Humanitarian Responses to Complex Displacement Crises

by

See Lay Shien

Bachelor of Engineering Honours (Civil Engineering)

Lead Supervisor: Dr Aaron Opdyke

Secondary Supervisor: Associate Professor Susan Banki

A thesis submitted to fulfil the requirements of the degree of

Master of Philosophy

School of Civil Engineering

Faculty of Engineering

The University of Sydney

Australia

May 2025

Abstract

Disasters, conflict, and climate change increasingly intersect, forcing communities to flee and trapping them in cycles of displacement. Yet, humanitarian responses remain fragmented, often addressing displacement crises in isolation. This thesis aims to advance knowledge of how the humanitarian system is responding to complex displacement driven by the converging influences of climate and conflict. It begins with a narrative literature review that synthesises evidence on the interaction between commonly recognised causes of displacement – climate change, disasters, and conflict. Drawing upon grey literature, the review also examines how humanitarian actors categorise and label displacement contexts. The conceptual groundwork established in the literature review is complemented with 32 semi-structured interviews with humanitarian practitioners in the Philippines to examine how the humanitarian community navigates complex displacement in practice. A comparative case study then digs deeper to analyse the difference in data reporting between a complex displacement case (involving both disaster and conflict) and single-event displacement case (involving disaster only). To capture the nuances of overlapping triggers, this thesis defines and operationalises the term "complex displacement", as situations in which communities are forced to flee amid the complex interaction of climate change, disasters, and conflict. The findings of this research reveal two dichotomies in how humanitarian organisations frame diverse displacement contexts. The first is a rigid distinction between displacement caused by climate-related hazards and conflict-related events. The second is a predominant focus on immediate events and triggers, with less attention to the deeper structural conditions and drivers that ultimately compel communities to flee. The results further demonstrate that humanitarian practitioners rely on trigger-based, temporal, spatial, and precedent-based classifications of displacement contexts. The decision of humanitarian organisations to respond (or not) is found to hinge on four major factors – government requests, operational presence, security, and logistics – which interact to determine how and where displacement responses are targeted. Using time-series and spatial analysis supplemented by interview data, disparities in both the frequency and the temporal and spatial coverage of displacement reporting are identified, with the potential to inform anticipatory action during complex crises. This thesis has addressed knowledge gaps in identifying limitations – from conceptual framing to decision-making and data reporting – in the current humanitarian system. It highlights a prevailing tendency, in both reporting and practice, to address displacement through immediate, siloed triggers rather than within the context of its long-term underlying drivers. It contributes to ongoing dialogue and efforts to develop more holistic approaches towards responding to complex displacement crises.

Statement of Originality

This is to certify that the content of this thesis is my own work. This thesis has not been submitted for any other degree or purpose.

I certify that the intellectual content of this thesis is the product of my own work, and that all assistance received in preparing this thesis and all sources have been acknowledged.

Lay Shien (Sheryn) SEE

Acknowledgements

As I reflect on this Master's journey, I am filled with gratitude for the generous support I have received from many individuals along the way.

First and foremost, I would like to express my utmost gratitude to my primary supervisor, Dr. Aaron Opdyke. Your support and guidance during this research journey have been immensely impactful. I am grateful to have had the opportunity to learn from you and develop many skills as an engineer and researcher in the humanitarian field. I hope to continue building a career in this niche industry, and you have provided a strong foundation that I will continue to rely on for the rest of my career.

I am also sincerely grateful to my secondary supervisor, Dr. Susan Banki. This was my first time doing qualitative research – an unfamiliar avenue when I began. I am fortunate to have had even a glimpse of your knowledge and experience. Your reflective thinking has been a refreshing learning experience, one I will carry with me into any future work that draws on a social science lens.

I am also thankful to the participants who took part in my research and generously shared their knowledge and time with me. I truly valued and enjoyed learning from each conversation. This research would not have been possible without their contributions.

To my partner – thank you for being so supportive when I decided to pursue this research journey. So much of my achievement wouldn't have been possible without your constant presence. You have taken on the lion's share of house chores, adjusted our life plans around my career aspirations, and most importantly, believed in me whenever I failed to see my own strengths.

To my family – thank you for all the sacrifices you have made so that your little girl could grow up to pursue a career in the humanitarian space. It has been something she has always wanted since young, even though she couldn't quite articulate it back then. I hope she makes you proud.

Lastly, to my friends – who provided both encouragement when it seemed challenging to continue and distractions when very much needed. I cherish every laughter and conversation we had over good food. You have made the good days so memorable, and the hard days much lighter to carry.

Funding Acknowledgement

This research was supported by the Sydney Environment Institute (SEI) through a Collaborative Grant, and by an Australian Government Research Training Program (RTP) Scholarship.

Generative AI Tool Acknowledgement

Generative AI tools, specifically ChatGPT-4, were used to enhance the clarity and coherence of the writing, as well as to assist with automating data extraction from publicly available reports in Chapter 4. All conceptualisation, analysis, and substantive content of this thesis remain entirely original and my own.

Author Attribution Statement

Chapter 2 of this thesis is submitted for publication as:

See, Sheryn, Aaron Opdyke, and Susan Banki. 2024. 'A Review of the Climate Change-Disaster-Conflict Nexus and Humanitarian Framing of Complex Displacement Contexts'. https://doi.org/10.2139/ssrn.4884888.

Manuscript contribution of Sheryn See: Conceptualisation, Methodology, Formal analysis, Writing – original draft, Visualisation

Chapter 3 of this thesis is submitted for publication as:

See, Sheryn, Aaron Opdyke, and Susan Banki. 2025. 'Navigating the Overlap of Climate-Induced and Conflict-Induced Displacement: Perspectives from Humanitarian Practitioners in the Philippines'. https://doi.org/10.21203/rs.3.rs-6526732/v1.

Manuscript contribution of Sheryn See: Conceptualisation, Methodology, Investigation, Formal analysis, Writing - original draft, Visualisation

Note: The content under "Case Study Context" of this manuscript has been moved to the Introduction section (Chapter 1) of this thesis. To align with the journal article format, this manuscript presents a merged and edited version of the Introduction, Background, and part of the Methods section from Chapter 3.

Chapter 4 of this thesis will be submitted for publication as:

See, Sheryn, Aaron Opdyke, and Susan Banki. 'Bridging the Data Divide: A Comparative Analysis of Complex and Single-Event Displacement Reporting in the Philippines'.

Manuscript contribution of Sheryn See: Conceptualisation, Methodology, Investigation, Formal analysis, Writing - original draft, Visualisation

Lay Shien (Sheryn) SEE

As supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.

Dr. Aaron Opdyke

Table of Contents

List of Figures

List of Tables

List of Abbreviations

ACAPS	Assessment Capacities Project
ACLED	Armed Conflict Location & Event Data
ALNAP	Active Learning Network for Accountability and Performance
ARMM	Autonomous Region of Muslim Mindanao
BARMM	Bangsamoro Autonomous Region of Muslim Mindanao
CCA	Climate change adaptation
CCCM	Camp Coordination and Camp Management Cluster
DAFAC	Disaster Assistance Family Access Cards
DRMB	Disaster Response Management Bureau
DROMIC	Disaster Response Operations Management, Information and Communication
DRR	Disaster risk reduction
DSWD	Department of Social Welfare and Development
DTM	Displacement Tracking Matrix
EAP	Early Action Protocol
EWS	Early Warning System
FbF	Forecast-based Financing
GDP	Gross domestic product
HCT	Humanitarian Country Team
ICRC	International Committee of the Red Cross
IDMC	Internal Displacement Monitoring Centre
IDP	Internally displaced persons
IFRC	International Federation of Red Cross and Red Crescent
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
LGU	Local Government Unit
ND-GAIN	Notre Dame Global Adaptation Initiative
NGO	Non-governmental organization
NPA	New People's Army
NRC	Norwegian Refugee Council

ODI	Overseas Development Institute
PAGASA	Philippine Atmospheric, Geophysical, and Astronomical Services Administration
PAR	Philippine Area of Responsibility
PRC	Philippine Red Cross
QGIS	Quantum Geographic Information System
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs

Chapter 1: Introduction

1.1 Background

Natural hazards and extreme weather events such as floods, droughts, and heatwaves are intensifying due to climate change (IPCC 2023). Yet, disasters are not solely the result of natural hazards; structural conditions such as weak governance, systemic inequality, and marginalisation shape disaster risk, making disasters as much a product of human decisions as of natural climatic forces (Raju et al. 2022; Otto and Raju 2023; Lahsen and Ribot 2022; Chmutina and von Meding 2019; Wisner 2012). In parallel, armed conflict has escalated globally since 2010, particularly in fragile settings (Chrimes et al. 2024). These contexts are often characterised by rising inequality, discrimination, and long-standing poor governance (World Bank 2020). Disasters are especially likely in such settings, where conflict weakens social and political systems, leaving people vulnerable to climate impacts (Siddiqi 2018; Blaikie et al. 2003). Meanwhile, climate change is also exacerbating slow-onset events such as sea level rise, ocean acidification, desertification, and land degradation (IPCC 2023), all of which heighten disaster risk and place additional pressure on already fragile socio-economic and political systems (Scheffran 2020).

Disasters, conflict, and climate change intersect in ways that compound vulnerabilities, forcing communities to flee their homes and trap them in cycles of displacement (IDMC 2024). In 2023, the Internal Displacement Monitoring Centre (IDMC) reported that 43 out of 45 countries and territories experiencing conflict-induced displacement also reported disaster displacement (IDMC 2024). It is increasingly common to observe displacement crises occurring simultaneously, amplifying communities' vulnerabilities (Siddiqi et al. 2019). In 2019, heavy rains in the White Nile basins of Sub-Saharan Africa triggered over 700,000 new displacements, forcing communities already uprooted by conflict to flee again due to flooding (IDMC 2020). Typhoon Mocha was the largest disaster displacement event to hit East Asia and the Pacific in 2023, triggering 1.3 million displacements in Bangladesh and an additional 912,000 in Myanmar, including highly vulnerable communities such as Rohingya refugees living in Cox's Bazar (IDMC 2024). Many of these refugees, already living in protracted displacement, were residing in informal shelters made of materials unable to withstand Mocha's impact (Relief International 2023). Syria faces similarly layered risks, with both protracted conflict and recurring climate-related hazards (UNHCR 2024a; IDMC 2024). In April 2019, extreme rainfall caused flooding in the Al Hassakeh region hosting communities and camps reliant on humanitarian aid (Norwegian Red Cross 2019). In Libya, years of conflict have weakened disaster preparedness and infrastructure (Saeed et al. 2023). When Storm Daniel struck in 2023, the collapse of two aging dams led to catastrophic flooding in Derna, killing thousands and displacing nearly a quarter of the city's population (REACH 2023; IOM 2023).

