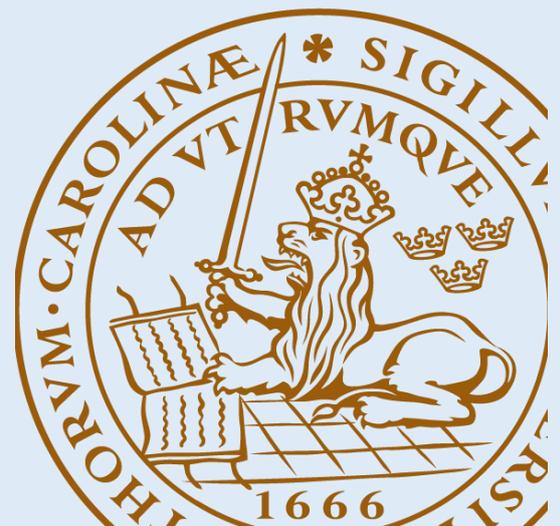


From emergency to sustainability: the case of integrating disaster risk reduction in protracted refugee settings. Case study from Kutupalong and Dadaab refugee camps

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Abstract

In the last 20 years more than 7,300 disaster events were recorded across the world. Global trends indicated that in 2019 over 79 million people were displaced worldwide, 45 million were internally displaced and there were 26 million refugees. The nature of disasters is increasingly complex, uncertain and long lasting and refugees represent a growing community often disproportionately affected by natural hazards. Despite the recognition of the importance of disaster risk reduction (DRR) on a national and institutional level, there exists a gap in conducting research specifically targeting the integration of DRR strategies in protracted crises and in particular protracted refugee settings (PRS). This research seeks to bridge the gap between diverging understandings of DRR and its use in the humanitarian system to foster better understanding as to why there is a lack of DRR strategies in PRS. Whilst natural hazards cannot be prevented in their entirety, much can be done to reduce their impact on society. Using two case studies, this thesis sets out a comparative analysis identifying factors acting as barriers to enhancing the integration of DRR in PRS. Three factors are presented as challenges preventing a complete integration of DRR; a lack of risk awareness, structural limitations of the humanitarian system and funding shortcomings.

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Summary

At such a critical juncture where natural hazards such as floods, landslides and droughts are forcing millions of people worldwide to flee their homes, understanding the connection between disaster risk reduction (DRR) and protracted crisis settings is even more necessary than before. In many protracted crisis contexts, populations are increasingly likely to be exposed to natural hazards as these events are set to become more frequent and more intense thanks to climate change.

Refugee camps are often located in remote areas which are deemed not suitable for living. For instance, camps are often located on land that is unstable or sloping and is prone to flooding. Moreover, refugee camps tend to be densely populated meaning that there is a risk of hazards having more widespread damage or spreading much quicker. The combination of these factors, amongst others, renders refugee camps more vulnerable to natural hazards. A survey conducted by UNHCR in 2015 found that refugees were exposed to 150 natural hazards in the space of the year 2013 – 2014 (UNHCR, 2017). The more common of these hazards, affected over 400,000 refugees living in refugee camps (UNHCR, 2017). Reducing disaster risk associated with natural hazards is therefore fundamental in order to meet humanitarian needs and promote sustainable development.

This thesis aims to bridge the gap between diverging understandings of DRR and its use in the humanitarian system to foster better understanding as to why there is a lack of DRR strategies in protracted refugee setting (PRS). The literature review analysed different policy frameworks to reducing disaster risk and research revealed that these frameworks widely recognise the importance of DRR. However, the practice of integrating DRR in humanitarian operations is often considered unfeasible in PRS, as PRS serve to exacerbate disaster risks as a result of increased vulnerability and weakened response capacity. Three factors were identified from the literature review as potential barriers to enhancing the integration of DRR in PRS. These include; the lack of risk awareness, structural limitations to the structure of the humanitarian system and funding shortcomings for DRR and form the basis of the discussion in this thesis. Using the two case studies of Kutupalong and Dadaab refugee camps allows for a direct comparison of the results in the literature review with the findings of an actual ongoing PRS.

The findings of this thesis suggest that there exists an overarching lack of a standard practice for embedding DRR in PRS. It is clear that the impact from natural hazards is far reaching and inevitably plays an increasing role in the humanitarian system. What this suggest is that there

exists a two-way relationship in regards to establishing linkages between PRS and natural hazards. Firstly, the relationship reflecting the impact natural hazards have on PRS. Secondly, the relationship reflecting the impact PRS have on the environment and therefore affecting natural hazards. Comparative analysis of the two case studies shows that both PRS face similar deep-rooted challenges to further integrating DRR processes. In line with this, this thesis finds that all factors played a role, but not every factor played a role every time or to the same extent. Specifically, no single factor is capable of explaining the lack of DRR in PRS. But collectively each challenge plays a crucial role as part of the solution and potential to reshape the way humanitarian organisations prepare for and respond to natural hazards in PRS.

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Acronyms

DRR – Disaster Risk Reduction

EWS – Early Warning System

HFA – Hyogo Framework for Action

IFRC – International Federation of Red Cross and Red Crescent

ISCG – International Sector Coordination Group

ISG – International Crisis Group

OCHA – Office for the Coordination of Humanitarian Affairs

ODI – Overseas Development Institute

PRS – Protracted Refugee Settings

UNDP – United Nations Development Programme

UNDRR - United Nations Office for Disaster Risk Reduction

UNHCR – United Nations High Commissioner for Refugees

1. Introduction

In the last 20 years more than 7,300 disaster events were recorded across the world (CRED, 2020). To put this into perspective, the human cost of 7,300 disasters has amounted to over one million lives lost and affected over four billion people worldwide, often affecting populations more than once (CRED, 2020).

The nature of disasters is increasingly complex, uncertain and long lasting (Bennett, 2015). As recent years have indicated humanitarian needs are expected to grow as disasters become more frequent and more intense (Zaman et al., 2020). In 2018, the Office for the Coordination of Humanitarian Affairs (OCHA) stated that the average humanitarian crisis is set to last more than nine years (OCHA, 2018). In response, according to the most recent Global Humanitarian Assistance Report (GHA) (GHA, 2020) more than one billion citizens worldwide are estimated to reside in regions experiencing protracted crisis or crises. To put this in context, this amounts to 16 percent of the world's population facing protracted crises (Development Initiatives, 2020).

The implications of protracted crises are creating new challenges for humanitarian response. The impact attributed to protracted crises vary from prolonged displacement, food insecurity, high levels of mortality and poverty (Development Initiatives, 2020). These challenges contribute to the increased use of scarce resources and funds, placing increased burden on responding organisations. Which in turn has led to short term solutions to long-term problems. In view of the vast range of needs and longevity of people requiring assistance, protracted crises often represent as the main contributor of humanitarian needs (Slim & Lopes Morey, 2016), more specifically, according to the United Nations Office for Disaster Risk Reduction (UNDRR) protracted crises make up 80 percent of the humanitarian portfolio (UNDRR, 2020). By taking up such a vast proportion of the humanitarian portfolio it is vital to address the root causes of humanitarian needs.

It should be noted that there are many examples of protracted crisis/crises. According to the International Rescue Committee's (IRC) "emergency watchlist" (IRC, 2018), there are over ten crises 'to watch' including crises currently taking place in Yemen, Ethiopia and Burkina Faso to name a few (IRC, 2018). However, to narrow the scope of this research, this thesis will focus on protracted refugee settings (PRS) in particular given that large scale displacement is set to dramatically increase as a result of rising conflict, poverty and climate change all of which are determinants of a protracted crisis (IDMC, 2019).

Recent decades have proved witness to the staggering growth of displaced people whether due to conflict, natural hazards or epidemics. According to the United Nations High Commissioner for Refugees (UNHCR) global trends indicate that in 2019, over 79 million people were displaced worldwide, 45 million were internally displaced and there were 26 million refugees (UNHCR, 2019). A survey conducted in 2015 for UNHCR found that refugees were exposed to 150 natural hazards in the space of the year 2013 – 2014 (UNHCR, 2017). The more common of these hazards, floods, landslides and cyclones affected over 400,000 refugees living in refugee camps (UNHCR, 2017). These figures highlight new humanitarian challenges, to the extent that scholars argue for the acknowledgement of a global refugee crisis (Milton et al., 2017). As a result of increased displacement, existing refugee camps have expanded significantly and there has been the need for the development of new camps to accommodate the influx of refugees. However, these refugee camps scattered worldwide have long been thought of and recognised as “temporary space[s] in which refugees may receive humanitarian relief and protection until a durable solution can be found to their situation” (Ramadan, 2013, p. 65). Echoing the notion of refugee camps as temporary spaces Ramadan (2013) goes so far to say that the permanence of refugee camps was never intended but has now become reality. Nevertheless, the implications of these statements can largely be attributed to notion that refugee camps are highly vulnerable to disasters associated with natural hazards (UNHCR, n.d.). It should be acknowledged that the emphasis on challenges for humanitarian response is made to recognise that it is primarily humanitarian organisations that are the main and largest entity responding to the events in refugee settings (Chkam, 2016).

However, in order for solutions to be sustainable and durable they must also contribute to reducing disaster risk. The discipline of reducing disaster risk emerges from the practice and concept of Disaster Risk Reduction (DRR). It is concepts and practices such as DRR, through initiatives and processes, that promote long-term action to reduce exposure and vulnerability to natural hazards (Slim & Lopes Morey, 2016; UNISDR, 2020 - 2021). As past events have indicated coupled with the lack of long-term solutions, it has become clear that more and more refugee camps are likely to be affected by natural hazards. Thus, as greater proportions of future generations are likely to witness a protracted crisis it is crucial to document challenges and gaps related to enhancing the integration of DRR in PRS. Despite the recognition of the importance of DRR on a national and institutional level, there exists a gap in conducting research specifically targeting the integration of DRR strategies in protracted crises and in particular PRS (Zaman et al., 2020). This disconnect emphasises that integrating DRR

strategies in PRS remains a challenge. And yet, through bringing together DRR and humanitarian actors operating in protracted crises, it is possible to address both needs and risk.

1.1 Research aim and questions

Unpacking the relationship between DRR strategies and PRS is the primary goal of this research as it highlights the importance of DRR strategies in order to provide durable solutions to uncertain and complex protracted settings. Within the context of the Kutupalong refugee camps in Cox Bazar, Bangladesh and Dadaab refugee camps in Kenya, the specific research goal is broken down into questions concerning:

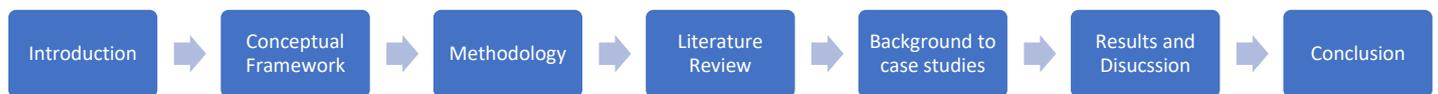
1. In what way do relationships exist between protracted refugee settings and natural hazards?
2. What are the perceived challenges to enhancing the integration of DRR practices in protracted refugee settings expressed in policy and wider literature?

