Initiative (https://nanseninitiative.org/wp-content/uploads/2015/02/PROTECTION-AGENDA-VOLUME-1.pdf)
- NRC Norwegian Refugee Council (2018) '12,000 people a day internally displaced by conflict across the middle east in 2017', 16 May (www.nrc.no/news/2018/may/12000-people-a-day-internally-displaced-by-conflict-across-the-middle-east-in-2017/)
- Olson, R.S. (2000) 'Towards a politics of disaster: losses, values, agendas and blame' *International Journal of Mass Emergencies and Disasters* 18(2): 265–287
- Opitz-Stapleton, S., Nadin, R., Kellett, J., Quevedo, A., Caldarone, M. and Peters, K. (2019) *Risk-informed development: from crisis to resilience*. London: ODI; New York: UNDP (United Nations Development Programme)
- PARD (2017) Annex 01: solid waste management proposal. Beirut: the Popular Aid for Relief and Development
- Pelling, M. and Dill, K. (2008) *Disaster politics: from social control to human security*. Working Paper 1. London: Department of Geography, Kings College London
- Peters, K. (2017) The next frontier for disaster risk reduction: tackling disasters in fragile and conflict-affected contexts. London: ODI (www.odi.org/publications/10952-next-frontier-disaster-risk-reduction-tackling-disasters-fragile-and-conflict-affected-contexts)
- Peters, K., Peters, L.E.R., Twigg, J. and Walch, C. (2019a) Disaster risk reduction strategies and the challenge of context: what to do with conflict? London: ODI
- Peters, K., Holloway, K. and Peters, L.E.R. (2019b) Disaster risk reduction in conflict contexts: the state of the evidence. London: ODI
- Peters, K., Dewulf, A., Barbelet, V., Benjoudji, C. and Le Masson, V. (2019c) Taking the disaster risk reduction flag down: the paradox of advancing disaster resilience in Chad. London: ODI
- Ramadan, A. (2010) 'In the ruins of Nahr al-Barid: understanding the meaning of the camp' *Journal of Palestine Studies* 40(1): 49–62 (https://doi.org/10.1525/jps.2010.XL.1.049)
- Rüttinger, L., D. Smith., G. Stang., D. Tanzler. and J. Vivkananda. (2015) A new climate for peace: taking action on climate and fragility risks. Berlin: Adelphi, International Alert, Woodrow Wilson International Center for Scholars, European Union Institute for Security Studies
- Saavedra, L. (2016) We know our wounds: national and local organisations involved in humanitarian response in Lebanon. London: ALNAP (www.alnap.org/resource/22462.aspx)
- Salamon, A., Rockwell, T., Ward, S.N., Guidoboni, E. and Comastri, A. (2007) 'Tsunami hazard evaluation of the eastern Mediterranean: historical analysis and selected modelling' *Bulletin of the Seismological Society of America* 97(3): 705–724

 (www.semanticscholar.org/paper/Tsunami-Hazard-Evaluation-of-the-Eastern-%3A-Analysis-
 - (www.semanticscholar.org/paper/Tsunami-Hazard-Evaluation-of-the-Eastern-%3A-Analysis-Salamon-Rockwell/ab8f65ffdf9d692623a3295f526620dd9c617485)
- Salloukh, B.F. (2006) 'The limits of electoral engineering in divided societies: elections in postwar Lebanon' *Canadian Journal of Political Science Revue canadienne de science politique* 39(3): 635–655 (https://doi.org/10.1017/S0008423906060185)
- Sanderson, D., Knox Clarke, P. and Campbell, L. (2012) *Responding to urban disasters: learning from previous relief and recovery operations*. London: ALNAP (www.alnap.org/help-library/responding-to-urban-disasters-learning-from-previous-relief-and-recovery-operations)
- Sanyal, R. (2017) 'A no-camp policy: interrogating informal settlements in Lebanon' *Geoforum* 84: 117–125 (https://doi.org/10.1016/j.geoforum.2017.06.011)
- Siddiqi, A. (2018) 'Disasters in conflict areas: finding the politics' *Disasters* 42(S2): S161–S172 (https://doi.org/10.1111/disa.12302)
- Siddiqi, A., Peters, K. and Zulver, J. (2019) 'Doble afectacion': living with disasters and conflict in Colombia. London: ODI
- UNDP United Nations Deveopment Programme (2015) *Annual report 2014*. Beirut: UNDP (www. lb.undp.org/content/dam/lebanon/docs/downloads/Annual%20report%202014%20English.pdf)