These examples illustrate how the humanitarian system is grappling with the escalation of overlapping crises. However, the humanitarian community tends to approach displacement crises in a siloed manner, focusing on one or two aspects of the tripartite relationship between climate, conflict, and displacement (IDMC and NRC 2015; K. Peters et al. 2021). Responses to climate-related and conflict-related displacement have often been programmed and implemented based on different principles and even rationales (Sánchez-Mojica 2020; Weerasinghe 2021). Limited exchange of expertise, knowledge sharing, and collaborative efforts have led humanitarian organisations to use distinct language and terminology in addressing displacement linked with conflicts and disasters (IDMC and

NRC 2015). It is increasingly acknowledged that the current humanitarian systems fall short of addressing these complex realities in part due to rigid sectoral frameworks and disaggregated data systems (K. Peters et al. 2021). Such fragmentation is increasingly problematic considering the empirical evidence showing how frequently climate-related disasters and armed conflict intersect (Walch 2018).

Academic literature mirrors this fragmentation – while existing literature on climate and conflict is extensive (Beaumont and Coning 2022; Koubi 2019; Scartozzi 2021), much of it focuses on causal relationships without addressing implications for displacement. There is less attention to how the convergence of climate and conflict drives displacement (Abel et al. 2019; Sturridge and Holloway 2022). Studies examining humanitarian responses to this complexity are even more scarce and are often limited to grey literature produced by humanitarian actors. These gaps point to the need for more integrated approaches to documenting and responding to complex displacement, yet there is limited analysis of how humanitarian organisations and governments approach such complexity in practice. Questions around what specific gaps hinder effective response, as well as where and how to begin building a more holistic system, remain a pressing challenge.

1.2 Aim and scope

The overarching aim of this thesis is to advance knowledge of how the humanitarian system is responding to complex displacement driven by the converging influences of climate and conflict. This thesis adopts a broad definition of "displacement" as the forced movement of people from their homes due to external circumstances such as conflict, disasters, or climate-related events. This aligns with definitions used by the United Nations High Commissioner for Refugees (UNHCR) (2025) and IDMC (2025) which emphasise displacement as involuntary and triggered by threats to life, safety, or livelihood. While there is wide debate around distinctions such as the voluntary-involuntary continuum of mobility or internal versus cross-border movements, these are beyond the scope of this thesis.

For the purpose of this thesis, the term "climate" is used broadly to encompass a range of climate-related phenomena and factors, including both short-term weather-related hazards, such as typhoons and floods, as well as long-term climate change impacts. As such, climate-induced displacement here refers to any forced movement induced by disasters or climate change. When referring to conflict, this thesis adopts the International Committee of the Red Cross (ICRC)'s definition of "armed conflict" as "protracted armed confrontations occurring between governmental armed forces and the forces of one or more armed groups" (ICRC 2008). This research focuses primarily on internal armed conflict, which reflects the context of the case study.

The concept of the Humanitarian-Development-Peace (HDP) Nexus was developed over the last decade in response to contexts where humanitarian needs, climate change, and conflict coincide (Joireman and Haddad 2023). Together with the durable solutions framework (IASC 2010), it emphasises the need for greater coherence between humanitarian, development, and peacebuilding efforts to tackle immediate needs, address root causes, and support sustainable outcomes for displaced populations (OECD 2024). It reflects a recognition within the international community that responses to displacement must go beyond short-term humanitarian assistance to encompass sustainable development perspectives and peacebuilding measures that enable durable solutions (OECD 2024; Nguya and Siddiqui 2020). In parallel, scholarship across disaster risk reduction (DRR), climate change adaptation (CCA), and armed conflict has increasingly emphasised the importance of

integrated approaches, bridging fields that have traditionally developed in isolation (L. E. R. Peters and Kelman 2020; L. E. R. Peters 2021; Mena and Hilhorst 2021; Mena et al. 2019; Wisner 2012; Walch 2018; K. Peters and Twigg 2019). This emerging research suggests a growing awareness that climate and conflict are not separate challenges but overlapping problems that require integrated and context-sensitive approaches. Both policy and academic discourse are shifting toward long-term, coherence approaches to displacement that prioritise integration across sectors.

Building on this body of work, my thesis contributes a novel perspective by examining humanitarian responses to displacement driven by the intersecting challenges of climate and conflict, and exploring how these responses might evolve to better address such complexities. With a case study in the Philippines, I seek to offer broader insights that are relevant to other countries or contexts facing similar converging climate-conflict risks.

Table 1.1: Summary of thesis chapter knowledge gaps and research questions

	Gap	Research Questions (RQs)
Chapter 2 (Literature review)	• Limited synthesis of how climate change, disaster, and conflict interact to create complexity in displacement • Limited scholarly literature assessing the preparedness of the current humanitarian regime to complexity in displacement	RQ1: How do climate change, disaster, and conflict interact to create complexities in displacement? RQ2: How, if at all, is the current humanitarian regime set up to respond to these complexities in displacement?
Chapter 3 (Empirical)	• Grey literature is often divided by organisational mandate and displacement trigger • Limited knowledge of how humanitarian practitioners navigate operational complexity on the ground	RQ: How are humanitarian organisations responding to the increasing complexity of displacement crises in the Philippines? Sub-RQ1: How do humanitarian organisations classify and label complex displacement contexts? Sub-RQ2: What are the factors that influence humanitarian organisations' decisions to respond (or not respond) to complex displacement crises?
Chapter 4 (Comparative Case Study)	• Anecdotal evidence suggests that certain populations are excluded during responses to complex displacement scenarios, but little is known about who is left out and how reporting gaps occur	RQ: How does humanitarian data reporting differ between complex (involving both climate and conflict) and single-event displacement (climate)?

Table 1.1 shows the summary of the research gaps, aims, and questions I aim to address in each chapter. Chapter 2 explores how climate change, disasters, and conflict interact to create displacement dynamics that are complex and assess the preparedness of the current humanitarian system to respond to this complexity. This chapter addresses the lack of synthesis across these domains and the limited scholarly analysis of humanitarian preparedness for complex displacement. Building on this, Chapter 3 addresses the gap in understanding how humanitarian practitioners navigate the

operational complexity of displacement on the ground. While a wealth of grey literature is available, there is limited insight into how frontline actors make sense of and respond to overlapping crises. In this chapter, I engaged directly with practitioners who were involved in responding to displacement due to disaster, conflict, or both contexts. Finally, Chapter 4 builds upon anecdotal accounts that certain populations are excluded from data reporting during complex displacement events. Despite frequent references to data gaps, there is limited analysis of how reporting differs between complex and single-trigger events. This chapter aims to assess the reporting discrepancies to identify current limitations and inform opportunities for reform.

1.3 Research context: The Philippines

The Philippines is among the most disaster-prone countries in the world, consistently ranking at the top of the World Risk Index due to its high exposure and vulnerability to climate impacts (The World Bank Group 2021; IFHV 2023). The country experiences a range of hazards, including floods, typhoons, droughts, and landslides (The World Bank Group 2021), driving some of the highest rates of disaster-induced displacement in East Asia and the Pacific over the past three years (IDMC 2024; 2023; 2022). In 2023 alone, an estimated 2,594,000 displacements due to disasters were recorded (IDMC 2024).

The Philippines also grapples with protracted conflict in the south, particularly the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). This area has witnessed decades of intermittent high-intensity armed conflict and cyclical displacement, due to significant events such as the 2013 Zamboanga Siege and the 2017 Marawi Siege (M. C. Fernandez et al. 2022). Marawi City, located in the BARMM, is ancestral homeland of the Moro, the largest Muslim minority in a predominantly Christian nation (Banlaoi 2020; M. C. Fernandez et al. 2022). Complex land ownership and tenure issues have long been a root cause of armed conflict in the region, with conflict over land being the top drivers of local violence even before the Marawi Siege (M. Fernandez et al. 2018). For centuries, these communities, along with other Muslim and Indigenous groups have endured political marginalisation, underdevelopment, and exclusion (Banlaoi 2020).

Meanwhile, localised violent incidents linked to communist insurgency remain ongoing elsewhere in the country, with Western Visayas and Northern Mindanao identified as the most active areas (ACLED 2023). At the end of 2023, approximately 113,000 internally displaced persons (IDPs) due to conflict were reported, with 71% tracing back to the 2017 Marawi conflict (IDMC 2024).

The Philippine context presents an established case of the convergence of climate and conflict (Weerasinghe 2021). While similar hazards occur globally, the sheer magnitude and frequency of their impacts in the Philippines, coupled with both protracted and new conflict events, create a distinctive setting where climate-induced and conflict-induced displacement are deeply intertwined. It is against this backdrop that I aim to understand how humanitarian actors navigate these intersecting challenges.

1.4 Research methods overview

As this thesis examines humanitarian responses to complex displacement, it draws on multiple bodies of knowledge to synthesise insights. Figure 1.1 presents how my thesis integrates three domains of knowledge – academic literature (referring to peer-reviewed scholarly work), grey literature and data (encompassing reports, briefings, papers, and data produced by humanitarian actors), and practitioner knowledge (grounded in practitioners' firsthand experiences in the field). Chapter 2 builds conceptual

synthesis from academic and grey literature, examining how the complex interaction between climate change, disasters, and conflict is framed in literature and operationalised in displacement response. Chapter 3 gathers empirical insights by triangulating semi-structured interviews with humanitarian practitioners alongside academic and grey literature. Using displacement data published by the government, Chapter 4 applies cross-case synthesis to compare differences in data reporting between two historical displacement events, supplemented with contextual insights from practitioner interviews. Integrating insights across these knowledge domains allows for a more holistic understanding of humanitarian responses to complex displacement.