The purpose of analysing this research problem is to further the understanding that DRR strategies are a critical element in humanitarian operations. Moreover, this will contribute to our understanding of how DRR strategies can reduce the risks associated with natural hazards in an attempt to strive towards building resilient communities. This thesis contributes to current discussions surrounding the concept and practice of DRR and humanitarian response in PRS, providing insight into how the humanitarian system operates and the challenges of getting DRR integrated into humanitarian operations. Finally, this research reiterates that the purpose of enhancing DRR as part of the humanitarian response is to limit the cycle of vulnerability for citizens and institutions to hinder disasters evolving into protracted crises (Bennett, 2015).

The Kutupalong and Dadaab refugee camps are selected as case studies for this thesis. The reason behind this selection will be further outlined in the methodology. But these case studies primarily show how the reliance on humanitarian aid coupled with the camps vulnerability to natural hazards, means that the camps are likely to be in place for many years to come (Zaman et al., 2020).

1.2 Thesis Outline

The thesis follows the structure described below:



Chapter 2 describes the key concepts on which the conceptual framework of this thesis is based upon.

Chapter 3 outlines the methodology, data collection and analysis methods.

Chapter 4 builds upon and brings together the key concepts presented in *chapter 2* to form a comparative literature review on DRR and the humanitarian system.

Chapter 5 provides a background into the case studies – Kutupalong and Dadaab refugee camps.

Chapter 6 presents and analyses the main findings of this thesis to further understand and pinpoint the perceived challenges to strengthening DRR practices in protracted crisis settings.

Chapter 7 concludes this thesis.

2. Conceptual Framework

To provide insight on DRR in PRS this chapter outlines main concepts used in the thesis. Concepts on which the conceptual framework of this thesis is based on include protracted crisis and PRS, the humanitarian system, disasters, natural hazards, DRR and refugees.

2.1 Concepts

2.1.1 Protracted crisis and PRS

In its simplest form, a protracted crisis can be described as a crisis resulting in the combination of short and long-term needs arising from a significant proportion of the population (ICRC, 2016). Linkages to this definition can be seen in the way in which the Overseas Development Institute (ODI) portray protracted crises. The ODI view a protracted crisis as a culmination of factors, such as disasters, migration, poverty, political instability, that serve to undermine the capacity of states to prevent and respond to such crisis (Bennett, 2015). To echo the description of protracted crisis by the ODI, UNDRR argue that it is indeed these factors that exacerbate vulnerability and limit people's ability to cope with stresses and shocks (UNDRR, 2019). Thus, as a result of their nature, a protracted crisis tends to last several years. In terms of PRS – a major consequence of crisis - the average length of displacement is 17 years (Sova, 2017). As this thesis primarily focuses on PRS it will use the following definition as it encompasses all the characteristics previously mentioned. UNHCR defines a PRS as one in which, “refugees have been displaced for five years or longer... without immediate prospects for implementation of durable solutions” (Long, 2011, p. 1).

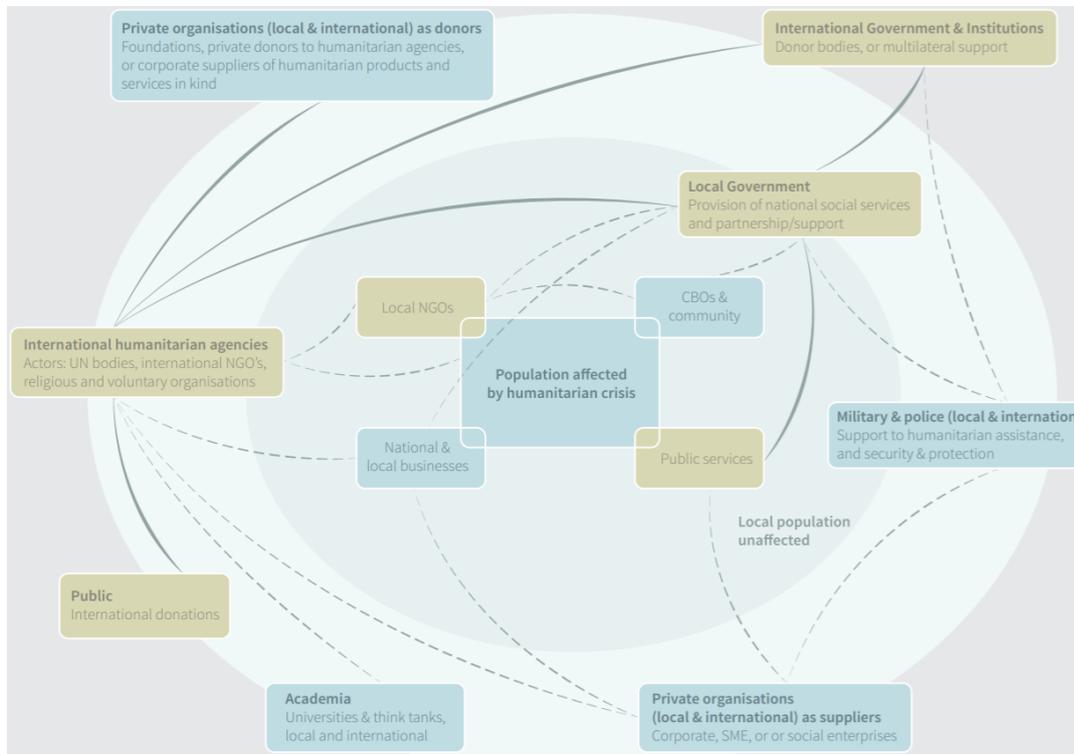
Whilst it can be difficult to agree upon exact determinants and duration of protracted crises, both the UNDRR and ODI agree upon the implications and consequences the impact of such crises have on the population and institutions exposed to these environments.

2.1.2 Humanitarian System

The humanitarian system can be described as a network consisting of a variety of actors across multiple levels who are linked by a common goal of providing assistance to those in need (Taylor et al., 2012). This definition is reiterated by these actors whom use the term ‘humanitarian system’ to refer to a system that performs different functions, often carried out in tandem, in order to fulfil its goal of providing assistance to affected populations (Bloom & Betts, 2013). Thus, it can be understood that the humanitarian system constitutes a set of institutions that makes up a local / global humanitarian architecture in which, as Brun (2016) describes, “compete for market share” (p. 395). This network can be better visualised in the

figure 1 below, highlighting the extent, the number and variety of actors involved in the system and the multiple interconnections between them.

Figure 1 Humanitarian network map (Knox Clarke, 2018).



2.1.3 Disasters

A disaster is often described as “a serious disruption of the functioning of a community or a society” (UNISDR, 2009). The cause of a disaster is varied and results from a combination of factors including (yet not limited to), the type of the hazard itself, the extent to which people are exposed and the capacity to reduce, anticipate and cope with the aftermath of a disaster (Twigg, 2015; UNISDR, 2009). Ultimately a disaster can not only be defined by its natural component, but societal factors play an equally important role.

2.1.4 Natural hazards

A natural hazard is an event resulting from natural processes, that causes adverse effects on the affected population and environment, such as the loss of life, damage to property or loss of livelihood (UNISDR, 2009). It has long been argued that climate change is one of the biggest drivers of most natural hazards (Hore et al., 2017). The causes of natural hazards can be categorised by two determinants; rapid or slow onset events (IFRC, 2021). It should be noted that this categorisation is not only the case for natural hazards, rapid and slow onset can be

used to label technical and social events. Examples of rapid and slow onset hazards are presented in the table below (IFRC, 2021).

<u>Type of hazard</u>	<u>Examples</u>
Rapid onset	Floods, earthquakes, cyclones
Slow onset	Drought, sea level rising, famine

2.1.5 DRR

The most commonly used definition of DRR originates from UNDRR stating that “disaster risk reduction is the concept and practice of reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters” (UNISDR, 2009, p. 10). Defining disaster risk reduction in this way advocates DRR as essential for achieving sustainable development through managing risks by confronting and minimising root causes and vulnerability (Tearfund, 2008; Oxfam, 2008). It is the root causes, argue Tearfund (2008) and Oxfam (2008), that make a system more susceptible or rather vulnerable to the negative impacts of climate induced hazards. Above all, DRR can be described as an umbrella term that encompasses processes, measures and policies aimed at reducing risks associated with disasters (Albala-Bertrand, 2000). Processes aimed at reducing risk include (but are not limited to); early warning systems (EWS), multi-hazard risk assessments and land use planning (Coppola, 2011). Thus, DRR serves as a roadmap for governments, organizations and communities comprising of mitigation, response and recovery (Alexander, 2013; Twigg, 2015). Those concerned with DRR can use this roadmap as an approach to identify, assess and reduce risks associated with disasters (Dias et al., 2018).

2.1.7 Refugee

Importantly the concept of ‘refugee’ is not an isolated concept that can be effectively analysed without considering important interconnections and factors underpinning said concept (Zetter, 2007). As such, there exist several definitions/descriptions of being a refugee. According to the Oxford dictionary a refugee is person classified as someone who has “been forced to leave their country in order to escape war, persecution, or natural disaster” (Oxford Dictionary, n.d.). In comparison, under international law refugees are classified as a person who is “outside their countries of origin who are in need of international protection because of a serious threat to life, physical integrity or freedom in their country or origin” (UNHCR, 2018, p.1).

What is interesting to note from the definition of the concepts presented above, is that all the concepts have something in common; they lack a universally accepted definition of what constitutes the concept in question. Adding to this, it is also possible for actors, organizations, communities to interpret these definitions in different ways and as such policies can have varying degrees of success depending on which definition is used (Dias et al., 2018).

3. Methodology and methods

This chapter presents the research methodology used for this thesis. The chapter outlines which data collection and analysis tools were utilised to address the research questions and subsequently informed the overall research approach of the thesis. Following data collection and analysis, ethical considerations and limitations are presented.

3.1 Research design

The research design of this thesis provided a plan to answer the research questions set out in previous chapters.

The research design that was used to answer the research questions is inductive logic. Inductive logic serves as a useful strategy for answering ‘what’ questions that require “exploration and description” (Blaikie, 2010, p. 79). As part of inductive logic, this thesis gathered data to develop generalisations that can then be used to form conclusions. This thesis acknowledges that the generalisations will not necessarily be representative for all PRS especially as the overall disaster context in refugee camps is dynamic and situations change frequently.

3.2 Data Collection

The use of qualitative approach to data collection lends itself to the inductive approach of this thesis of understanding and analysing phenomena’s, their patterns and characteristics. A qualitative data collection of a combination of primary and secondary data allowed for an iterative knowledge production of going back and forth between data (Aspers & Corte, 2019). This enabled a relatively flexible approach for collecting data and took into account the evolving components of research.