- UNDP (2017) Lebanon stabilization and recovery programme 2017. Beirut: UNDP (www.lb.undp.org/content/dam/lebanon/docs/CrisisPreventionRecovery/Publications/UNDP%20 Lebanon%20Stabilization%20and%20Recovery%20Programme%202017.pdf)
- UNDP (2018) *Arab cities resilience report*. Bangkok: UNDP (www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/Climate%20Change/Arab-States-CCA.pdf)
- UNDP, GEF (Global Environment Fund) and Lebanon Ministry of the Environment (2016) Sustainable land management in the Qaraoun catchment, Lebanon project document. Beirut: UNDP (www.thegef.org/sites/default/files/project_documents/12-01-14_Project_Document_PAD.pdf)
- UNEP United Nations Environment Programme (2007) *Lebanon post-conflict environmental assessment*. Nairobi: UNEP (https://postconflict.unep.ch/publications/UNEP_Lebanon.pdf)
- UN-Habitat (2017) City profile: Tyre. Beirut: UN-Habitat (https://unhabitat.org/tyre-city-profile-2017)
- UNHCR United Nations High Commissioner for Refugees (2017) UNHCR, displacement and disaster risk reduction. A policy brief: 2017 update. Geneva: UNHCR (www.preventionweb.net/publications/view/53214)
- UNHCR (2018) Global trends: forced displacement in 2017. Geneva: UNHCR
- UNHCR (2019) Storm flooding brings misery to Syrian refugees in Lebanon. Geneva: UNHCR (www.unhcr.org/news/latest/2019/1/5c386d6d4/storm-flooding-brings-misery-syrian-refugees-lebanon.html)
- UNISDR UN Office for Disaster Risk Reduction (2005) *Hyogo Framework for Action* 2005–2015. Hyogo: UNISDR (www.unisdr.org/we/coordinate/hfa)
- UNISDR (2012) *Making Lebanon resilient: achieving disaster risk reduction good practice country brief.* Cairo: UNISDR (www.unisdr.org/files/32374_unitednationmakinglebanonresilient.pdf)
- UNISDR (2015) Sendai Framework for Disaster Risk Reduction 2015–2030. Sendai: UNISDR (www.unisdr.org/we/inform/publications/43291)
- UNISDR (2017a) Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction. Geneva: UNISDR (www.unisdr.org/we/inform/terminology)
- UNISDR (2017b) [Global Platform 2017] Plenary session 1: national and local disaster risk reduction strategies paving the way for action by all. Issue brief final draft. Geneva: UNISDR
- UNRWA UN Relief and Works Agency for Palestine Refugees in the Near East (2008) 'Relief and early recovery appeal for Nahr El-Bared camp'. Amman: UNRWA (www.unrwa.org/resources/emergency-appeals/relief-and-early-recovery-appeal-nahr-el-bared-camp)
- UNRWA (2019) 'Where we work Lebanon'. Amman: UNRWA (www.unrwa.org/where-we-work/lebanon)
- Verner, D., Ashwill, M., Christensen, J., McDonnell, R., Redwood, J., Jomaa, I., Saade, M., Massad, R., Chehade, A., Bitar, A. and Treguer, D. (2018) *Droughts and agriculture in Lebanon: causes, consequences, and risk management*. Washington, DC: World Bank Group (http://documents.worldbank.org/curated/en/892381538415122088/pdf/130405-WP-P160212-Lebanon-WEB.pdf)
- Wisner, B. (2017) 'Science matters! A reflection on the first issue of Disasters' *Disasters* 40th anniversary special issue (https://wol-prod-cdn.literatumonline.com/pb-assets/assets/14677717/ DISA_12254-1509477990000.pdf)
- World Bank (2014) *Natural disasters in the Middle East and North Africa: a regional overview*. Washington, DC: World Bank (www.worldbank.org/en/region/mena/publication/natural-disasters-in-the-middle-east-and-north-africa)
- World Bank (2018) *Urban population (% of total)*. Washington, DC: World Bank (https://data.worldbank.org/indicator/sp.urb.totl.in.zs)
- Ziadé, R., Abdallah, C. and Baghdadi, N. (2014) 'The effect of forest fire on mass movement in Lebanese mountainous areas' *International Journal of Wildland Fire* 23(6): 845–859 (https://doi.org/10.1071/wf13077)

Annex 1 Primary data collection: list of agencies interviewed

Fieldwork period	Agencies interviewed
November 2018	 Amel Association International Arab STAG ESCWA GIZ IFRC IOM Lebanese Red Cross National DRM Unit (Prime Minister's Office) Palestinian Red Crescent Ruwwad Tripoli Municipal Council UNDP UN Habitat
January 2019	 Al Risala Islamic Scouts CNRS Danish Red Cross Germany Embassy German Red Cross GIZ ICRC IFRC Zahraa Clinic Lebanese Palestinian Dialogue Committee Lebanese Red Cross National DRM Unit (Prime Minister's Office) Netherlands Red Cross North Governorate (Tripoli) Ruwwad Saida Community Emergency Response Team Ein El Hilweh Elementary Mixed School South Governorate (Saida) Tripoli Qobbeh Second Public Secondary Mixed School Tebbeneh Second Kindergarten Tyre Union of Municipalities UNDP UNRWA

42



ODI is an independent, global think tank, working for a sustainable and peaceful world in which every person thrives. We harness the power of evidence and ideas through research and partnership to confront challenges, develop solutions, and create change.

ODI 203 Blackfriars Road London SE1 8NJ

+44 (0)20 7922 0300 info@odi.org

odi.org odi.org/facebook odi.org/twitter