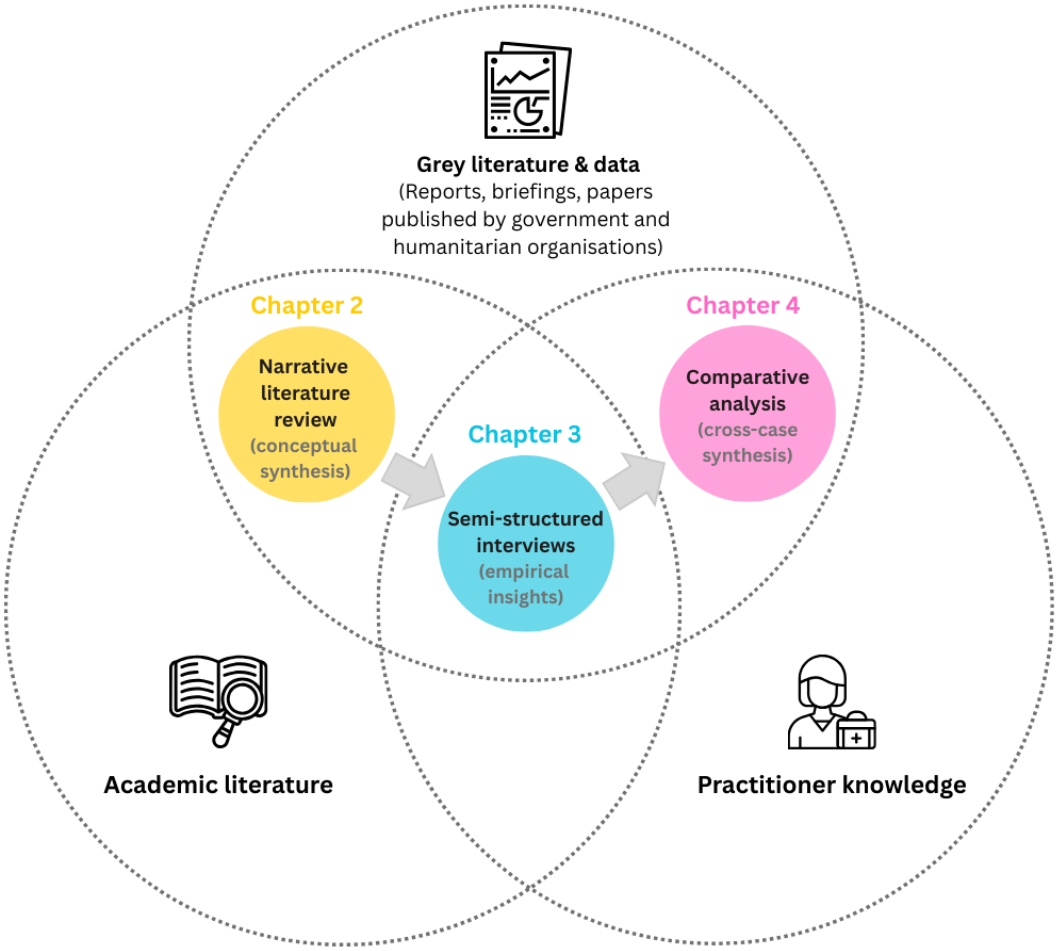

Figure 1.1: Methodological Framework of All Chapters

In Chapter 2, I conducted a narrative literature review to explore existing scholarship on climate change, disasters, conflict, and displacement. I reviewed a broad range of sources, including, but not limited to, literature reviews, comments, case studies, empirical studies and humanitarian grey literature. I examined the findings presented by various scholars on the relationships among climate change, disasters, and conflict, and used this to establish a theoretical lens for understanding "complex displacement" – a term I used to refer to situations in which communities are forced to flee amid the complex interaction of climate change, disasters, and conflict. While this thesis some existing literature point to climate change and disasters should not be viewed separately (Kelman et al. 2020), it treats them as analytically distinct to synthesise a fragmented body of evidence on their respective roles in

displacement. In the latter half of the chapter, I shifted focus to how humanitarian actors categorise and label displacement contexts, using pattern recognition to analyse language and framing. I also examined cases where the fragmented framing of displacement hinders the effectiveness of response efforts. With that, I connected the theoretical framings of complex displacement with practical implications, highlighting the gaps in current humanitarian practices. This chapter laid the conceptual grounding for the rest of the thesis by presenting the current state of knowledge on the climate change-disaster-conflict nexus and revealing the fragmented nature of displacement response within the humanitarian system. These insights prompted me to explore beyond publicly available reports and investigate how humanitarian practitioners describe displacement in their own terms and the factors that shape organisational decisions to respond during complex crises, which I explore in the next chapter.

In Chapter 3, I employed a qualitative research methodology, conducting 32 semi-structured interviews with humanitarian practitioners in the Philippines. Ethics approval for this research was granted by the Human Ethics Research Committee at the University of Sydney (2023/HE000821). I recruited participants from a diverse range of organisations, including United Nations organisations, Red Cross societies, bilateral organisations, non-governmental organisations, national government, and local universities. The interview data, supplemented by field notes and secondary literature, were analysed using thematic analysis and grounded theory. This approach allowed me to examine how displacement is classified and the factors that shape organisational decisions to respond. Across these interviews, I identified a widespread reliance on displacement data from the Philippines Department of Social Welfare and Development (DSWD), particularly through the Disaster Response Operations Management, Information and Communication (DROMIC) reporting system, which many practitioners cited as central to their response planning and targeting. Several participants also referred to the overlapping displacement crises from the Marawi Siege and Severe Tropical Storm Tembin (Vinta)[1] in 2017 as a significant instance where climate and conflict influences converged. These observations pointed to the need for a deeper examination of how displacement is reported and understood during complex crises, which led to the development of the following chapter.

In Chapter 4, I conducted a comparative case study to analyse the difference in data reporting between a complex displacement case (involving both disaster and conflict) and single-event displacement case (involving disaster only). I selected the overlapping incidences of the Marawi Siege and Severe Tropical Storm Tembin (Vinta) in 2017 as a case of complex displacement and Severe Tropical Storm Nalgae (Paeng) in 2022 as a case of single-event displacement that also incorporated anticipatory action measures. I extracted IDP data reported by DSWD DROMIC across all events, constructing time-series plots and spatial maps to identify reporting gaps across time and geography. The data was further enriched by drawing on a subset of interviews from Chapter 3. I then employed cross-case synthesis, first analysing each case individually and then comparing them to draw out differences in how displacement is being recorded. The anticipatory action during Paeng also offered insights into their potential for addressing future overlapping crises. This final chapter deepens the contributions of my

[1] The Philippine government adopts a different naming system for storms, using local names to create greater awareness and communication. We list both the international given name first and the Philippines-designation in parentheses.

thesis by linking conceptual, operational, and reporting gaps in humanitarian responses to complex displacement.

As a Malaysian who has lived in Australia for nearly a decade, I approach this study without personal experience of displacement, and without the cultural or historical embeddedness of the Philippines. This distance affords me an outsider perspective – one that is shaped by academic training and professional experience, but not by lived experience. At the same time, I hold a Southeast Asian perspective that is familiar with structural issues such as colonial histories, development inequalities, and the dynamics of multiethnic societies, while acknowledging that these issues manifest differently across national contexts. My learnings from humanitarian engineering subjects have made me aware of how knowledge about other countries is often produced without centring their voices, which has shaped my decision to prioritise the perspectives of frontline responders in this research, an often informal and undocumented body of knowledge that is nonetheless valuable for understanding how humanitarian responses are being operationalised in practice. As a researcher with an engineering background, I approach this qualitative study by relying on established methods such as inductive coding and Grounded Theory to ensure rigour, while actively checking my assumptions and drawing on the expertise of my supervisors.

1.5 Thesis format

This thesis adopts a standalone journal article format for each chapter, a common structure in the engineering discipline. Chapters 2, 3, and 4 are written as individual journal articles intended for publication. Chapter 1 (Introduction) outlines the overall research context and objectives, while Chapter 5 (Conclusion) synthesises the collective insights and conclusions from the preceding chapters.

Given the independent nature of each article, there may be minor repetition of text across chapters to reintroduce gaps and contextual background. Chapters 2, 3, and 4 are written in the first-person plural (“we”) to reflect the collaborative authorship intended for journal publication, in contrast to the singular authorial voice in Chapters 1 and 5.

References are provided at the end of each chapter. Additional supporting materials are included in the Appendix. Appendix A: Interview Guide presents the interview guide developed for Chapter 3. Appendix B: Coding Dictionary outlines the coding dictionary created for thematic analysis of interview transcripts in Chapters 3 and 4. Appendix C: Python Script for Extracting Marawi IDPs contains the Python script used to extract Marawi IDP data while Appendix D: Marawi IDPs Extracted from DSWD DROMIC Reports presents the extracted data from DSWD DROMIC reports. Similarly, Appendix E: Python Script for Extracting Vinta IDPs from the DSWD DROMIC Reports and Appendix F: Vinta IDPs Extracted from DSWD DROMIC Reports provide the script and extracted data for Vinta, while Appendix G: Python Script for Extracting Paeng IDPs from DSWD DROMIC Reports and Appendix H: Paeng IDPs Extracted from DSWD DROMIC Reports present the corresponding materials for Paeng.

Chapter 2: A Review of the Climate Change-Disaster-Conflict Nexus and Humanitarian Framing of Complex Displacement Contexts

Abstract

With climate change, disaster, and conflict impacts increasingly intertwining to drive population displacement, there is a pressing need to synthesise the confluence of what we know about this nexus. In this review, we synthesise evidence on how these triggers interact. While climate change and disasters can lead to conflict, it is also the case that conflicts can exacerbate vulnerability and create disaster risk. Displacement outcomes are, therefore, rarely a result of individual triggers in isolation. Instead, they emerge from overlapping and nuanced dynamics. This review adopts the term "complex displacement" to refer to situations in which communities are forced to flee amid the complex interaction of climate change, disasters, and conflict. We examine how humanitarian organisations frame diverse displacement contexts. Our review reveals two dichotomies: one between climate-related and conflict-related triggers and another between displacement drivers and triggers. This separation has resulted in the development of separate terminology, language, training, and institutions for responding to displacement, which risks overlooking the interconnected vulnerabilities of displaced communities. There is a need for humanitarian organisations to recognise the interconnectivity between climate change, disaster, and conflict in driving displacement and adapt their approaches accordingly. By identifying areas where humanitarian framing might fall short in grasping the complexities within displacement contexts, we offer contributions to ongoing dialogue and advocate for more holistic approaches towards responding to complex displacement crises.

2.1 Introduction

Since the 1980s, there has been a global increase in the number of countries facing both armed conflict and disasters within the same year (Caso et al. 2024). According to the United Nations High Commissioner for Refugees (UNHCR), 95% of all internal conflict displacements in 2021 were observed in countries that are highly vulnerable to the effects of climate change (UNHCR 2022). It is increasingly common to observe displacement crises occurring simultaneously, amplifying communities' vulnerabilities (Siddiqi et al. 2019). For instance, heavy rains in the White Nile basins of Sub-Saharan Africa triggered more than 700,000 new displacements in 2019, propelling communities previously displaced by conflict and violence to flee again due to disasters (IDMC 2020). Similarly, Typhoon Rai wreaked havoc in the southern Philippines, only to be followed by Tropical Storm Megi just a few months later – both unfolding against the backdrop of political fragility (IDMC 2023).

Current crises of displacement are increasingly recognised to be driven by an intricate blend of climate and environmental change, conflict, and fragility (Sturridge and Holloway 2022) – and this complexity is expected to persist into the future (Goodwin-Gill and McAdam 2017). However, the humanitarian community tends to approach displacement crises in a siloed manner, focusing on one or two aspects of the tripartite relationship between climate change, conflict, and displacement (IDMC and NRC 2015; K. Peters et al. 2021). This disaggregated approach has implications for the responses and assistance communities receive within complex displacement contexts (Weerasinghe 2021). There is a growing recognition of the need to examine the nuanced relationship between displacement triggers and drivers spanning issues relating to climate change and conflict (K. Peters et al. 2021) and the compounding vulnerabilities created for communities when they overlap (Sturridge and Holloway 2022). Understanding these drivers and triggers is integral to unpacking complexities and effectively preparing for the future displacement landscape (K. Peters et al. 2021; Sturridge and Holloway 2022).