To narrow down the search for relevant research a literature review was undertaken with the purpose of identifying, understanding and applying information that had been gathered in a comprehensive manner. Examining literature was important in order to provide the background and justification for the research presented in this thesis and provided a better understanding of what is known from previous research in regards to the research questions this thesis attempts to answer (Blaikie, 2010). The use of policy documents such as the Hyogo Framework for Action (HFA), the Sendai Framework and guidelines such as the Sphere Standards formed the basis and foundations of analysis. Additional sourcing of literature took the form reviewing relevant peer-reviewed academic articles, chapters in

books, working papers, to support the policy analysis and strengthen the overall analysis of the challenges faced in PRS. To narrow down further, relevant literature was identified through online searches using a combination of key words – mainly ‘DRR’, ‘Protracted crisis settings’, ‘Challenges to DRR’ and ‘impact of natural hazards on the humanitarian system’. Further literature was identified by going through the references of the initial literature search. The online sources that were used to obtain data consisted of google scholar, journal databases and the Lund Library database. Relevant literature in addition to policy that linked to DRR and PRS were analysed and evaluated in the form of a literature review to identify challenges in enhancing the full integration of DRR policies into humanitarian programmes operating in PRS. The literature review identified three factors to examine: lack of risk awareness, structural limitations of the humanitarian system and lack of funding, as challenges to enhancing the full integration of DRR practices in PRS. As part of the literature review, each factor was analysed in turn and applied to the context of PRS more generally.

As this thesis seeks to provide a deeper understanding of the challenges of integrating DRR in PRS, the use of case studies was determined as an appropriate approach as it allowed for the comparison of data in different contexts that related to the research problem. The style of case study used in this thesis follows what Creswell (2013) calls a collective case study. Whereby the case study focuses on a single issue, in the case of this thesis lack of DRR in PRS, and then selects multiple contexts to illustrate the issue, the contexts being Kutupalong and Dadaab refugee camps. The use of a collective case study provided the boundaries to ensure the study did not become too broad and could account for the degree of complexity presented in the research problem (Creswell, 2013). Moreover, the choice of collective case study was used to illustrate and apply the challenges identified in the literature review to two PRS. The two case studies, Kutupalong and Dadaab refugee camps, were selected as they serve as an opportunity to highlight first-hand the research problem of this thesis. In particular, the Kutupalong and Dadaab refugee camps were selected primarily due to the respective country’s high vulnerability to frequent natural hazards and the linkages to vast influx of refugees into refugee camps. Other factors as to why these cases were selected included the fact that both camp settings were at one stage categorised as the largest refugee camp in the world and both camps have been in existence for decades, constituting a PRS.

3. 3 Data Analysis

The data collection methods used for this thesis, as set out above, demanded an extent of manipulation in order to produce analysis. Thus, the use of data reduction techniques has been

applied in order to do so (Blaikie, 2010). An example of such technique involved the use of coding processes to break data down into different descriptive codes and sub-codes as a means of summarizing the data into small and manageable sizes. From here these descriptive codes and sub-codes could be spilt into different concepts and categories (Blaikie, 2010). This then presented an opportunity for the author to evaluate these concepts and categories to firstly make sense of information that has been gathered. Secondly to help establish connections and links between the categories and concepts (Creswell, 2013). The use of descriptive codes and sub-codes was pivotal in identifying some of the main themes presented throughout the chapters in this thesis. This process was conducted through the use of software, Nvivo.

3. 4 Ethical considerations

Considering the inductive approach and methods of data collection for this thesis, situational ethics best describes the potential ethical issues that could have arisen. Situational ethics takes into account the specific context of an action, in other words it takes into account circumstances where actions change depending on the situation (Social Research Association (SRA), 2003). Situational ethics was chosen as it was anticipated that the research would be going back and forwards between different case studies and documents and potentially altering the research questions depending on the data gathered. In line with this, the need of balancing objectivity against responsibility for the research being conducted, as the SRA (SRA, 2003) argues, poses a further opportunity where potential ethical considerations could arise, as failing to get the balance right between objectivity and responsibility could not only have consequences for future research but also blind researchers to data and critique (SRA, 2003).

3. 5 Limitations

The initial aim of the research process was to collect a combination of primary and secondary qualitative data. However, due to the constraints and effects of the current Covid-19 pandemic it was not possible to gather supplementary primary data which would have been acquired through conducting interviews.

The author is aware of and considered several factors that could potentially influence the research of this thesis. The majority of potential limitations surrounded the fact that the research for this thesis was dependent on the access to and the availability of data. Thus, research was limited to data that had already been previously conducted by others. In addition, due to the

author's language constraints, only speaking English, research was limited to sources in English. This proved challenging when trying to access data for the case studies as a lot of the information was written in the native languages of Bangladesh and Kenya.

4. Literature Review

This chapter presents a comparative literature review focusing on DRR and the humanitarian system, building upon the concepts outlined in the conceptual clarifications chapter. The chapter will also include a section on the challenges that arise in the literature when integrating DRR practices in PRS.

4.1 DRR & Humanitarian System

Over the past decades there has been a growing recognition by national governments and organisations that reducing the risk associated with natural hazards is key in reducing their reoccurrence (UNDRR, 2020-2021). Moreover, the relationship between humanitarian needs and natural hazards has long been debated and analysed in the DRR – humanitarian discourse. Thus, it is somewhat unsurprising that there has been growing attention on the humanitarian – DRR nexus.

It has been argued that one of the largest predeterminants of natural hazards is anthropogenic climate change (Hore et al., 2017). Simply speaking, the increase in global temperatures serves to increase the frequency and intensity of most natural hazards (Hore et al., 2017). This results in more people requiring humanitarian assistance to meet their needs placing a heavy burden on humanitarian organisations. In line with this if not accounted for, climate change will negatively impact possibilities to ease protracted crisis settings (Gaynor, 2020; Ahmed, 2019; Abrahams, 2020). Ahmed (2019) adds to this stating that natural hazards will impact the world’s population in its entirety and yet continues to disproportionately affect developing nations, in particular regions facing protracted crisis. The disproportionate challenges posed by natural hazards are echoed in research conducted by the UNHCR showing that without integrating DRR measures, “climate-related disasters could double the number of people requiring humanitarian assistance to over 200 million each year by 2050” (Gaynor, 2020, p. 1). In response, Gaynor (2020) argues that climate change is now an overwhelming factor underpinning protracted crises that serve to be the defining event of the century. Therefore, reducing the risk of natural hazards is fundamental to meeting humanitarian needs and essential for achieving sustainable development (UNDRR, 2020).

The necessity for effective humanitarian response presents an opportunity to emphasise the need for enhanced use of DRR. The proposed approach of enhancing the integration of DRR

practices echoes what many governments, humanitarian actors and local communities are calling for in order to reduce needs, risk and vulnerability (Kalin & Entwisle Chapuisat, 2017).

4. 1. 1 Disaster Risk Reduction Frameworks

The 1990's were declared the international decade for disaster reduction (UN General Assembly, 1999). To date approaches to DRR have been largely based on a 'disaster cycle' model. The model is an attempt to operationalise DRR by dividing the cycle into three phases; before, during and after the event (Twigg, 2015). Each of these phases require action; preparedness, mitigation, response and recovery (Twigg, 2015; Pelling, 2003). For example, preparedness and mitigation are activities that should be carried out and in place before a natural hazard occurs. Examples of different preparedness activities could include trainings, EWS, preparedness planning. The response phase occurs during the event, similarly recovery occurs in the aftermath of said event which would include activities such as building temporary shelter. In following this model, organisations can better understand the process of DRR and allocate roles and responsibility accordingly. Moreover, humanitarian actors play a key role in contributing to each stage of the 'disaster cycle'. The link between the DRR and the role of humanitarian actors is set out in the following sections.

Despite the relative usefulness of the 'disaster cycle', it fails to account for and capture the complexity of disasters. Building upon the 'disaster cycle', the HFA was established in 2005 in an attempt to create "more effective integration of disaster risk reduction into sustainable development" (Becker, 2014, p. 48). The outcome of such a goal was a framework encompassing a broader focus on all types of disasters to encourage a multi-hazard approach to DRR, the aim of which was to reduce social and economic losses associated with natural hazards by 2015 (UNISDR, 2005). To do so, the HFA was adopted as part of a ten-year plan to make the world more resilient to hazards through the "systematic incorporation of risk reduction approaches into the design and implementation of preparedness, response and recovery programmes" (Becker, 2014, p. 48). The framework pinpoints five priorities for action to take into account when establishing DRR strategies:

1. "Ensure that DRR is a national and a local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.”

(Becker, 2014, p. 48).

The five priorities for action imply that the framework requires a top-down process flowing through formal national mechanisms. Whilst this process potentially makes it harder for humanitarian actors to be involved and integrate these priorities in their own programming, the HFA stresses the notion that DRR is a cross-cutting issue that concerns all actors, including humanitarian organisations (UNISDR, 2005). To add to this, the HFA can be utilised by humanitarian organisations in order to strengthen organisational capacity and the ability to identify actions to assist governments in implementing and integrating the HFA into national policy (UNISDR, 2005).

Despite vast progress in introducing and acting upon disaster risk at local, regional and government level, a number of gaps were identified in the actual addressing of underlying risk factors. As such, the United Nations (UN) in consultation with member states called for increased action in;

1. “Understanding disaster risk.
2. Strengthening disaster risk governance to manage disaster risk.
3. Investing in disaster risk for resilience.
4. Enhancing disaster preparedness for effective response and to “build back better” in recovery, rehabilitation and reconstruction.”

(UN General Assembly, 2015, pp. 9-18).

These four areas of action provided the basis for the 2015-2030 Sendai Framework for Disaster Risk Reduction. Succeeding the HFA, the Sendai Framework further develops policies aimed at managing and reducing disaster risk. The Sendai Framework acknowledges the importance of working alongside humanitarian actors noting that “disaster risk reduction and management depends on coordination mechanisms within and across sectors” (UN General Assembly, 2015, p. 7). Moreover, Priority 4 of the framework advocates for encouraging humanitarian organisations concerned with recovery and development to use this opportunity to develop capacities that reduce disaster risk in the future. Whilst both frameworks are centred around the need for a multi-stakeholder and inclusive approach to DRR, the Sendai Framework goes

further to focus on disaster risk rather than just disaster losses as intended by the HFA. In other words, the HFA focused on ‘the what’ in comparison to the Sendai Framework that focuses on ‘the how’ in terms of how to address disaster risk.

In addition to the HFA and Sendai framework, international standards for providing aid in protracted settings are based upon the Sphere Standards. The Sphere Standards are a set of statements which describe “sets of actions needed so that crisis-affected people can enjoy ... the right to receive protection and assistance” (Sphere, n.d., p. 1). The Standards have been widely applied in protracted crisis settings and are used by many humanitarian organisations (McDougal & Beard, 2011). Despite standards for providing aid McDougal and Beard (2011) argue that these standards do not go far enough to adequately meet the needs of populations living in protracted settings. McDougal and Beard’s (2011) argument are reflected in and stem from the idea that the Sphere Standards were designed using data from the initial phases of disasters (Sphere, n.d.). However, as alluded to in this thesis, the vast majority of people living in PRS are currently living in post hazard phases. Thus, as McDougal and Beard (2011) argue, the Sphere Standards do not go far enough in terms of providing long-term solutions which are durable. Thus, the authors call for wider-reaching standards and more analysis of these standards which is necessary in order to allow for more proactive, adaptive and anticipatory approach to humanitarian operations in protracted settings (McDougal & Beard, 2011). The following sub-section attempts to highlight policies targeting refugee settings.