The existing literature on climate and conflict is vast and comprehensive (Beaumont and Coning 2022; Koubi 2019; Scartozzi 2021). Scholars such as Abrahams and Carr (2017) and Gilmore (2017) have reviewed this connection through multi-disciplinary angles such as economics, social sciences and political sciences. Some scholars have reviewed specific aspects of climate-conflict literature, such as the link between short-term environmental change on intrastate conflict (Theisen et al. 2013) and the interplay between climate change and resource conflicts in the context of farmer communities (Anthonia et al. 2021). While these reviews offer valuable insights, they primarily concentrate on the relationship between climate change and conflict without identifying implications for displacement outcomes. Much of the existing literature, exemplified by von Uexkull and Buhaug (2021) and Burrows and Kinney (2016), examines how environmental pressures trigger migration and subsequently induce conflict in migrant-receiving areas. The intersection of climate change and conflict in driving displacement remains underexplored (Abel et al., 2019). While Morales-Muñoz et al. (2020) have investigated the relationship between environmental change, food security, and violence as drivers of migration, humanitarian institutions are absent. There is a gap in synthesising the relationship between climate-related factors, conflict, and displacement outcomes, as well as understanding how humanitarian organisations approach this increasingly complexity in their response efforts.

Our review thus seeks to address this knowledge gap and adopts a dual focus: first, to explore how climate change, disaster, and conflict interact to create displacement dynamics that are complex, and second, to assess the preparedness of the current humanitarian regime – which pertains to the setup

and operations of humanitarian organisations – in addressing the increasing complexities of displacement. Our goal is not to provide an exhaustive review of all relevant literature but rather to synthesise findings and bridge research domains that have traditionally been isolated. In this review, we aim to answer two key questions:

1. *How do climate change, disaster, and conflict interact to create complexities in displacement?*
2. *How, if at all, is the current humanitarian regime set up to respond to these complexities in displacement?*

We first explore the discourse surrounding the relationship between climate change, disaster, and conflict, often cited as displacement causes. Next, we extend the non-linear, complex nature of this relationship between displacement causes and outcomes and adopt the term "complex displacement". While this term has been used by existing scholars in different interpretations, we define it as situations in which communities are forced to flee amid the complex interaction of climate change, disasters, and conflict. We also discuss recent displacement trends and examples of how overlapping impacts create an escalating complex displacement landscape. We then expand upon this to examine how humanitarian organisations frame and label displacement and discuss the implications of entrenched siloed approaches to displacement contexts. By outlining the current knowledge gaps in how humanitarians respond to emerging displacement patterns, we seek to contribute to the ongoing dialogue to identify where future research is needed.

2.2 Methods

We adopted a narrative literature review approach to understand climate change, disaster, conflict, and displacement scholarship. Narrative reviews take a selective approach in sampling literature to critique existing theoretical positions and deepen understanding (Paré et al. 2015). Snyder (2019) notes how narrative reviews are preferable when synthesising a large field of research where systematic reviews may be neither suitable nor possible – as was our case to bridge many disparate literature domains. Rather than view a narrative approach as less robust than a systematic review (Greenhalgh et al. 2018), we argue that a narrative approach is important to put forward new theoretical positions and ideas on the causes of and responses to displacement complexity. We believe that a narrative synthesis is important to capture the often contextual and nuanced dynamics that are present in evidence (Snilstveit et al. 2012). Contrary to some views that see narrative reviews as lacking identifiable search strategies, we align our work with more contemporary perspectives which contend that narrative reviews can be conducted within a structured process (Turnbull et al. 2023).

We employed a structured and iterative approach to identifying sources of literature, searching in Scopus and Google Scholar and employing a search strategy that iteratively tested different combinations of keywords that included 'climate change', 'conflict', 'disasters', and 'displacement'. We also snowball sampled from the literature that was identified. We considered all types of studies, including, but not limited to, literature reviews, comments, case studies, and empirical studies, seeking diversity in the representation of different fields of study. During our search, it became obvious that the discourse on how humanitarian organisations grapple with complex displacement is relatively nascent in peer-reviewed academic scholarship. This led us to expand our search also to include grey literature. We searched directly through organisations' websites that have a significant global presence in responding to or reporting on displacement, such as the United Nations High Commissioner for Refugees (UNHCR), the Internal Monitoring and Displacement Centre (IDMC), the International

Organization for Migration (IOM), and the Norwegian Refugee Council (NRC). We also searched research think tanks, such as the Overseas Development Institute (ODI), and independent analysis providers, such as the Assessment Capacities Project (ACAPS).

We categorised studies into three themes: (1) impacts of climate change on conflict; (2) impacts of disasters on conflict; (3) impacts of conflict on climate change and disasters. This thematic organisation provided a framework for our synthesis, enabling us to systematically group and analyse existing findings, as well as assess the state of evidence within each specific relationship in the nexus. We grouped multi-country quantitative studies to coalesce wider associations and then inductively mapped qualitative studies to draw out causal links. We then amalgamated this evidence to form a theoretical position on complex displacement. Finally, we employed pattern recognition in humanitarian grey literature to present the (in)visibility of framings of complex displacement. Particular attention was given to how humanitarian organisations categorise, report, and label displacement contexts. Additionally, we reviewed past humanitarian responses and highlighted real-world examples illustrating how disaggregated framing of displacement contexts can influence the effectiveness of response efforts. This approach enabled us to connect the theoretical framings of complex displacement with practical implications, highlighting the gaps in current humanitarian practices.

2.3 Growing complexities in the context of climate change, disaster, and conflict

Climate change, disaster, and conflict are recognised as triggers of displacement, with growing acknowledgement of the potential for climate change and disasters to intensify both conflict dynamics and displacement patterns (K. Peters et al. 2021). We start with a discussion of climate change-conflict links, then move to disaster-conflict connections, and finally shift to how conflict intersects with climate change and disasters.

2.3.1 Impacts of climate change on conflict

Our review reveals a consensus in the literature that the relationship between climate change and conflict is complex and indirect. While some studies argue for a deterministic link, claiming that climate change directly causes conflict, others critique this perspective and reject a direct association. Ultimately, many scholars present evidence that the climate-conflict relationship is mediated by a range of contextual factors, rather than being universally generalisable.

When examining the effects of climate change on conflict, quantitative studies commonly employ variables representing climate anomalies such as deviation from normal precipitation and temperature. Hsiang, Burke, and Miguel's (2013) conducted a meta-analysis of 60 studies examining the impacts of deviation from normal precipitation and temperature on conflict, finding that a median effect of one standard deviation change toward warmer temperatures or more extreme rainfall would result in a 14% increase in intergroup conflict risk and a 4% increase in interpersonal violence in the post-1950 era across major world regions. In exploring disaggregated climate and conflict data in Sudan, Maystadt, Calderone, and You (2015) reported that temperature variations impacted about a quarter of violent events occurring between 1997 and 2009. Other similar studies have also found that an increase in rainfall variability is associated with a higher risk of conflict, such as in Sub-Saharan Africa

(Fjelde and von Uexkull 2012) and East Africa (Raleigh and Kniveton 2012). Similar findings were also reported by Burke et al. (2009) who found strong correlations between warmer temperatures and civil war in Africa and projected a significant increase in armed conflict incidence based on future temperature trends. This line of scholarship suggests that climate change increases the likelihood of interpersonal conflict and violence.

Other studies have explored the connection between climate change and violence through the causal mediator of agricultural yield and its impact on food security. Bagozzi, Koren, and Mukherjee (2017) found that drought encourages people to invest in defending their diminishing supplies which in turn compels armed groups to commit atrocities, coercing civilians to surrender their resources or flee from their land. Caruso, Petrarca, and Ricciuti (2016), Crost et al. (2018) and Gatti, Baylis, and Crost (2021) presented similar evidence that the impact of rainfall on conflict is, at least in part, mediated by agricultural production. Caruso, Petrarca, and Ricciuti (2016) identified that a rise in the minimum temperature during the core growing season is associated with an uptick in violence fuelled by a decrease in paddy rice production in Indonesia. Through a case study in the Philippines, Crost et al. (2018) extrapolate that the amplification of the already pronounced seasonal variation in rainfall could intensify existing conflicts. Gatti, Baylis, and Crost (2021) further demonstrated that the impacts of low rainfall are attenuated by the presence of irrigation infrastructure in Indonesia. These studies emphasise that countries heavily dependent on agriculture are more susceptible to the consequences of climate change on conflict dynamics. These findings are central to the concept of "climatic determinism", with scholars presenting evidence supporting the stance of climate change disrupting global security (Maystadt et al. 2015; Anderson and Delisi 2011), and that actions aimed at mitigating climate impacts can potentially reduce the escalation of conflicts (Gatti et al. 2021; Okpara et al. 2016).

However, the deterministic perspective that attributes conflict escalation to climate change has also been viewed with scepticism. These analyses are criticised in removing violence from its local, social, and political context, as well as dangerously oversimplifying conflict to an immediate function of climate factors (Schleussner et al. 2016; Raleigh et al. 2014). Various studies have presented evidence that challenges these deterministic views. Based on global datasets spanning over the period of 1960 and 2009, Klomp and Bulte (2013) found weak evidence of relationships between rainfall and temperature variability, resources scarcity, and the onset of civil conflict on a regional level. Koubi et al. (2012) investigated the indirect effects of climate variability on conflict by examining their influence on economic growth, finding that deviations in temperature and precipitation from past averages do not impact intrastate conflict. van Weezel (2019) noted a correlation between lower precipitation levels and increased communal conflict in Ethiopia and Kenya, but accounting for variance in the outcome variable revealed relatively large predictive errors, signifying that the correlation should not be overstated. These studies present evidence that there is no statistically significant link between climate change and conflict.

Within the extensive research on the relationship between climate change and conflict, a prevalent finding is the suggestion that the effects of climate change, such as drought, induce conflict in agricultural regions through resource scarcity. However, certain scholars have presented counterevidence. When examining environmental scarcity and political violence over a global sample of countries, Salehyan and Hendrix (2014) found that water scarcity could in fact potentially reduce the likelihood of armed conflict. The authors identified that while scarcity may fuel violence and unrest, it can also limit the capabilities of those who instigate conflict. This is opposite to some hypotheses in

literature, but consistent with studies linking plentiful resources to violence (Theisen 2012; Witsenburg and Adano 2009). These studies, in Kenya for example, reinforce the idea that while conflict arising from scarcity may be attributed to economic pressures and resources accessibility, violence can also be motivated by opportunistic gain rather than desperate struggles (Theisen 2012; Witsenburg and Adano 2009). This line of scholarship suggest that the links between climate change, resource scarcity, community discontent, and societal instability are complex and intricate (Degroot 2018), therefore there is no singular linear approach to understanding this interplay.

Between deterministic views positing that climate change directly contributes to conflict and claims rejecting any direct association between them, an intermediate perspective exists. This perspective neither supports that climate-related factors triggers conflict, nor implies that climate change will not present a threat to violence; instead, it argues that social, economic, institutional, and other factors play equally significant forces in driving conflict (Solow 2013). Schleussner et al. (2016) and von Uexkull et al. (2016) found that the impacts of drought are disruptive, particularly within the context of politically and ethnically fractionalised communities. Other similar studies have also reported that armed conflict can be better explained by contextual conditions such as ethno-political exclusion, poor economy, and geographic factors (O'Loughlin et al. 2014; Theisen et al. 2012; Buhaug 2010). A recurring theme that arises from existing studies is that climate conditions are likely to induce conflict in regions reliant on agriculture within challenging socioeconomic and political contexts (Koubi 2019). While areas with rising temperatures are consistently associated with an elevated risk of conflict, Landis (2014) identified that actors inclined to engage in conflict are more likely to do so during seasons that offer viable conditions for strategizing conflict, which is coincidently during warm and predictable weather.

Some studies also suggest that the patterns of how climate change may influence conflict differ across regions globally. Wischnath and Buhaug (2014) found that interannual climate variability and anomalies do not exhibit the same linkage to conflict risk in Asian regions as proposed in research across Sub-Saharan Africa, indicating a stronger correlation to economic and socio-political factors in Asia. Exploring data on asylum seeking applications for 157 countries between 2006 and 2015, Abel et al. (2019) reported that drought pressure played a significant role in the rise in asylum-seeking applications. This corresponds to the period where global dynamics of refugee flows were primarily influenced by asylum seekers originating from Syria (2011 to 2015) and countries impacted by the Arab Spring, as well as episodes of war in Sub-Saharan Africa. Notably, they also observed that the influence of climate on conflict was most prevalent in Western Asia from 2010 to 2012, coinciding with widespread political transitions in many countries (ibid). These studies posit that the influence of climate on conflict and migration flows is far from deterministic, instead the interaction between these phenomena is context-specific and temporally bound to certain periods.

2.3.2 Impacts of disasters on conflict

Disasters are known to be the product of hazard, exposure, and vulnerability (Saulnier et al. 2023; UNISDR 2015). They are also one of the most commonly recognised triggers of displacement, with the IDMC publishing annual reports on disaster-induced displacement. However, the connection between climate change and disasters is nuanced and intricate. While climate change influences the occurrence of hazards, there is growing recognition that vulnerability and exposure are shaped by social influence (Raju et al. 2022). Even when extreme events can be attributed to anthropogenic emission of

greenhouse gases with a certain level of rigor, the ensuing damages are still influenced by pre-existing fragilities and inequalities (Lahsen and Ribot 2022). In other words, although hazards may be naturally occurring, disasters are not natural (Chmutina and von Meding 2019; Kelman 2020; Wisner 2012). For instance, natural hazards in urban areas can escalate into disasters due to inadequate risk-informed and poor urban planning processes (Raju et al. 2022).

Anthropogenic climate change is likely to impact disaster risk through intricate interactions with constituent components of "hazard" and "vulnerability" (Hore et al. 2018). As sudden-onset hazards are associated with geological, hydrological, and meteorological processes, it is anticipated that climate change will contribute in intensifying the frequency and severity of natural hazards (Adger and Safra de Campos 2020; Ide et al. 2021; Scheffran 2020). Thus, climate change can also be viewed as a driver or diminisher of environmental hazards (Hore et al. 2018). Climate change also has the potential to influence vulnerabilities (Hore et al. 2018; Lizarralde et al. 2021). While communities have long been adapting to climatic trends, variabilities, and extremes, climate change is projected to usher in new patterns and processes not yet experienced by humans (IPCC 2022), potentially surpassing the capacity of local knowledge and current governance mechanisms (Lizarralde et al. 2021; Hore et al. 2018).

While existing literature recognises that climate change and disasters should not be viewed separately (Kelman et al. 2020), we treat them as analytically distinct for several reasons. Firstly, many sources refer to slow-onset climate events as manifestations of climate change. While this distinction does not suggest that slow-onset events cannot be classified as disasters, in synthesising knowledge across disciplines, scholars commonly frame these events under the umbrella term of climate change. Secondly, many studies exploring the link between disasters and conflict focus specifically on sudden-onset disasters, without explicitly addressing climate change. Therefore, combining these two categories risks overgeneralising and potentially misrepresenting the evidence base. Lastly, beyond directly displacing communities, climate change is also recognised as a driver that intensifies the frequency and severity of disasters (IPCC 2023). Capturing this interaction is needed to understand the complete picture of displacement drivers. To ensure conceptual clarify, we treat climate change and disasters as separate but related categories in our conceptual framework.

Within the body of research exploring the impact of disasters on conflict, scholars present evidence indicating that abrupt disasters increase the risk of civil conflict through resource scarcity (Nel and Righarts 2008; Eastin 2018). Nel and Righarts (2008) found that disasters resulting from rapid-onset hazards heighten the risk of short and medium-term violence, particularly in low- and middle-income countries with pre-existing inequality, political fragility and economic underdevelopment. Eastin (2018) documented that casualties from conflict in the Philippines rise in correlation with high rainfall, typhoons, and declines in agricultural yield. Ghimire and Ferreira (2016) found that while large floods do not trigger the onset of conflicts, they do prolong ongoing conflicts in already fragile countries, arguing that the factors promoting the emergence of a conflict may not necessarily be the same as those contributing to the continuation of an existing conflict. These findings support that disasters diminish a state's capacity to maintain peace, potentially initiating new conflicts or prolonging existing violence (Eastin 2016).

In contrast to studies proposing that disasters disrupt peace within communities, counterpoints emphasise that disasters can unite communities and foster societal trust during crises, which in turn, is argued to reduce the risk of violence and conflict (Billon and Waizenegger 2007; Slettebak 2012; Toya and Skidmore 2014). The most notable example is the 2004 Indian Ocean Tsunami, transforming

the conflict dynamics in Aceh, Indonesia (Billon and Waizenegger 2007). This body of research argues that disasters promotes societal trust as communities come together in disaster preparedness and recovery (Billon and Waizenegger 2007; Toya and Skidmore 2014).

There are also studies which report no link between disasters and conflict. Bergholt and Lujala (2012) reported that even though disasters might have a negative impact on gross domestic product (GDP) growth, disasters do not increase the risk of armed conflict. In examining data from 163 countries over the period between 1990 and 2017, Caso et al. (2023) did not find evidence of disasters exhibiting a direct and statistically significant relationship with the onset of armed conflict despite observing a notable rise in the simultaneous occurrence of disasters and armed conflict over time. Quantitative analyses conducted by Ide, Kristensen, and Bartusevičius (2021) and Ide et al. (2020) also presented similar findings. This strand of research reveals that armed conflict is driven by contextual factors such as poor development, weak governance, large population size, resource dependence, political exclusion and previous conflict incidents (Ide et al. 2020; 2021; Caso et al. 2024).

2.3.3 Impacts of conflict on vulnerability to climate change and disasters

The connection between climate change, disasters and conflict is not limited to a unidirectional causal link (K. Peters et al. 2021). The Notre Dame Global Adaptation Initiative (ND-GAIN) developed a vulnerability index which ranks countries according to their performance on various indicators of vulnerability and readiness to climatic hazards (Chen et al. 2015). According to the latest index in 2021, among the ten countries identified as having the highest climate vulnerability, three stem from Pacific Island nations and the rest are African countries with recent or ongoing armed conflict. Conflict is increasingly known as a significant contributor to vulnerability through its adverse impact on socioeconomics (Blattman and Miguel 2010; Gates et al. 2012; Novta and Pugacheva 2021; Smith 2014), political fragility (Carey and González 2021; Hultquist 2017; Mathis and Margit 2021), and food security (Brück et al. 2019; D'Souza and Jolliffe 2012), among other effects. As typical coping mechanisms are unavailable, conflict-affected populations become more susceptible to the effects of climate change and often suffer in the aftermath of climate-related shocks, eventually being trapped in a vicious cycle of violence, vulnerability, and climate change impacts (Buhaug and von Uexkull 2021).

Within disaster literature, emerging perspectives argue that conflict amplifies the consequences of climate events. The basis of these views is not focussed on conflict directly causing the occurrence of hazards, rather, the emphasis is on how conflict can act as a root cause of disasters, creating repercussions beyond the direct impact of the hazards itself (Caso et al. 2023; 2024; Marktanner et al. 2015; Mena and Hilhorst 2021; L. E. R. Peters 2021). For instance, Tropical Cyclones Chapala and Megh impacted war-torn Yemen in 2015, brought heavy rain and extensive flooding, displacing approximately 47,000 people – the majority of whom were in urgent need of humanitarian aid (L. E. R. Peters 2021). In Afghanistan, disasters are largely overshadowed by its protracted history of conflict (Mena and Hilhorst 2021), most notably in 2018, the humanitarian needs arising from slow and sudden-onset disasters were three times higher than the number attributed to conflict alone (OCHA 2018). South Sudan, a country characterised by a complex history of civil conflict also faced the convergence of extensive flooding and intercommunal conflict in 2020, which resulted in the death and displacement of thousands of people who were already living in a humanitarian crisis (L. E. R. Peters 2021).

The field of disaster studies has established that conflict can create or exacerbate vulnerability to disasters (L. E. R. Peters 2021), and that the impact of disasters is more profound and concentrated in conflict-affected and fragile contexts (Mena and Hilhorst 2021). While there is strong qualitative evidence suggesting that areas experiencing recent political violence are more susceptible to natural hazards evolving into disasters, quantitative research on the link between armed conflict and disasters is still in its early stages (Caso et al. 2023). Marktanner, Mienie, and Noiset (2015) quantified the effect of armed conflict on community vulnerability to natural hazards by determining the number of deaths that can be attributed to armed conflict preceding a disaster. The results revealed that disaster deaths in conflict-affected countries are 40% higher than disaster deaths occurring independently of armed conflict events. Based on these results, they attribute up to 14% of disaster deaths between 1961 and 2010 to consequences of armed conflict. Caso, Hilhorst, and Mena (2023) reported that countries in conflict experienced a 5% increase in disaster occurrence, a 34% higher disaster-related mortality per year, and a 16% higher death rate per million residents compared to countries without conflict.

While existing literature has primarily laid the groundwork for understanding how conflict contributes to community vulnerability during disasters (Blaikie et al. 2003), recent theoretical perspectives on how conflicts contribute to creating disaster risk has also begun to emerge (Siddiqi 2018; Walch 2018). Basheer and Elagib (2024) developed a conceptual socio-hydrological framework outlining the pathways through which armed conflict exacerbates flood risks in Khartoum in Sudan. These identified routes include damage to infrastructure, population displacement and density, weakened governance, reduced awareness, and diminished resilience, collectively leading to increased flood vulnerability and risk (Basheer and Elagib 2024). Drawing upon interviews with disaster risk reduction (DRR) experts in 25 conflict-affected countries, L. E. R. Peters (2021) found that conflicts serve as the backdrop for disasters through various causal pathways relating to hazards, exposure, vulnerabilities, and coping capacities across multiple institutional and temporal scales. Conflict influences the repercussions of climate hazards on communities by generating unsafe conditions, amplifying vulnerability and weakening coping capacities of governments and communities (L. E. R. Peters 2021; Mena and Hilhorst 2021; Caso et al. 2023). The adverse impacts of hazards can also be exacerbated by poorly functioning infrastructure or the absence of infrastructure, which are all more likely in conflict and post-conflict regions (L. E. R. Peters 2021).