4.2 DRR in Refugee Camps

As Cannon and Fujibayashi (2018, p. 21) argue “refugees occupy an odd place in the literature of world politics”. This is none more evident when it comes to analysing the discourse surrounding PRS and DRR. By their very nature refugee camps are deemed to be temporary solutions and DRR often deemed unfeasible. The temporary nature of refugee camps can be linked to the fact that there too exists a common perception within wider literature and the political sphere that refugee camps are a temporary phenomenon. Even according to international law, refugee camps are considered to be temporary measures (Cannon & Fujibayashi, 2018). However, as Hunter (2009, p. 2) advocates, “lengthy protracted refugee situations are quickly becoming the norm.” Cannon and Fujibayashi (2018) echo Hunter’s (2009) argument to acclaim that in 2012, more than half of refugees worldwide found themselves in a PRS. Hunter (2009) goes on to remark that repatriation of refugees to their countries of origin has long been thought of as the only solution. But as research into the causes

of PRS increases it is clear that returning refugees to their countries of origin has become a distant option (Hunter, 2009). As the length of refugee camps set to increase, this poses a challenge for current policies that are aimed at providing assistance many of which are not effective nor efficient in meeting the diverse needs.

The engagement with policy for PRS has become increasingly apparent in what Milner and Loescher (2011, p. 9) call the “decade of initiatives on PRS.” Tasked with providing aid and protection to displaced communities, UNHCR is the lead organisation when it comes to aid operations in refugee camps. Under its mandate, the UNCHR focuses on causes of displacement, the protection of refugees and attempts to empower refugees whether through education, economic inclusion or providing assistance. This indicated that these policies time and time again lack the inclusion of directed and targeted DRR initiatives in refugee settings.

The DRR frameworks analysed above all demonstrate that there has long been widespread support and recognition for the incorporation of DRR in humanitarian operations on a global agenda level. Furthermore, the call for the alignment of DRR into humanitarian aid has become increasingly necessary in recent years. This resulted in the acknowledgement, by leaders at all levels (national, regional and local), that PRS are not a new phenomenon but are rather becoming a recurring trend (Spiegel, 2017). And yet, this support and recognition has been slow in initiating concrete action.

The following section of this literature review outlines the three challenges to enhancing the full integration of DRR practices in humanitarian operations that emerge from the review of academic literature.

4.3 Challenges

Literature identifying challenges to enhancing the integration of DRR into the humanitarian system is growing. Academic literature reveals rather broad challenges related to governance, communication and gaps in expertise amongst other factors (Milner & Loescher, 2011). The following section will focus on three overarching themes that encompass the broad challenges mentioned above. These include lack of risk awareness, limitations to the structure of the humanitarian system and funding shortcomings (Albris et al., 2020; Spiegel, 2017; Knox Clarke, 2018).

4. 3. 1 Lack of risk awareness

Lack of risk awareness in humanitarian response can be interpreted as the absence of knowledge on concepts, approaches and models to understand, assess and communicate risks (Aven, 2017). This is reflected by the idea that humanitarian response to protracted crisis have tended to focus on “short term results with insufficient analysis or attention to addressing underlying causes” (UNDRR, 2020, p. 10). These statements reveal that wider generalisations regarding the setup of the humanitarian system can be made. These generalisations suggest that there exists a lack of platforms and structures to communicate and share disaster risk knowledge between actors (Albris et al., 2020). This results in incomplete, insufficient, and out of date data acting as a barrier for applying disaster risk knowledge into policies (Albris et al., 2020). To add to this, lack of risk awareness often results in a lack of capacity in enforcing DRR strategies (Twigg, 2015). This has been particularly evident in refugee camps, whereby refugee camps are considered to be a temporary notion in contradiction to the evidence that protracted crises tend to last for decades. Linking to previous sections, the notion of temporary translates into the idea that refugees will return to their country of origin or move on to other destinations and as such favours short-term measures rather than durable solutions. This impacts the willingness of humanitarian organisations to implement DRR strategies. Consequentially, refugees are often overlooked despite remaining the majority group of people affected by protracted crises (Spiegel, 2017).

4. 3. 2 Structural limitations of the humanitarian system

The increasing intensity and severity of natural hazards are bringing about more complex and uncertain protracted settings. It is these overlapping elements that are expanding the remit of the humanitarian system (UNDRR, 2019; Bennett, 2015). Whilst the humanitarian system is rapidly having to adapt to evolving situations and accommodate dynamic and complex needs, a situation arises whereby demand for aid is outpacing available resources fuelling overall increases in costs (Knox Clarke, 2018). What emerges is a recurring cycle of humanitarian organisations responding to the same needs year after year following a natural hazard is arguably the biggest humanitarian threat to date (Scott, 2014). This realisation has prompted growing criticism towards the way in which the humanitarian system is structured to be responsive and promoting short-term solutions as opposed to being anticipatory and encouraging long-term, durable change (Scott, 2014). Expanding on this, the humanitarian system encompassing of coordination structures, funding mechanisms and response tools to

name a few, are all designed to address short-term needs rather than long-term needs (Scott, 2014).

Consequently, the current structure of the system complicates humanitarian organization's capacity to implement DRR initiatives (Abrahams, 2020). According to Islam et al (2020) these obstacles to integration are underpinned by the network of influencing actors involved in humanitarian response. One must acknowledge that actors may participate in humanitarian activities in protracted settings with different motivations. While one actor may focus on increasing the efficiency and reducing the cost of the overall operation as illustrated by Jahre et al. (2016), others may be committed to increasing the robustness of operations to optimize resource allocation. Moreover, if the purpose of a specific action is not clearly stated beforehand, it can lead to confusion and possibly contrary effects from some actor's expectation (Jahre et al., 2016). As alluded to, there are multiple actors acting independently of each other which risks duplications of activities making it challenging to respond effectively and efficiently let alone incorporate DRR. In line with this, the issue of multiple actors and functions involved in the humanitarian system is reflected in the lack of a common vision on how to integrate DRR activities (Dias et al., 2018). The lack of a common vision reiterates the notion that the humanitarian system is slow to adapt and react to disasters. As 2020 has shown, with the current global health pandemic COVID-19, and the barrage of typhoons in South East Asia the anticipatory element is central to DRR as more and more disaster settings highlight those threats are interlinked and require cross-sectoral efforts to mitigate impact. Reducing risks is fundamental to meeting humanitarian needs and essential for achieving sustainable development (UNDRR, 2020). Thus, the question must be asked; is a humanitarian response alone appropriate in crisis settings that continue to last for several years and are vulnerable to natural hazards?

4. 3. 3 Funding shortcomings

Critical to reducing disaster risk is funding. Yet funding is often diverted away from developing DRR strategies to emergency response and short-term response activities. This is reflected in the budget allocated for DRR. In 2013, \$3 trillion was pledged by the international community for international aid, of this \$13 billion was spent on DRR compared to \$70 billion spent on response (Kellett & Caravani, 2013). Over the last 20 years the budget allocation for DRR represents less than 0.4 percent of what is spent on international aid, that equates to 40 cents for every 100 dollars being directed toward DRR despite losses associated with disasters

totalling over one-third of international humanitarian aid (Kellett & Caravani, 2013). Surprisingly, the vast majority of funding for DRR consists of voluntary contributions from a diverse set of donors. According to Banks (2012) all too often donors appear to promote own aid programmes rather than meeting required needs. Additionally, donations are often earmarked and set requirements are put in place for projects to be funded. This in turn has led to a fragmentation and competition for funding amongst organisations (High-Level Panel Report, 2016), whereby on the one hand those organisations that can adapt to donor requirements will be funded, whereas on the other hand those who cannot meet donor requirements risk not being funded. By encouraging fragmentation and competition for funding combined with the notion of natural hazards becoming increasingly frequent, this has resulted in the rapid expansion in the number of humanitarian organisations (High-Level Panel Report, 2016). This has led to a crowded market and further competition for funding from donors, in reality, the humanitarian system has ultimately become increasingly restricted by donor pressures and donor agendas (Banks et al., 2015). Donors influencing aid priorities and dependency for funding, ultimately determine which areas of society receive aid. This restricts an organisation's ability to effectively meet goals, as donors' funds are not flexible to adapt to the changing needs during disasters (Banks et al., 2015). Thus, donor practices of agenda setting and earmarking funds in conjunction with political and economic interests results in a heavy emphasis of funding being directed towards the response phase of disasters. The favouring of short-term 'tangible' results, in particular by politicians has meant that there has been a vast improvement of provisions for immediate and short-term assistance. The same improvement is yet to be seen in meeting longer-term needs typically arising in protracted crises (Knox Clarke, 2018; Brzoska, 2019). Consequently, very few humanitarian appeals include DRR efforts despite the fact that protracted crises are "the single biggest driver of these spiralling costs" (Spiegel, 2017, p. 6).

4. 4 Summary

In summary, the frameworks and discussions on the topic of DRR and strategies have a tendency to focus on addressing DRR at government and institutional level, meaning that PRS have not been widely discussed in these frameworks. Further, the notion of conceptual divides, divided architecture of which the humanitarian assistance is built upon, lack of funding for DRR and lack of risk awareness suggests that there lacks a standard practice of embedding risk reduction in PRS.

It should be noted that little research within the humanitarian – DRR discourse has been conducted to analyse how best to overcome these challenges. Nor does this thesis intend to claim and provide solutions to overcome these challenges. Rather the purpose of bringing to light and discussing challenges of integrating DRR in PRS is to provide comparisons and contrasts between literature and practice, in an attempt to bridge the gap between what is being said in research and what is happening in practice. In doing so, the aim is to identify common challenges to then be able to move forward with solutions that can advance research to find long-term and durable solutions

5. Case Study Background

The purpose of this chapter is to present an overview into the events leading up to and following the creation of Dadaab refugee camps in Kenya and Kutupalong refugee camps in Bangladesh. The chapter will also present the respective DRR strategies in place in each of the camps.

Whether a disaster can be categorised as a conflict, natural hazard or an epidemic these events often cause a humanitarian crisis and at times even results in a refugee crisis. Indeed, the humanitarian complexities of refugee's crises are not a new phenomenon and are of growing concern. In line with this, it should be noted that both Kutupalong and Dadaab refugee camps have been in existence for the last 20 years, each constituting a PRS.

5.1 Situational background in Bangladesh

Located to the east of India and west of Myanmar on the Bay of Bengal, Bangladesh is marked by extreme vulnerability to natural hazards (CIA, 2021a). Bangladesh is known for being one of the most densely populated countries in the world with an estimated population of 164 million people as of 2021 (CIA, 2021a). The demographic of Bangladesh is 98 percent ethnic Bengalis while the remaining two percent made up of other ethnic identities. Of the 164 million residing in Bangladesh 89 percent of the population associate themselves as Muslim, with the remaining 11 percent associate as being Hindu and/or Christian (CIA, 2021a).