Nevertheless, conflicts impact disaster risk creation by undermining disaster risk governance (Mena and Hilhorst 2021; L. E. R. Peters 2021). Research by the International Committee of the Red Cross (ICRC) highlights that climate action tends to neglect those in conflict (Weerasinghe 2021). Despite the growing need for disaster risk reduction (DRR) in conflict regions, conventional DRR does not account for conflict in its design and implementation as it is structured around the normative assumption that peace exists as a precondition for action (K. Peters, Peters, et al. 2019; K. Peters, Eltinay, et al. 2019). High-intensity conflict areas, such as Afghanistan, often receive humanitarian assistance rather than assistance to build disaster governance (Mena and Hilhorst 2021). Global attention on conflict often results in an oversimplification of risk depiction where armed conflict tends to override other dimensions (Mena et al. 2019).

2.4 Complex displacement

At present, existing literature has not identified a systematic, causal, and comprehensive connection between climate change, disasters, and conflict (Abel et al. 2019; Koubi 2017; Mach et al. 2019;

Nagano and Sekiyama 2023; O'Loughlin et al. 2014). Depending on sources of data and evidence, scholars present differing findings on this connection (Nagano and Sekiyama 2023). To synthesise this fragmented body of knowledge, we present an original conceptual framework that collectively illustrates the multi-directional relationships among climate change, disaster, and conflict. Figure 2.1 reflects our current understanding of these links and highlights the multidimensional nature of the interplay. Given the confluence of these mixed findings to understanding these connections, displacement – as a potential outcome – rarely results from individual triggers in isolation. Instead, it emerges from overlapping and nuanced dynamics (Sturridge and Holloway 2022).

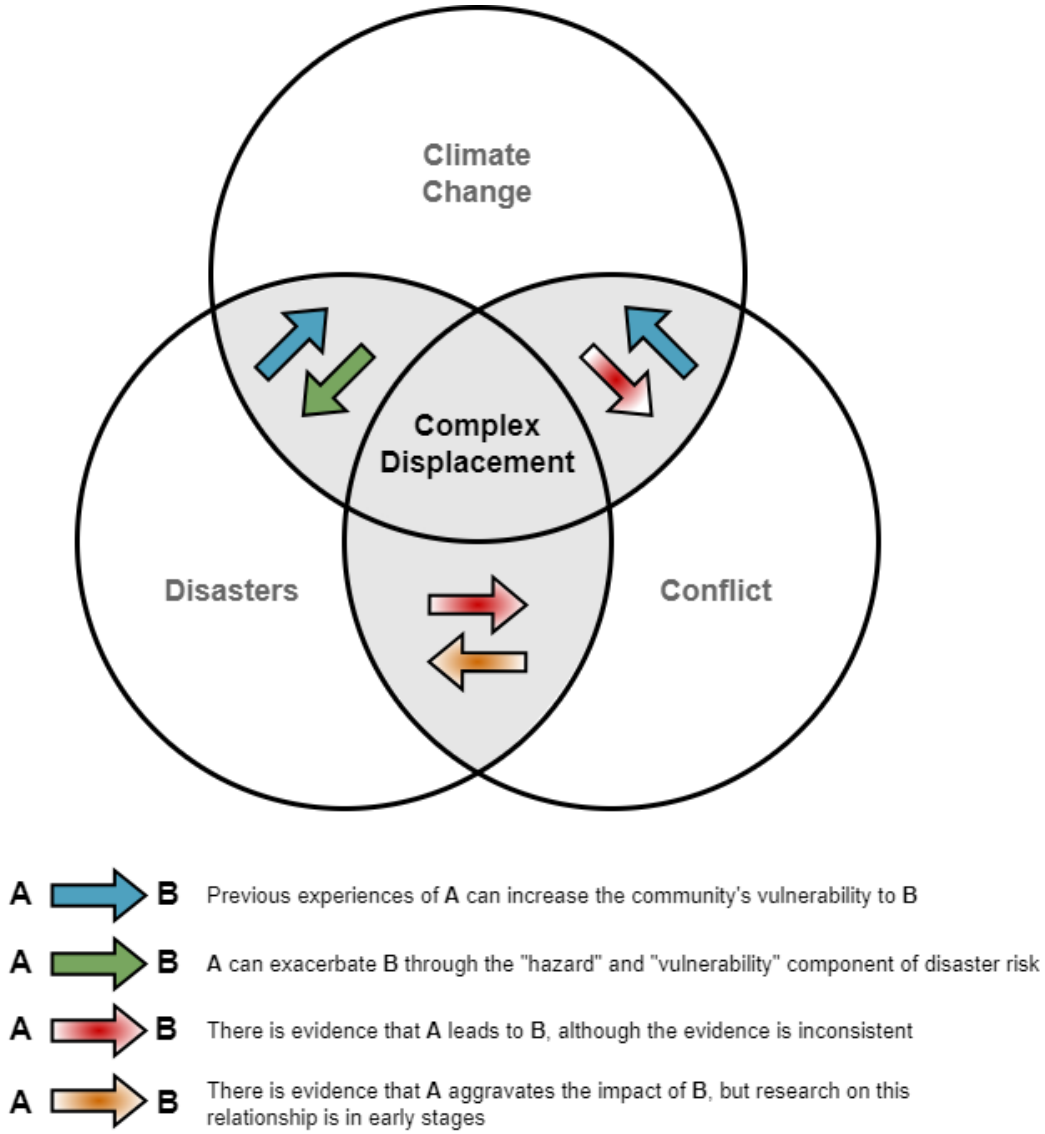

Figure 2.1: Conceptual illustration of the growing complexities between commonly recognised displacement causes – climate change, disasters, and conflict

This review adopts the term "complex displacement" to refer to situations in which communities are forced to flee amid the complex interaction of climate change, disasters, and conflict. As climate change evolves, it is serves as a trigger for both conflict and displacement (K. Peters et al. 2021; Goodwin-Gill and McAdam 2017; Türk 2016). By employing this term, we aim to encapsulate the nuanced and intricate factors contributing to displacement, while also acknowledging the

compounded challenges faced by communities and the diverse needs that arise within complex settings. Although it may appear counterintuitive to policymakers, acknowledging the innate complexity and unpredictability of the climate change-conflict-displacement nexus offers a more solid foundation in generating knowledge and policymaking (Beaumont and Coning 2022).

There are existing scholarly sources that employ the term "complex displacement" with different definitions. Boeyink (2022) refers to complex displacement as the mixed movement of migrants and refugees, making it difficult to distinguish between both groups. Lichtenheld & Schon (2021) define the term as situations where internally displaced persons (IDPs) are clustered across various locations, obscuring information about their origins and destinations, thereby reducing the risk of collective targeting by governments based on geographical location. Although Cantor (2024) does not explicitly mention "complex displacement", our review is in line with his focus on how the context of disasters and conflict each shapes the dynamics of internal displacement. While disasters and conflict are acknowledged as drivers, they can be understood as contexts within which displacement unfolds (Cantor 2024). We echo Cantor's perspective on recognising disasters and conflict risks can combine to create complex systems of risks for communities – our review extends this perspective to include the impacts of climate change. Van Hear and McDowell's (2006) contend that the current humanitarian regime falls short of dealing with today's increasingly complex displacement crises, urging for holistic approaches to address them.

Complex displacement is already evident in many cases. In Libya, a disaster unfolded in September 2023 when Storm Daniel caused significant damage through extensive rains and strong winds (World Bank 2024). These floods occurred against the backdrop of fragility and conflict, where the impacts of disaster and climate change exacerbated weaknesses in institutional capacity, heightened insecurity, and deeply rooted socioeconomic vulnerability, leading to over 40,000 internal displacements (ibid). In the Philippines, the effects of climate change have been notably pronounced in Mindanao, which comprises the second-largest group of islands (Delina et al. 2023). Existing socio-political conflicts are also prevalent in Mindanao, which are often centred around land and natural resource disputes amongst political families and clans, impacting livelihoods in the Cotabato River Basin and triggering displacements (ibid). According to IDMC (2023), South Sudan witnessed 933,000 internal displacements in 2022, the second highest on record for the country, due to a combination of floods, conflict, and food insecurity. With the capital, Bentiu, becoming an island surrounded by floodwaters, humanitarian organisations faced significant challenges in delivering aid to 460,000 people already displaced by a mix of floods and conflict (Cheshirkov 2022).

2.5 How humanitarian organisations frame displacement contexts

Having illustrated the complexities of displacement dynamics, this section sets out to answer our second research question of how the current humanitarian regime is responding to complex displacement. Drawing upon recent grey literature, we review how humanitarian organisations frame and label diverse displacement contexts, recognising this as the initial step in response efforts. Furthermore, we dive into the conceptual distinctions between displacement "drivers" and "triggers" – terms often used interchangeably in discussions and explore how humanitarian organisations perceive displacement contexts. Subsequently, we explore the implications of a disaggregated approach in categorising displaced communities according to immediate triggers and how current approaches may influence ensuing humanitarian responses to displacement crises.

2.5.1 Separation between climate-related and conflict-related triggers

There is a consistent separation in how humanitarian organisations classify displacement contexts, even though this line is often blurred (K. Peters et al. 2021). Organisations typically classify displacement into two major categories: those triggered by climate-related factors (including movements caused by climate change, disasters, or a combination of both) and those triggered by conflict (including movements resulting from various forms of violence). For instance, IDMC is one of the leading sources on internal displacement, reporting statistics and estimates that are used globally by governments, policy-makers, UN agencies, non-government organisations and academics (Koch 2020). IDMC classifies internally displaced populations into "conflict and violence" and "disaster" displacement categories (IDMC 2023). IDMC further breaks down the number of violence-related displacements into types of violence, such as international armed conflict, non-international armed conflict, communal violence, crime-related violence, civilian-state violence, and other forms of violence. Similarly, disaster-related displacement is broken down into types of weather-related events and geophysical hazards. Although the statistics and categories provide a clean overview of conflict and disaster displacement, it remains uncertain whether some of these numbers represent the same communities. As a result, the complexities and nuanced challenges by overlapping causes are not captured.