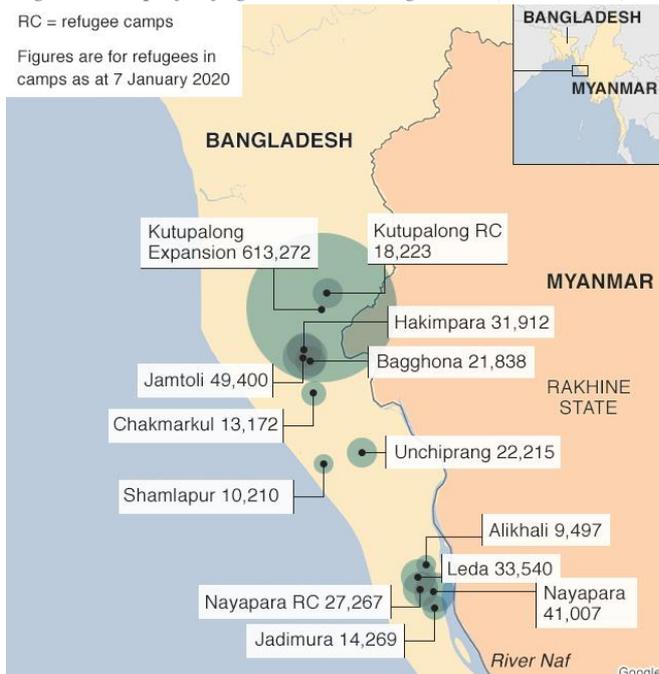
Aspiring to become an upper middle-income nation by 2024 (World Bank, 2020a), Bangladesh is classified as a country of 'medium human development' by the 2020 Human Development Index (HDI) report (United Nations Development Programme, 2020). Despite the countries increasing progress in various areas over the last decades, Bangladesh remains highly affected by natural hazards. Bangladesh ranks as the 13th highest country for disaster risk in the world, according to the world risk index which indicates the disaster risk for over 180 countries (World Risk Report, 2020a). In comparison to the Asian continent, Bangladesh ranks in the top 5 countries in Asia for disaster risk (World Risk Report, 2020). Bangladesh is particularly vulnerable to cyclones, flooding and landslides.

Figure 2 Ranking of countries according to disaster risk (World Risk Report, 2020)

Rank	Country	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
1.	Vanuatu	49.74	86.77	57.32	38.81	52.42	80.73
2.	Tonga	29.72	61.21	48.56	28.76	37.08	79.85
3.	Dominica	28.47	62.74	45.38	26.12	38.82	71.21
4.	Antigua and Barbuda	27.44	68.92	39.82	23.33	32.83	63.31
5.	Solomon Islands	24.25	40.04	60.56	45.75	54.73	81.21
6.	Guyana	22.73	44.92	50.60	27.13	47.13	77.55
7.	Brunei Darussalam	22.30	57.61	38.70	14.75	33.35	67.99
8.	Papua New Guinea	21.12	30.79	68.58	55.66	63.85	86.23
9.	Philippines	20.96	42.30	49.55	28.97	39.32	80.37
10.	Guatemala	20.09	36.52	55.02	33.09	46.76	85.21
11.	Cape Verde	17.73	37.23	47.61	29.35	40.65	72.84
12.	Costa Rica	17.25	43.49	39.67	20.03	30.08	68.89
13.	Bangladesh	16.40	28.28	57.98	33.21	54.91	85.81
14.	Djibouti	16.23	26.79	60.60	37.81	59.59	84.39
15.	Fiji	16.00	34.63	46.21	21.98	40.40	76.24

Since the 1970's, Bangladesh has provided a 'safe haven' for the Rohingya, an ethnic Muslim minority, facing persecution and violence in Rakhine State in Northern Myanmar. Owing to restrictive policies, over the decades the Myanmar government stripped the Rohingya of their rights, identity and citizenship rendering the group as not being officially recognised by the government (The New Humanitarian, 2020; Milton et al., 2017). In failing to recognise their status, this enabled the military to carry out the mass burning of villages, rape and killing of Rohingya people. At the height of the attacks in 2017, close to 10,000 Rohingya were killed (Hossain, 2020). As alluded to, the fleeing of the Rohingya people is the culmination of years of restrictive policies targeted at the ethnic Muslim minority group (World Risk Report, 2020). These atrocities have resulted in nearly one million Rohingya from Rakhine State fleeing over decades into neighbouring Bangladesh, most of whom live in 34 densely populated camps scattered across Bangladesh but in particular in the Southern district of Cox's Bazar (illustrated in Figure 3) (The New Humanitarian, 2020).

Figure 3 Map of refugee sites in Bangladesh (BBC, 2020)



By late 1970's an estimated 200,000 Rohingya had fled the border into Bangladesh growing to 250,000 in 1990 following more violent crack downs and further clashes between the military and the ethnic minority saw 140,000 flee in 2012 (International Crisis Group (ICG), 2019; Zaman et al., 2020; Skretteberg, 2019). However, arguably the largest displacement wave of Rohingya's came in 2017 which saw over 750,000 fleeing the Northern state of Rakhine into Cox Bazar in Bangladesh (Zaman et al., 2020).

5.2 Kutupalong refugee camps, Cox's Bazar

Figure 4 Aerial view of Kutupalong Refugee camps (adapted from the Guardian, 2017)



The majority of the refugee camps situated in Bangladesh are located within the Cox's Bazar district which hosts an estimated one million Rohingya people. The largest of these camps, Kutupalong refugee camp accommodates over 600,000 Rohingya refugees, making Kutupalong the world's largest refugee camp (ICG, 2019). The area of Kutupalong stretches 14.57 km² (Zaman et al., 2020). To accommodate the influx of refugees arriving in 2017 a series of makeshift camps constructed by an intricate structure of bamboo and canvas (as can be seen in figure 5) were set up. As of 2019 there are 18 camps located within the Kutupalong refugee settlement with each camp site designed to accommodate an estimate of 40,000 individuals each (UNHCR, 2019).

Figure 5 Kutupalong Refugee camp (Skretteberg, 2019).



The fast-evolving context in both Myanmar and Bangladesh meant responding to the Rohingya refugee crisis was unique for several reasons. Firstly, dealing with the rapidity and scale of influx of refugees, over 750,000 directly linked to fleeing events in 2017

presented as a challenge for staff and resources (ICG, 2019). Additionally, many of the humanitarian actors based in Kutupalong did not predict the scale of the influx in refugees to the extent of “colleagues [thought] we were exaggerating the numbers of new families arriving every day” (WFPUSA, 2020, p.1). In addition, the status of the Rohingya people render them almost completely reliant on humanitarian aid to fulfil day to day needs.

Secondly, the influx in refugees entering Cox Bazar district increased the risk of natural hazards. Within the Kutupalong camps, camps are exposed to multiple hazards including:

<u>Hazard Type</u>	<u>Example</u>	<u>Category</u>
Geophysical	Landslides, mud flows	Rapid onset
Biological	Epidemics, disease	Slow onset
Hydrogeological	Cyclones, Flash floods	Rapid onset

The consequence of being exposed to the hazards mentioned above has had a large impact on the terrain surrounding the camps in Kutupalong. The terrain is constantly changing as a result of landslides and flash flooding. On top of this, the increasing scale of deforestation and hill-cutting in order to expand the already overcrowded camps in Kutupalong further exacerbates the fragility of the terrain (Zaman et al., 2020; Skretteberg, 2019). Such fragile settings act as a driver for increased vulnerability to hazards such as landslides and flooding (Zaman et al., 2020; Skretteberg, 2019). In turn this has resulted in roughly 45 percent of the Kutupalong complex being susceptible to flooding and landslides, further increasing exposure to natural hazards (Zaman et al., 2020). The extent of damage left in the wake of a hazard is stark, in 2019 as much as 10 percent of tents in Kutupalong were washed away during the cyclone and monsoon season amounting to over 5,500 homes being washed away (WFPUSA, 2020). In addition, in 2019 alone, 1,400 recorded occurrences of landslides impacting over 3,000 households and more than 10,000 cases of storm and wind related incidents were reported impacting further households (Zaman et al., 2020). Combined with mass displacement and more extreme and frequent climate-related events makes for a complex situation.

5.2.1 DRR Policies

Perhaps unsurprisingly given its vulnerability and exposure to natural hazards, Bangladesh has been widely praised for its innovations in DRR both at national and local level (Shaw et al.,

2013). DRR policies and strategies in Bangladesh are clearly outlined under the National Plan for Disaster Management (Islam et al., 2020). Underpinning the national plan are guidelines for strengthening the institutional engagement with DRR from national level down to local government, clarifying roles and responsibilities for the Ministry of Disaster Management and establishing standing orders on disaster for effective implementation of DRR action and policies (Islam et al., 2020).

More specific to Kutupalong refugee camps, DRR strategies are focused on “reducing seasonal weather and disaster vulnerability by improving forecasting and risk analysis” (UNDP Bangladesh, n.d., p. 1). In order to carry out improvements to forecasting and risk analysis, a multi-hazard risk approach was adopted and a risk map is currently being created which will be based upon multiple hazards and population density in Kutupalong camps (UNDP Bangladesh, n.d.). In practice, with cooperation from the national government, a 72-hour response plan to a natural hazard regardless of type was developed in 2018, and developed upon in 2020, with the aim of:

- Reducing injuries from natural hazards
- Reducing displacement as a result of natural hazards
- Establishing more resilient communities around the camps

(Inter Sector Coordination Group (ISCG), 2020a).

Under the management of the Bangladesh Meteorological department an EWS was put in place for cyclones. The department are also responsible for dissemination of signal (Bangladesh Red Crescent Society et al., 2019). This EWS is in operation in the camps. Each flag represents a warning message, further messages and advice are dispersed by mouth and microphone (Bangladesh Red Crescent Society et al., 2019).

Additional DRR measures are evidenced in the table below (Bangladesh Red Crescent Society et al., 2019):

DRR Measure	Impact
Construction of drainage channels	Reduce the impact from flash flooding in the camps.
Stabilising slopes	Level steep slopes
Risk mapping	Identify areas and infrastructure exposed and vulnerable to hazards

5.3 Situational background in Kenya

The Republic of Kenya (Kenya) is located in Eastern Africa neighbouring South Sudan and Ethiopia to the north, Somalia to the east, Tanzania to the south and Uganda to the west (CIA, 2021b). There are over 52 million citizens residing in Kenya (World Bank, 2020b). Kenya has a very diverse ethnic make-up with over 70 distinct ethnic groups, the largest of which are the Kikuyu, Luo, Luhya and Kamba accounting for over 70 percent of the nation (CIA, 2021b). Kenya, is described as a country of ‘medium human development’ according to the HDI report (UNDP, 2020a), similar to Bangladesh. As alluded to in the situational background in Bangladesh, the world risk index is an important marker for identifying a nation’s disaster risk level, Kenya ranks 40th out of the 181 countries with recorded data – View Figure 6 (World Risk Report, 2020).

Figure 6 Ranking of countries according to disaster risk (World Risk Report, 2020)

Rank	Country	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
38.	Madagascar	10.51	15.12	69.48	65.68	56.21	86.55
39.	Angola	10.40	15.74	66.30	53.29	58.21	86.80
40.	Indonesia	10.39	20.97	49.54	26.03	44.56	78.02
40.	Kenya	10.39	16.47	63.30	52.14	50.89	86.28
42.	Burundi	10.34	14.74	70.34	62.29	57.53	90.68
43.	Viet Nam	10.30	22.02	46.76	23.88	39.78	76.63
44.	Cote d'Ivoire	10.00	15.54	64.33	47.57	59.76	85.65
45.	Senegal	9.74	16.51	58.97	44.37	54.45	78.09
46.	Japan	9.64	38.67	24.93	17.76	17.83	39.20
47.	Trinidad and Tobago	9.60	23.39	41.05	24.17	34.57	64.42
48.	Sierra Leone	9.44	13.69	68.99	55.80	65.60	85.57
49.	Liberia	9.43	13.56	69.52	56.27	65.02	87.26
50.	Ghana	9.37	16.38	57.18	42.64	49.75	79.15
51.	Zimbabwe	9.32	14.62	63.76	54.37	48.15	88.76
52.	Mozambique	9.18	13.31	68.97	62.61	56.44	87.85
53.	Mauritius	9.17	23.84	38.47	17.46	38.56	59.40
54.	United Rep. of Tanzania	8.96	14.01	63.95	56.78	51.68	83.38
55.	Malawi	8.89	13.22	67.24	59.28	57.80	84.65
56.	Democratic Rep. of Congo	8.77	11.80	74.28	67.78	62.12	92.95
57.	Afghanistan	8.69	12.99	66.93	49.30	59.61	92.99
58.	Uganda	8.63	12.82	67.29	62.55	51.34	87.98
59.	Guinea	8.62	12.70	67.88	51.48	63.34	88.82
60.	Albania	8.46	20.14	42.00	20.03	30.97	74.99

The Sub-Saharan African nation ranks high in exposure and lack of coping strategies for disasters and ranks very high in vulnerability, susceptibility and lack of adaptive strategies for disasters (World Risk Report, 2020). These scores indicate that Kenya is likely to be particularly affected by natural hazards and extreme weather changes with expected population movements (World Risk Report, 2020). These expected consequences for migration have transpired into over 508,000 refugees as of January 2021, 44 percent of whom live in Dadaab refugee complex (UNHCR Kenya, n.d.).

5.4 Dadaab refugee camps

Figure 7 Aerial view of Dadaab refugee camps (Hussein, 2016).



Located in the North Eastern Province of Kenya, Dadaab refugee camp was established in 1991 to accommodate 90,000 refugees fleeing civil war in Somalia following the collapse of the government in Somalia (Perouse de Montclos & Kagwanja, 2000; Mackinnon, 2014). Situated approximately 80 km from the Kenya-Somalia border Dadaab was originally designed to hold three camps, Dagahaley, Hagadara and Ifo, but has since expanded to include two new camp sites, Ifo 2 and Kambioos (Perouse de Montclos & Kagwanja, 2000). The expansion of the Dadaab complex was to accommodate the large influx in refugees following the “worst drought in 60 years” in 2010 which affected over 10 million people in the Horn of Africa region (Hujale, 2019). At its peak, Dadaab camp was reportedly home to over 520,000 refugees becoming the largest and most congested refugee settlement in the world at that time (Hujale, 2019; Bhalla, 2019). The scale of Dadaab refugee complex can be seen in the image above – Figure 7. Though accommodating fewer refugees nowadays, Dadaab complex still hosts nearly 300,000 refugees as of 2020 (UNHCR Kenya, n.d.). This vast reduction in the number of refugees residing in Dadaab can be largely attributed with the threat of closure of the camps sites promised by the Kenyan Government in 2016 (Cannon & Fujibayashi, 2018; Hujale, 2019). The threat of closure came as a result of growing concerns that a Somalia militant group, al Shabaab, were using Dadaab camp as a base to plan attacks in Kenya, (Bhalla, 2019). This move by the Kenyan Government prompted widespread backlash from the international community, including UNHCR who were operating the Dadaab camps, and in 2017 the high court in Kenya ruled against the closure citing it was “unconstitutional and violated Kenya’s

international obligations” (Bhalla, 2019, p. 1). Despite the reduction in numbers of refugees, Dadaab is considered to be the third largest refugee settlement in Kenya (Ballard, 2019).

Like its neighbouring regions Dadaab is marked by its harsh climate with camps spread across semi-arid land with no surface water (Chkam, 2016). The harsh climate results in experiencing temperatures of nearly 50 degrees Celsius in the dry season often leading to severe droughts and extreme flooding in the rainy season (Chkam, 2016). Both droughts and flooding have been a major if not the principal source of casualties from natural hazards in Kenya. These phenomena of extreme hot temperatures followed by extreme flooding, is otherwise known as El Niño effect. El Niño effect has had widespread effects within Kenya, affecting over 1.5 million citizens (Government of Kenya, 2009). Specifically, in Dadaab, El Niño rains in 1997 and again in 2003 and 2006 affected camp infrastructure and logistics, specifically the rains made roads into Dadaab impassable meaning refugees were dependent on airdrops to receive deliveries of basic supplies (Chkam, 2016). On the other hand, the 2010 drought affecting the Horn of Africa led to crop failure, food shortages, famine and malnutrition. As the land becomes less capable of sustaining food crops due to the lack of rainfall, the crop yield is reduced and therefore food shortages arise. Food shortages as a result of droughts often result in the affected population lacking sufficient balance of nutrient for both health and well-being ultimately leading to malnutrition.

In Dadaab refugee camp site, camps are exposed to the following hazards:

<u>Hazard</u>	<u>Example</u>	<u>Category</u>
Geophysical	Mudslide	Rapid onset
Hydrological	Flash flooding	Rapid onset
Hydrological	Drought	Slow onset

5. 4. 1 DRR Policies

In an attempt to increase preparedness and resilience to natural hazards within the camp complex, a number of DRR processes and activities are ongoing. The more significant of the ongoing DRR practices is the access to an EWS. A nationwide EWS was put in place with the particular aim of early warning for famine. The famine EWS operated by the Food and Agriculture Organization can be accessed by residents in Dadaab through the use of technology, such as mobile phones and internet stations, in place in the camps (Baily, 2013). In line with early warning, humanitarian actors have been using high resolution satellite

imagery to document changes in the land surrounding the camp (Rossi et al., 2018). In doing so, changes to land stability and fertility of soil can be understood. These images can then be used to identify areas of high stability and fertility in order to be used for afforestation and subsequently create a green belt that surrounds the camps (Rossi et al., 2018). In turn this would reduce the likelihood of widespread flooding, particularly flash flooding, in the camps.

In contrast to these rather tech-based strategies, the introduction of a traditional court known as a Kadhi in 2018 has been widely praised by those residing in the camps as a positive step towards strengthening DRR measures within the camps. Whilst primarily dealing with legal matters, the introduction of a Kadhi in the camp represents a move towards enhancing refugee's access to change (Rono, 2017). The Kadhi acts as an opportunity for residents to come together and discuss ideas for camp management, including DRR strategies going forward (Rono, 2017). Other DRR activities include; improving drainage capacity at key locations around the camp and sandbagging key areas within the camp during the wet seasons (Rono, 2017).

In a report, the Government of Kenya recognised that the nation is a disaster-prone country (Government of Kenya, 2009). In an attempt to reduce vulnerability to natural hazards the Kenyan Government put in place a National Policy on Disaster Management (Government of Kenya, 2009). The central focus of this policy is threefold; “the strengthening and establishing (where necessary) of disaster management institutions, partnerships, networks and mainstreaming DRR into policies and strategies” (Government of Kenya, 2009, p.41). These activities are under the responsibility of the Ministry of State for Special Programmes in the Office of President, to ensure for a unified policy framework. This shift towards a more unified DRR framework follows years of little to no legal basis for DRR due to the lack of legal frameworks, standard operating procedures and disaster operation plans all of which resulted in uncoordinated DRR (Government of Kenya, 2009). Necessarily, the National Policy on Disaster Management seeks to promote a proactive DRR approach, one in which the government fosters a participatory partnership in order to achieve its goal of building a safe, resilient and sustainable society (Government of Kenya, 2009).

What is interesting to note is that the words ‘refugee’, ‘refugee camp’ and ‘Dadaab’ are not present in the Kenyan National Policy on Disaster Management, despite the government ratifying the 1951 Refugee convention in 1966 (UNHCR, n.d. a).

5. 5 Summary

This chapter has introduced the two case studies used in this thesis, outlining the situational background and current DRR processes of each study. A comparison between the two case studies presented in this chapter will be analysed in the discussion section following this chapter. Moreover, the linkages to the challenges of enhancing DRR into PRS outlined in the literature review will be evaluated in the context of Kutupalong and Dadaab refugee camps, again in the succeeding section.

6. Results & discussion

6.1 Results

Returning to the research questions, the following section will go through the results of each research questions and is structured as followed: research questions will be addressed separately before drawing comparisons from the two PRS case studies to form the basis of the results in this chapter. The case studies are used to illustrate and highlight the impact of the three challenges presented in the literature review. Finally, a general summary of observations will be presented in the form of a discussion.

Question 1: In what way do relationships exist between protracted crisis settings and natural hazards?

With climate change increasing, natural hazards are becoming more frequent, more intense and more destructive (Dominey-Howes, 2015). It is clear that the impact from natural hazards is far reaching and inevitably plays an increasing role in the humanitarian system. The overarching theme that emerges when analysing this question, is that both PRS and natural hazards are complex situations respectively. Numerous interactions exist, for instance, natural hazards on the one hand may reduce certain drivers of PRS, whilst on the other hand natural hazards have the potential to intensify other drivers of protracted crises (Harris et al., 2013). As such, it can be said that there are multiple and yet varied reasons for the high vulnerability of refugee camps to natural hazards. What this suggest is that there exists a two-way relationship in regards to establishing linkages between PRS and natural hazards. Firstly, the relationship reflecting the impact natural hazards have on PRS. Secondly, the relationship reflecting the impact PRS have on the environment and therefore affecting natural hazards.

The impact of natural hazards on PRS serve to exacerbate the already vulnerable pre-existing conditions in refugee settings, as seen in both Kutupalong and Dadaab camps, ultimately keeping refugees in refugee camps for longer or forcing more people to flee to other camps. This is can be largely attributed to the fact that natural hazards inflict damages to infrastructure whether social, economic or physical (Hallegatte et al., 2020). For example, in Kutupalong during the cyclone season in 2019 5,500 shelters were destroyed or washed away accounting for over 10 percent of damages to camp shelter (WFPUSA, 2020). In turn, these damages result in further economic costs in order to repair, rebuild or replace damaged infrastructure. What occurs is increased resource scarcity and increased competition for these resources, at the same time, as resources are being stretched to meet even more needs following a natural hazard (Slim

& Lopes Morey, 2016). More often than not this overwhelms the humanitarian agencies capacity to respond. This was the case in both Kutupalong and Dadaab whereby humanitarian organisations had limited resources and capacity to ensure DRR processes were being carried out (ICG, 2019; ISCG, 2020a).