The division in approaching displacement contexts can also be observed by the International Red Cross and Red Crescent Movement. While sharing common principles and objectives, the International Federation of Red Cross and Red Crescent (IFRC) and the International Committee of the Red Cross (ICRC) are independent bodies with different areas of specialisation and operations. According to their missions, the IFRC aims to coordinate assistance “before, during and after disasters” (IFRC 2024) while the ICRC aims “to protect the lives and dignity of those affected by armed conflict” (ICRC 2024). While IFRC and ICRC typically divide their response efforts, it is noteworthy that IFRC was heavily involved in supporting the Philippine Red Cross (PRC) in assisting those impacted by conflict in the southern island of Mindanao (IFRC 2019a). Conversely, ICRC, also in collaboration with PRC, executed a large-scale humanitarian response, delivering a shelter program aimed at reconstructing housing for victims affected by Typhoon Haiyan in 2013 (ICRC and PRC 2015). This crossover in responses hints that needs arising during emergencies often render the categorisation of responses less relevant, compelling organisations to extend beyond their mandate boundaries.

The same can be observed for the scope of protection of UNHCR. While UNHCR is mandated to protect refugees, asylum-seekers, and stateless people, and attempts to draw the line between refugee and other forms of migration, it is also consistently being drawn into operations that extend beyond addressing displacement caused by conflict, such as responding to typhoons, floods, and earthquakes (Goodwin-Gill and McAdam 2017; Koser and Martin 2011). This has raised questions about the involvement of UNHCR in issues related to climate change and disaster displacement, especially when these movements are largely anticipated to occur within country borders (Goodwin-Gill and McAdam 2017). Considering that international organisations such as UNHCR, UNDP, and IOM were originally established in the aftermath of World War II to address post-war reconstruction (Hall 2016), organisational mandates were not initially intended to address climate change. Since then, the humanitarian community has started to consider the humanitarian consequences of climate change (Albuja and Adarve 2011), including within the context of conflicts, however, progress made in this regard is still in its early stages (K. Peters et al. 2021).

2.5.2 Separation between displacement “drivers” and “triggers”

Players in the migration field, such as IDMC, UNHCR, and IOM have also started to draw attention to the conceptual differences between displacement drivers and triggers. Drivers encompass underlying structural conditions, such as political, economic, social, or environmental, that can combine and contribute to displacement (IDMC and NRC 2015; Weerasinghe 2021). Examples of drivers include environmental degradation, limited livelihood opportunities, communal tension, weak governance, marginalisation, and poverty. In contrast, triggers are used to describe immediate events that compel people to flee their homes (IDMC and NRC 2015; Weerasinghe 2021). These events are visible in threatening communities’ physical or economic security (IDMC and NRC 2015), such as war and violent conflicts, disasters, environmental change, development, and infrastructure projects (Koch 2020). While drivers are typically associated with terms like “contextual”, “factors”, or “root causes”, triggers are often synonymous with terms such as “shock” and “tipping point” (IDMC and NRC 2015). Although triggers are the ultimate determinant of the movement of communities, structural drivers such as economic, social, or political disadvantages exert significant influence on affected communities (Koch 2020).

Given that triggers are visible and immediate events that occur before displacement, displacement is often cited and characterised by organisations exclusively in relation to its immediate cause or trigger during data collection (IDMC and NRC 2015; Weerasinghe 2021). For example, millions of Somalis were displaced internally or sought refuge in neighbouring countries during the 2010-2011 drought, however only a small portion of those displaced cited drought as the primary cause of displacement (Ginnetti and Franck 2014). At present, assessment of displacement causes often only document the immediate trigger, and as a result, drivers such as loss of livelihood, food insecurity, and violence or conflict associated with climate change are not explicitly noted (Cazabat 2021). In another example, mass internal displacement in northeastern Nigeria was linked to the Boko Haram violence, but underlying factors such as the shrinking Lake Chad basin, limited access to natural resources, constrained livelihood opportunities, weak governance, and poor infrastructure have interacted over time, contributing to conflict, violence, and ultimately displacement (Gao et al. 2011; Okpara et al. 2015). Attributing the displacement in Nigeria solely to violence without considering these underlying conditions has resulted in a fragmented response (IDMC and NRC 2015).

Moreover, even within displacement contexts linked to climate change, the focus often tends to be on rapid-onset hazards that resemble immediate triggers, such as floods, landslides, and wildfires (Weerasinghe 2021; Koch 2020). Due to the nature of climate change impacts on environmental change, it is more difficult to identify associated displacement (Cazabat 2021). For example, data on internal displacement linked with drought in 2020 was only available for Brazil, Somalia, Ethiopia and Burundi (ibid). It is also difficult to disentangle displacement from other types of movement such as voluntary migration or seasonal migration in the context of slow-onset processes (Cazabat 2021; IOM 2020). Consequently, quantifying displacement caused by the gradual impacts of climate change remains largely unaccounted for (IDMC 2023; McAuliffe and Triandafyllidou 2021). As such, displacement in the context of climate change may only become visible when the situation has reached a critical tipping point (Cazabat 2021). This often means movements occurring in the initial phase of a crisis, before the occurrence of a distinct tipping point, are overlooked during data collection efforts (IOM 2020). Unfortunately, for processes that persist for years or decades without a clear critical threshold, most of these movements may go undocumented (ibid).

2.5.3 Implications of disaggregated data and response

Even in cases where disasters or violence are the most visible trigger of flight, motivations behind movement are interdependent as communities tend to be displaced in the context of multiple underlying drivers interacting over time (Weerasinghe 2021). Understanding the broader phenomenon of displacement requires recognising that triggers merely represent the tip of the iceberg, masking the intricacies of displacement situations arising from the complex interplay of multiple underlying factors interacting over time (IDMC and NRC 2015). Figure 2.2 illustrates how humanitarian organisations currently frame and label displacement contexts. The tendency of identifying displacement contexts as precipitating triggers has resulted in two dichotomies: one between climate-related and conflict-related displacement (represented as two separated iceberg tips above the water line); and another between displacement triggers and drivers (depicted as visible and non-visible icebergs above and below the water line). Current approaches by humanitarian organisations only capture part of the narrative, overlooking numerous structural conditions shaping displacement outcomes. Climate-related and conflict-related triggers are typically treated as distinct phenomena, even though communities affected by both triggers may share common underlying drivers and challenges.

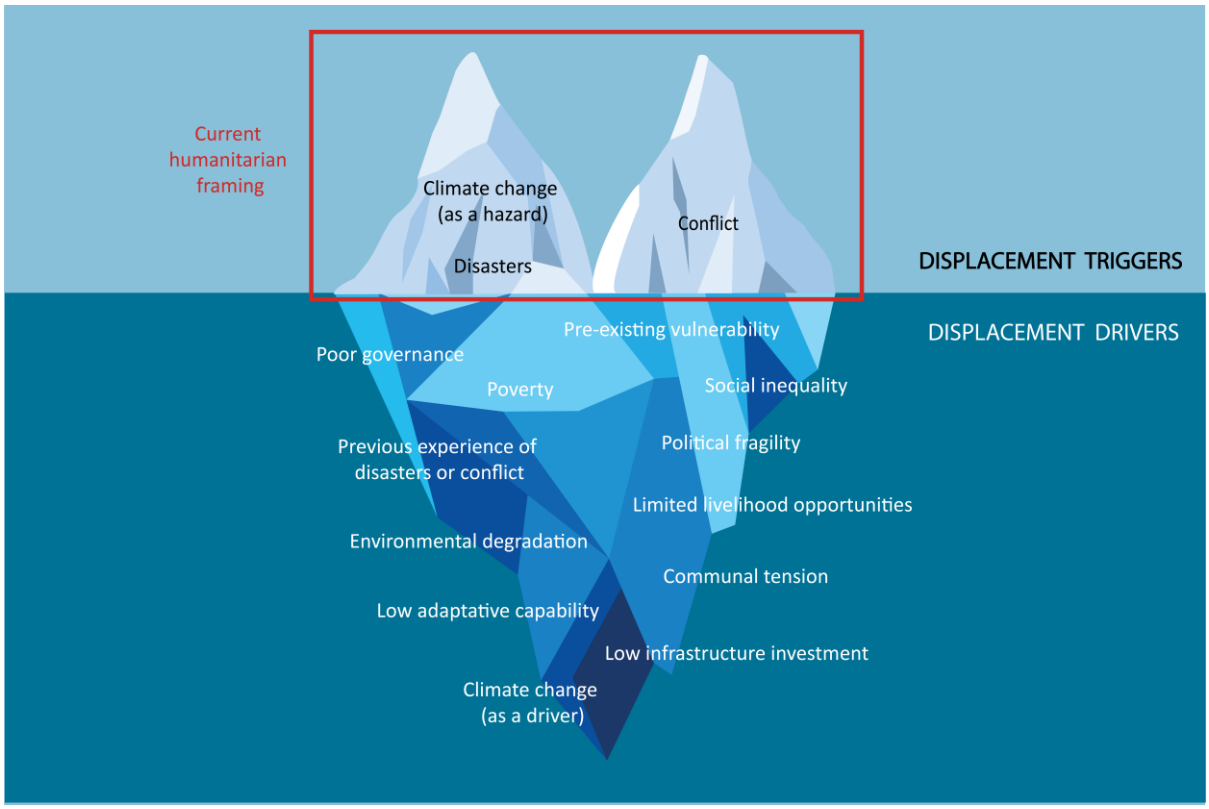

Figure 2.2: Current humanitarian organisation framing and labelling of complex displacement contexts

Humanitarian and protection agencies are only beginning to comprehend the implications for how they perceive and address displacement issues (K. Peters et al. 2021). Relying solely on triggers paints an incomplete picture of communities' vulnerability and needs, as such data fails to comprehensively capture the layers of complexity related to underlying drivers of displacement (Weerasinghe 2021). Such drivers may include previous experiences of conflict and disaster, or a combination of both, which

could significantly impact communities' resilience, coping capabilities, and decisions to flee (ibid). As a result, we risk overlooking the nuances before the documented trigger, ultimately losing sight of the complex and intertwined challenges driving displacement.

Trigger-specific intervention is not the most effective label in contexts where the volatility of conflict and the irregularity of disasters coincide to magnify vulnerability and stir dynamic patterns of mobility (IDMC and NRC 2015; Weerasinghe 2021). The broad categorisation of identifiable triggers has led to a limited exchange of expertise, knowledge sharing, and collaborative efforts, hindering effective responses to displacement which requires consistent frameworks, shared analysis, and coordinated programming (IDMC and NRC 2015). Responses to climate-related and conflict-related displacement have often been programmed and implemented based on different principles and even rationales (Sánchez-Mojica 2020). Consequently, humanitarian organisations employ distinct language and terminology in addressing contexts related to conflict-induced displacement as opposed to climate-related displacement (IDMC and NRC 2015). Even within the humanitarian sector, mid-career or senior-level professionals, such as NGO country directors, UN personnel, and donor staff undergo separate training sessions on responses to conflicts and disasters (see HPG 2015). Additionally, governments have adopted distinct national legal frameworks and policies for addressing displacement linked with conflicts and disasters (Sánchez-Mojica 2020).