As evidenced in this thesis, there exists a strong correlation between the impact of PRS increasing the impact arising from natural hazards. Arguably, PRS increases the vulnerability of refugee camps making natural hazards more likely. The rapid influx of refugees, in particular in Kutupalong but in Dadaab too, and thus necessary expansion of camps to accommodate the influx increased resource consumption. When expanding refugee camps a likely consequence will be the deforestation of surrounding areas or increased usage of natural resources. In doing so, natural barriers and protection from natural hazards are inadvertently taken away, such as trees from surrounding forests, meaning that when a natural hazard occurs it is more likely to reach and impact the camp (Ahmed et al., 2020; Harris et al., 2013). Such deforestation activities are evident and ongoing in both Kutupalong and Dadaab refugee camps. Similarly, refugee settlements are often located in remote areas that are not typically considered suitable for living (UNHCR, 2017), areas in which land is often unstable, exposing such areas to natural hazards (Harris et al., 2013; UNHCR, 2017). The Dadaab refugee camps, for example, are situated on semi-arid land resulting in long droughts (Tabu et al., 2013). In comparison, some of the refugee shelters in Kutupalong are located on steep land that is prone to landslides, making camps more vulnerable to damage and destruction of shelter and infrastructure (Ahmed et al., 2020).

Question 2: What are the perceived challenges to enhancing integration of DRR practices in protracted crisis settings expressed in policy and wider literature?

The literature review research identified three factors to examine: lack of risk awareness, structural limitations of the humanitarian system and lack of funding as challenges to enhancing integration of DRR practices in PRS. In the following section, the same three factors are analysed in the context of the two case studies, Kutupalong and Dadaab refugee camps, the results of which are presented in table 1 below.

Table 1 Perceived challenges for enhancing the implementation of DRR as seen by examples from Kutupalong and Dadaab refugee camps.

Challenges for enhancing the implementation of DRR	Kutupalong refugee camps	Dadaab refugee camps
Risk awareness	<ul style="list-style-type: none"> - Deforestation activities (Skretteberg, 2019). - Building shelters on hillsides (Skretteberg, 2019). - Overcrowded and substandard camps (Zaman et al., 2020). - Lack of information and correspondence between high-risk areas (Zaman et al., 2020). - Poor waste management system (Zaman et al., 2020). 	<ul style="list-style-type: none"> - Little to no mention of DRR in official documents in relation to Dadaab (Government of Kenya, 2009). - Overcrowded and substandard camps (Sphere Standards, 2018). - Deforestation activities (Rossi et al., 2018). - Poor waste management system (Rono, 2017).
Structure of humanitarian system	<ul style="list-style-type: none"> - Duplication of DRR activities as a result of uncoordinated DRR strategy (ISCG, 2020a). - Limited capacity and resources to ensure DRR processes were being carried out (ISCG, 2020a) - Operating in a temporary capacity (ICG, 2019). 	<ul style="list-style-type: none"> - Operating in a temporary capacity (ICG, 2019). - Shared responsibility resulting in fractured DRR approach (Government of Kenya, 2009). - Limited capacity and resources to ensure DRR processes were being carried out (ICG, 2009)
Funding	<ul style="list-style-type: none"> - Limited durability of measures and processes (Zaman et al. 2020). - Inadequate / Fragile materials used (Zaman et al. 2020). 	<ul style="list-style-type: none"> - Out of the €50 million to support DRR in Kenya only €15million is being spent on refugee camps (ECHO, 2010). - Reduced number of staff operating in the camps (Sphere Standards, 2018). - Limited durability of measures (WFPUSA, 2020).

From the different academic perspectives that study DRR in PRS, there is no general agreement on the ‘best way’ of integrating DRR in such settings. Rather, this research seeks to bridge the gap between diverging understandings of DRR and its use in the humanitarian system to foster better understanding as to why there is a lack of DRR strategies in PRS. Similarly, understanding the various standpoints on DRR helps to explain why traditional means of providing aid has failed to provide durable solutions. Upon analysing the data, this research finds that all factors (presented in table 1) played a role in acting as a challenge to fully integrating DRR in PRS, but not every factor played a role every time or to the same extent. Specifically, no single factor is capable of explaining the lack of fully integrating DRR in PRS.

Looking at each challenge in turn, the following sections further elaborate on examples presented in table 1 and draws upon direct examples from the two case studies. Comparisons and contrasts drawn between the two case studies will be elaborated and analysed in sections labelled as similarities (section 6.1.1) and differences (section 6.1.2). What became apparent when building the results was the inherent linkages between the challenges themselves, with many sub-consequences falling into at least two of the three factors mentioned above.

6.1.1 Similarities

Over the years both case studies have faced two principal types of crises; recurrent natural hazards and PRS. Both case studies were chosen for their shared exposure and high vulnerability to natural hazards, ranking 13th and 40th respectively on the world risk index (World Risk Report, 2020) and high influx of refugees. Interestingly, upon deeper analysis both refugee settings face similar deep-rooted challenges to integration.

In both case studies the camps have been in operation for over 20 years. The protracted nature of the camps highlights how difficult it can be to develop camps sufficiently to meet the needs of those residing in the camps today (Ballard, 2019). Both refugee camps, albeit to different extents, initially operated on an emergency basis providing aid rather than focusing on the long-term sustainability of the camps (ICG, 2019). Linked to this, dealing with climate-related hazards and the aftermath of these events often goes beyond the scope and capacity of humanitarian agencies. A situation emerges whereby, “humanitarian action primarily aims for temporary solutions that tend to make people stuck in a humanitarian system for years” (Brun, 2016, p. 394). Both Kutupalong and Dadaab refugee camps fall into this notion that they initially operated on an emergency basis and both camps are in operation 30 years later. This

notion of being stuck in emergency phase suggests DRR has not been a priority and if it has, the approach to integrating DRR policies are often fragmented. Although both camps have DRR policies in place, enhancing the implementation of DRR has not been a priority, in either location. More specifically, both camps continue to view the refugee crisis as a short-term challenge, with both the Kenyan and Bangladeshi governments refusing to engage with multi-year planning (ICG, 2019). This notion of camps being temporary facilities transpires into the Bangladeshi government banning the construction of permanent housing arguing that Rohingya refugees would be returning to Myanmar in the near future. Despite the government focus on repatriation efforts of Rohingya refugees to Myanmar, no refugees have returned through formal government repatriation channels to date (ICG, 2019). Similarly, in Dadaab the Kenyan government sought to repatriate the camps residents and went so far as to threaten to close the camps, closing two camps already (Hujale, 2019). The lack of political will to promote durable solutions in both PRS links back to the notion that PRS tend to occupy highly sensitive political and legal situations.

Whilst ideally the pretext to responding to a natural hazard includes coordinated efforts, often the severity of the hazards overwhelms authorities' capacity to respond and so a myriad of actors intervene, resulting in a chaotic and complex response (Coppola, 2011). This is the case in both Kutupalong and Dadaab whereby a vast number of organisations operating in the camps are all operating with differing priorities, differing budgets and differing means of implementing policies (OECD, n.d.; ISCG, 2020a). Little coordination in regards to policy priorities resulted in a fractured approach to DRR, in both PRS, in which DRR were often duplicated (ISCG, 2020a; Government of Kenya, 2009). Ultimately, the current structure of the system complicates humanitarian organization's capacity to implement DRR initiatives. The lack of apparent coordination when it comes to DRR in either camp is also amplified when taking into account the geographical area that each camp covers. In Kutupalong, the ISCG coordinates all the ongoing DRR projects, yet given the size of camp over 80 percent of residents claim to have not received any DRR training (Zaman et al., 2020).

Risk analysis of refugee settings helps determine what preparedness activities are required for each risk scenario, for example EWS for cyclones, drought and/or flooding. Both refugee settings experience some degree of risk awareness in that both camps benefit from EWS. In Kutupalong camps EWS warn against cyclones (Bangladesh Red Crescent Society et al., 2019) and in Dadaab EWS warn primarily against potentially periods of drought that can lead to famine (Rossi et al., 2018). Linking back to the political sensitivity of PRS, in viewing the

refugee crisis as short-term suggests that there exists a lack of capacity and structure to communicate and share knowledge between actors (Albris et al., 2020). Specifically, the lack of adaptive and in particular long-term capacities to adapt to natural hazards. This results in incomplete, insufficient, and out of date data ultimately impeding the transfer of disaster risk knowledge into policies (Albris et al., 2020). One example being if you have overcrowded camps with shelters located closely together, on unsteady land, with poor waste management systems the impact of a hazard will be greater and faster (Rono, 2017; Zaman et al., 2020). This was particularly evident in Kutupalong where shelters are built on slopes or steep land that are prone to landslides (Zaman et al., 2020) and in Dadaab where some of the camps are situated on semi-arid land (Chkam, 2016; Tabu et al., 2013). A further example of the lack of risk awareness in Kutupalong occurred during a mid-term review of the handling of the camps conducted by the ISCG in 2020, the word ‘disaster reduction’ appeared a mere four times (ISCG, 2020b). In parallel, that the words ‘refugee’, ‘refugee camp’ and ‘Dadaab’ are not present in the Kenyan National Policy on Disaster Management (Government of Kenya, 2009). To compliment this, the high turnover of humanitarian staff operating in Kutupalong and Dadaab has resulted in lack of institutional learning presenting gaps in knowledge regarding the risk context specific to the camps coupled with lack of familiarity with DRR policies in the camps (ISCG, 2018; Morris & Voon, 2014). Underpinning the risk of not protecting refugees against potential hazards is the lack of risk analysis into the impact of categorising a refugee crisis as a short-term challenge. In turn, there is little attention placed on addressing contributing factors to natural hazards. This has led to humanitarian organisations operating in both Kutupalong and Dadaab undertaking activities that contribute to deforestation of surrounding areas of the refugee camps (Rossi et al., 2018; Zaman et al., 2020). As alluded to, deforestation activities such as clearing areas or hill cutting in order to expand the camps takes away natural barriers for flooding and landslides, increasing the severity and speed of the natural hazard (Ahmed et al., 2020; Harris et al., 2013).

Funding is often diverted away from developing DRR strategies to emergency response and short-term response activities. Similarities in terms of lack of funding also emerge from the two case studies. the lack of funding for DRR has an overarching impact on the capacity of organisations to engage with and expand DRR policies in the camps (Hagelsteen & Becker, 2019). In both PRS the lack of funding is apparent and has impacted the type of materials and resources available to the camps, meaning materials and resources tend to lack durability and are inadequate to cope with the hazards the camps are exposed to (WFPUSA, 2020; Zaman et

al., 2020). For example, in Kutupalong only three percent of shelters met performance standards (Zaman et al., 2009), and in Dadaab shelters remain below minimum acceptable standards, over 600 shelters were destroyed after heavy rains (Sphere Standards, 2018). Perhaps the poor standard of shelters in Dadaab can be attributed to the case whereby only €15million out of €50 million to support DRR in Kenya is being spent on refugee camps (ECHO, 2010).

6.1.2 Differences

Whilst both refugee settings face similar deep-rooted challenges to integrating DRR in operations, humanitarian organisations operating in both Kutupalong and Dadaab adopt contrasting strategies and differ in attempts of successfully enhancing the integration of DRR policies.

As previously mentioned, the DRR process is more advanced in Kutupalong refugee camps in comparison to Dadaab. Perhaps this is due to Bangladesh's higher exposure and vulnerability to natural hazards and therefore more experienced disaster management departments. However, the lack of political pressure from the Kenyan government coupled with lack of response to policies in Dadaab has led to misaligned programming for DRR, supports the notion that Bangladesh has a more advanced DRR system in place. In particular, the lack of response to EWS by decision-makers in Kenya at national level has had subsequent impact on the decision making in Dadaab (Hillier, 2012). The failure to act on EWS was largely put down to lack of capacity, resources or funding in Dadaab (Hillier, 2012). In contrast, in Kutupalong organisations have been actively developing contingency plans and humanitarian organisations have received training on how to strengthen and maintain shelters (ISCG, 2020c). Above all, all 34 camps in the Cox Bazar district, including the 18 camps in Kutupalong, had some level of active DRR activities ongoing (ISCG, 2020c).

Linking to the structure of the humanitarian system, the results of this thesis reveal that one of the key differences between Kutupalong and Dadaab are the different approaches to enhancing the use of DRR processes in the camps. The number and variety of organisations working in the refugee camps are an important determinant to the way in which DRR policies are carried out. Initial results suggest that there are many more organisations engaged with DRR practices in Kutupalong compared with Dadaab, suggesting the capacity for implementing DRR in Kutupalong is greater and therefore complements the earlier suggestion that DRR policies in

Kutupalong are more advanced and established. Whilst there may be a greater capacity for implementing DRR, these attempts are often conducted in an un-coordinated manner and present as a barrier to well-functioning DRR processes. In line with capacity for implementing DRR, organisations tend to follow different frameworks for implementing DRR. In Kutupalong the lead actors engaged with DRR, the ISCG and Bangladeshi government departments, follow a response plan designed specifically for potential hazards prone to the area in which the Kutupalong camps are situated (ISCG, 2020a). Whereas in Dadaab, the principal actor engaged with DRR is UNHCR, again following a different framework for designing and carrying out DRR activities. In the case of Dadaab, approaches to DRR are more universal following UNHCR priorities and thus DRR activities tend to be carried out on an ad-hoc basis.

6.2 Discussion

The case studies revealed that the understanding of DRR in refugee camps has the potential to positively impact how PRS are understood, as gaining an understanding of DRR can be reflected in better design and management of refugee camps (Brun, 2016). Currently, refugee camps are frequently highly and densely populated, risking hazards having more widespread effect as hazards spread much faster. In addition, as seen in the figures presented in the previous chapter, background to the camps, shelters are not built to withstand hazards, again resulting in hazards having a greater negative impact on the camps. The current design and management of camps reiterate the research problem of natural hazards further complicating and challenging humanitarian response. Natural hazards serve to impact the day-to-day operations of refugee camps whilst at the same time exacerbating the needs of refugees. Both Kutupalong and Dadaab refugee camps are characterised by the combination of exposure to natural hazards and limited coping capacities to reduce disaster risk. The combination of these elements contributes to the heavy reliance on humanitarian assistance. And yet it is these humanitarian organisations that are on the ground that can help refugees reduce their vulnerability to the impact of natural hazards and at the same time increase capacity to anticipate, respond and learn from natural hazards.

The humanitarian system acknowledges the need for collaborative and coherent approaches to understanding and implementation of DRR in PRS. Yet little emphasis has been placed on how humanitarian organisations go about establishing a collaborative and coherent approach to DRR (Poole et al., 2020). Yes, recent policy agendas such as the HFA and Sendai Framework

for risk reduction are important for providing guidance but as the ISCG mid-term review in Kutupalong suggests there is still a need for greater emphasis on the following topics; developing the capacity of organisations to implement DRR, linked to this is increased access to resources required especially for DRR activities and finally clarifying multi-level coordination structures (Poole et al., 2020; ISCG, 2020b).

Deepening our understanding how DRR impacts PRS has led to further discussions and analysis as to where DRR ‘fits in’ in the humanitarian sphere. In other words, understanding DRR questions whether DRR should be thought of as part of humanitarian aid or rather should DRR be thought of as part of development activities. The case studies and literature review in this thesis points to the idea that more often than not DRR falls in the gap between humanitarian and development aid. On the one hand, there are elements of DRR that fit into both humanitarian assistance and development programmes. For example, disaster preparedness can be linked with humanitarian response, whereas mitigation and risk reduction can be linked with development programmes (Schipper & Pelling, 2006). Yet, both fields experience gaps in DRR implementation (UNDRR, 2020). The link between natural hazards and the humanitarian system is an important link to analyse as the gap between the humanitarian and development nexus suggests that linkages between natural hazards and PRS are not fully understood (Brzoska, 2019). This is reflected in current policy agendas to the extent that agendas such as the Sendai framework have not yet integrated themes integral to reducing disaster risk in refugee camps such as shelter planning and camp management (Fekete et al., 2021). The case studies attempt to demonstrate how international, national and local policy interventions are affecting the linkages between natural hazards and PRS.

The trend in which natural disasters resulting in crisis settings tend to be protracted indicates that recognizing the links between response and long-term needs is increasingly important. Stressing the importance of the links between natural hazards and PRS emphasises the need to widen the scope of policy tools for dealing with the negative consequences that natural hazards have on PRS. Whilst there has been considerable recognition to include DRR in policy by international organizations and national governments, the relevancy of linkages between natural hazards and refugee camps including DRR measures and progress towards actually creating policy that takes these linkages into account has been slow (Brzoska, 2019). Perhaps a contributing factor to the slow progress of putting policy into action lies in the idea it is important to keep in mind that both settings are shrouded in a degree of complexity. As such, there exist additional context specific challenges to ensuring DRR has a place in policy.

In terms of policy analysis, there is no mention of refugee camps in the HFA or Sendai framework and again no mention of PRS, let alone protracted crisis in either the HFA or Sendai framework. What's more, there is no mention of the term 'durable solutions' in the Sendai framework. No mention of refugee camps in Kenya's national policy on disaster management (Government of Kenya, 2009). Likewise, no mention of refugee camp exclusively in Bangladesh's national plan for disaster management however, Cox's Bazar district in which Kutupalong is situated was mentioned (Government of the People's Republic of Bangladesh, 2017). Although, the term 'refugee' is mentioned in the Sphere Standard handbook in the context of protection and rights, the handbook does not specifically discuss the inclusion of refugee camps in DRR policy. The little to no mention of refugee camps in these disaster risk reducing policies reiterate the notion that, despite representing highly vulnerable group, refugees are often underrepresented in policy. Additionally, the lack of mention of refugee camps in national policy suggests that the relationship between PRS and natural hazards are not fully understood and that PRS are not prioritised. Taking this further, what is evident is that underpinning to changes to policy is the need to acknowledge and use the terms PRS and refugee in policy. Above all, policy analysis of current DRR measures in Kutupalong and Dadaab suggests that policy thus far has dealt with PRS and natural hazards as exclusive components.

It is clear the three challenges individually cannot offer solutions to current PRS. But collectively each of the three challenge plays a crucial role as part of the solution and potential to reshape the way humanitarian organisations prepares for and responds to natural hazards.

6.3 Summary

This chapter has presented a comprehensive breakdown and analysis of each of the research questions. In answering the research questions, the results show a strong link between natural hazards and PRS and how these components interact with each other. The comparative analysis of the two case studies, that followed, identified similarities and differences in DRR strategies in both refugee complexes. The discussion emerging from the comparative analysis attempted to foster better understanding as to why there remain barriers to further integrate DRR strategies in these settings. What was interesting to note when reflecting upon the discussion section is that both Kutupalong and Dadaab experienced more similarities than differences in regards to the obstacles to further integrate DRR policies into camp management. At the same time, the similarities and differences arising from the comparative analysis was useful in

identifying more broader and generalised challenges of integrating DRR in PRS. Such as the unpredictability of natural hazards and the impact of these events serve as broader implications for operationalizing DRR policies. The findings both in the results section and background to the case studies are consistent with the findings of the research conducted for the literature review. Whilst additional more context specific challenges to integrating DRR into policy can be drawn from Kutupalong and Dadaab refugee camps, the lack of risk awareness, limitations to the structure of the humanitarian system and funding shortcomings are overarching and critical barriers to further enhancing DRR practices in these settings.

7. Conclusion

The aim of this research was to engage with and contribute to understanding the relationship between DRR strategies and PRS. The research was carried out in mind to analyse the two research questions set out at the beginning of this thesis;

1. In what way do relationships exist between protracted refugee settings and natural hazards?
2. What are the perceived challenges to enhancing the integration of DRR practices in protracted refugee settings expressed in policy and wider literature?

Unpacking the relationship between DRR strategies and PRS sought to highlight the relative lack of DRR policies in PRS despite refugee settings being highly vulnerable to natural hazards as previously referred to. Moreover, the lack of DRR initiatives in these settings reiterates the potential consequences and spill over effect of the lack of DRR policies on the vulnerability and exposure to natural hazards.

Based on qualitative analysis of policy frameworks and wider supporting literature this thesis suggests that understanding of critical concepts linked with DRR is not unanimous within and across the humanitarian system. As discussed in the thesis, the humanitarian system plays a significant role in PRS. Whilst the humanitarian sector is improving in many areas, progress of integrating DRR as part of humanitarian aid in PRS is slow. More specifically, this thesis argues that the role of policy is not often widely reflected in empirical research. In turn, what emerges from the results of this thesis is that the few policies that do contain DRR processes are not fully applied or integrated, moreover, policies such as the HFA and Sendai Framework fail to mention PRS. This is particularly evident when considering that in order to successfully incorporate durable and sustainable solutions into PRS the relationship between policy and delivery must be acknowledged and better understood. The lack of DRR policies suggests there is growing uncertainty as to whether support for reducing risk is happening in practice. Whilst there have been numerous initiatives promoting DRR on the global agenda such as the HFA, Sendai Framework, Sphere Standards, there still appears to be a gap between rhetoric and policy on the one hand and action and investment on the other in the case of PRS. Policy analysis and evaluating current DRR policies in Kutupalong and Dadaab sheds light on the obstacles the humanitarian sector faces in attempting to better integrate DRR policies into operations. As a way of understanding the lack of progress towards enhancing the integration of DRR, this thesis identified three critical barriers to such integration; lack of risk awareness, structural limitations of the humanitarian system and lack of funding directed towards DRR.

The case studies of Kutupalong and Dadaab refugee camps, both respectively classified as the largest refugee camps in the world albeit at different points in time, reiterate and exemplify how the three factors pose as challenges for integrating DRR. The case studies are critical examples of visualising how different dimensions intersect. How dimensions such as climate change, migration, humanitarian organisations all interact in protracted settings. The extent of which these dimensions interact and are interlinked highlights the complex nature both Kutupalong and Dadaab but also other PRS. In addition, these dimensions reiterate the necessity for humanitarian organisations to fully integrate DRR into wider humanitarian policy, given the scale of human migration vastly expanding and that climate change is accelerating at alarming rates.

Whilst this thesis follows a highly exploratory methodology, the three factors identified as acting as barriers to enhancing DRR in PRS are not an exhaustive list of factors that shape the integration of DRR in PRS. Nevertheless, these factors uncover entry points for addressing the gap between policy and delivery and suggest areas in which future research could be conducted. Future research could include investigating the effect of engaging with the private sector has on enhancing DRR in PRS. In the contexts of PRS, further attention could be placed on historical legacies and political situations of both sending and receiving nations and the influence this has on enhancing DRR. This would also encourage future research to navigate existing interactions with local communities neighbouring PRS to better understand the challenges to enhancing the integration of DRR in PRS.

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