Global compilations of displacement numbers associated with disasters are relatively recent and are therefore less comprehensive, receiving less attention compared to displacement data associated with conflict and violence (Weerasinghe 2021). Within the context of displacement linked to disasters, there is still insufficient information on people in protracted situations, even though the duration of being displaced is a strong indicator of vulnerability and has implications for tailoring responses (ibid). Moreover, there is limited mainstream attention, funding availability, and prioritisation at the national and local levels to slow-onset climate events (IOM 2020). A large majority of data collection efforts tend to be targeted in contexts affected by sudden-onset emergencies, often characterised by more uniform and concentrated population movements and humanitarian needs (ibid).

Labelling communities based on singular triggers influences the assumptions guiding humanitarian organisations during decision-making and response planning. Separating responses and assumptions are not effective as access to displaced communities is largely determined by structural conditions in place. If organisations assume that communities are displaced by climate-related triggers without considering potential threats of conflict or violence, they risk overlooking the disproportionate inequality that conflict introduces within these communities. In the aftermath of the 2017 landslide in Mocoa, Colombia, most of the internally displaced and indigenous groups were left out of recovery efforts, and were forced to return to the same hazardous locations, with some resettled in areas deemed to be at higher risk of future landslides (Siddiqi et al. 2019). There is insufficient attention on the interconnectedness of vulnerabilities when communities must deal with both conflict and disaster (ibid).

Additionally, such assumptions may disregard the challenges faced by governments in conflict zones which may struggle to handle concurrent crises, and the potential barriers to community access and aid delivery imposed by armed parties in control of certain locations. According to the 2023 ACAPS Humanitarian Access Overview, in Somalia, the dominant clans occasionally disrupt humanitarian operations targeting IDPs, sometimes resorting to using violence in their efforts to control humanitarian resources, which often leads to the suspension of humanitarian programs (ACAPS

2023b). Global attention and international aid also tend to concentrate on more accessible regions, often overlooking areas where government control over territory is limited (Mena et al. 2019), despite growing evidence indicating that these areas bear a disproportionate impact of climate shocks (K. Peters et al. 2020). Conversely, if organisations presume that communities fleeing conflict are free of climate-related threats, they may neglect the fact that these communities may vulnerable from previous conflict experiences. They may also fail to account for the possibility that the new lands to which communities flee could be climate hotspots, resulting in secondary displacement. For instance, in Sub-Saharan Africa, communities expelled by existing conflict were forced to flee again due to floods in the White Nile basin (IDMC 2020).

Despite the potential negative implications discussed, it is important to note that this does not imply disaggregated data collection methods is without any value (Weerasinghe 2021). Undoubtedly, the level of protection required by displaced communities will vary based on specific circumstances (Goodwin-Gill and McAdam 2017). Over time, this compartmentalised approach to displacement reporting which disaggregates the primary cause for displacement into either climate or conflict-related categories was established under the assumption that populations displaced by the same form of triggers exhibit similar characteristics and needs, therefore necessitating similar humanitarian assistance (ibid). The division of displacement statistics aids operational purposes, enabling organisations and governments to effectively track, monitor, and report on displacement numbers while providing a summary of the emergencies that unfold. While this is beneficial in practical terms, if we begin to address displacement and shape responses based on unfounded assumptions, we miss out on the multitude of factors that compel people to flee, such as community's past experiences with crises, their vulnerability conditions, livelihood challenges, governance factor, and other pieces of information crucial for effective interventions, responses, and solutions (Weerasinghe 2021).

2.6 Limitations

It is worth noting that our selection of literature might reflect certain disciplinary and regional biases. For instance, much of the quantitative studies reviewed linking climate change and conflict originate from economics, peace studies, and environmental security, with a heavy focus on Africa and Asia. We are aware this emphasis might limit insights from less studied regions or other disciplines. Additionally, as our review prioritised thematic breadth by exploring multiple links, our approach might overlook in-depth exploration of individual links. We also focused on the perspectives of dominant voices in the global humanitarian landscape, as these large-scale organisations often produce extensive grey literature that served as key references for our analysis. While we acknowledge the growing importance of smaller grassroots organisations in responding to crises, they were not included in this review. Future research should seek to compare how these voices are similar and different in framing complex displacement from larger humanitarian organisations.

2.7 Conclusion

Our review brings together disparate literature on climate change, disaster, conflict, displacement, and humanitarian responses. This review is a departure from previous synthesis that focus on one or two of these topics in isolation (Abel et al. 2019; K. Peters et al. 2021). By examining studies exploring the relationship between climate change, disaster, and conflict, we conceptually map these multi-directional relationships as they contribute to the complexity of current displacement landscapes. As

illustrated in Figure 2.1, climate change and disasters can lead to conflict. Conversely, conflict can exacerbate vulnerability towards climate change and disasters as well as create disaster risk. While the evidence offers varied conclusions about which triggers and drivers precede each other, it is certain that the relationship is highly complex and context specific (Sturridge and Holloway 2022; K. Peters et al. 2021; Abel et al. 2019; Burrows and Kinney 2016).

Drawing upon decades of research on the nexus between climate change, disaster, and conflict, we extend this multidirectional interaction between displacement causes to displacement outcomes. We adopt the term "complex displacement" to refer to situations in which communities are forced to flee amid the complex interaction of climate change, disasters, and conflict. By employing this term, we aim to encapsulate the nuanced and intricate factors contributing to displacement, while also acknowledging the compounded challenges faced by communities and the diverse needs that arise within complex settings. Furthermore, we examine how humanitarian organisations frame diverse displacement contexts. Our review reveals two dichotomies: one between climate-related and conflict-related triggers, and another between displacement drivers and triggers, as presented in Figure 2.2. It becomes evident that the current humanitarian regime has not yet captured the nuances of recognising and addressing the principles and strategies that might complicate complex displacement contexts (K. Peters et al. 2021). This study also recognises that practical limitations such as safety concerns, political sensitivity, and donor expectations might have contributed to this simplistic framing of displacement triggers, which highlights the need for future research into operational constraints and humanitarian response planning. Nonetheless, the separation between climate-related and conflict-related triggers has resulted in the development of separate terminology, language, training, and institutions for responding to displacement (IDMC and NRC 2015). On the other hand, responding solely based on visible triggers also risks overlooking the interconnected vulnerabilities of communities facing overlapping drivers and triggers during their flight (Weerasinghe 2021).

There is now a growing awareness that implementing separate response mechanisms based on a precipitating trigger may not be the most efficient or effective approach, especially in complex displacement contexts where the underlying drivers are the same (IDMC and NRC 2015; K. Peters et al. 2021). Dividing humanitarian responses based on specific triggers may be a traditional approach, however, the overwhelming co-occurrence of conflict and disasters (L. E. R. Peters 2021; Mena and Hilhorst 2021) amid the challenges of climate change demands practitioners rethink how to approach humanitarian responses more effectively in the midst of overlapping triggers and drivers (K. Peters et al. 2021). There is a growing need for humanitarian organisations to understand not just how these three strands interact, but also the multi-layered outcomes of climate change and conflict in inducing population displacement (Sturridge and Holloway 2022).

This calls for more comprehensive displacement data collection and in-depth analysis of the connections between the impacts of climate change, as well as drivers and triggers of displacement (Cazabat 2021). Future research should focus on examining how climate change and conflict interact in creating displacement, as well as the various patterns of displacement resulting from this interaction. To improve responses to complex displacement, it is imperative to first grasp the displacement dynamics created, the challenges involved, and the unique needs that arise. The practice of labelling displaced communities shapes organisational assumptions about those affected and influences who receives assistance and under what circumstances. If organisations continue to approach assistance based on simplistic triggers of displacements, there is a risk that communities will

miss lifesaving assistance and be left behind. Future research should seek to develop new methods to collect displacement data in complex settings. While collecting data in emergency contexts poses challenges, gathering meaningful data that captures the nuances of population mobility is essential for informing effective response strategies.

Perhaps the needed shift in responses is less about discarding categorisation practices, but rather adopting more integrated and holistic approaches towards displacement challenges. There is a need for humanitarian organisations to recognise the interconnectivity between climate change, disaster, and conflict in driving displacement as well as adapt their approaches accordingly to increasing complexity. A first step, which we have taken here, is to make explicit the escalating complexity of the displacement landscape and contrast it to the current organisation of the humanitarian regime. We address a significant gap in research by focusing on the nexus between climate change, conflict, and displacement, synthesis on which has struggled to keep pace with shifting dynamics (Sturridge and Holloway 2022). This review has allowed us to identify areas where humanitarian framing might fall short in grasping the complexities within displacement contexts. Through this review, we contribute to a deeper understanding of the complexities surrounding displacement as well as advocate for more nuanced understanding and holistic approaches towards addressing complex displacement crises.

Chapter 3: Navigating the Overlap of Climate-induced and Conflict-induced Displacement: Perspectives from Humanitarian Practitioners in the Philippines

Abstract

Disasters, conflict, and climate change increasingly intersect, forcing communities to flee and trapping them in cycles of displacement. Yet, humanitarian responses remain fragmented, often addressing displacement crises in isolation. This study explores how the humanitarian community in the Philippines navigates the overlap of climate-induced and conflict-induced displacement – what we term "complex displacement". Drawing on 32 semi-structured interviews with humanitarian practitioners, we examine how displacement is classified and the factors that shape organisational decisions to respond. We identify that humanitarians rely on trigger-based, temporal, spatial, and precedent-based classifications of displacement. We also uncover four major factors influencing responses (or the lack thereof) – government requests, operational presence, security, and logistics. Our findings reveal structural blind spots that hinder effective response to complex displacement, and we call for a rethinking of humanitarian systems to address overlapping drivers of displacement. Grounded in the Philippines, these insights offer broader relevance for countries grappling with converging climate and conflict risks.

3.1 Introduction

Displacement crises are increasingly driven by a complex interplay of climate and conflict (Sturridge and Holloway 2022) – and this complexity is expected to persist into the future (Goodwin-Gill and McAdam 2017). The Internal Displacement Monitoring Centre (IDMC) reported that 43 out of 45 countries and territories experiencing conflict-induced displacement also reported disaster displacement in 2023 (IDMC 2024). In many of these contexts, forcibly displaced populations face compounded risks arising from the complex and non-linear interactions between climate impacts, conflict, violence, inequality, and poor governance (UNHCR 2024a).

Despite these interconnections, the humanitarian community often addresses displacement crises in isolation, focusing on singular triggers rather than their intersections (IDMC and NRC 2015; K. Peters et al. 2021). The overwhelming co-occurrence of conflict and disasters amid the challenges of climate change calls for a rethinking of the humanitarian system (L. E. R. Peters 2021; Mena and Hilhorst 2021). A critical first step is gaining a deeper understanding of how the existing system is structured and where gaps remain.

The Philippines presents an established case of converging climate and conflict risks (Weerasinghe 2021). According to IDMC (2024), the Philippines recorded 2,594,000 internal displacements due to disasters and 160,000 due to conflict in 2023. This study examines how the humanitarian community in the Philippines navigates the overlap of climate-induced and conflict-induced displacement. We employ the term "complex displacement" to refer to situations in which communities are forced to flee amid the complex interaction of climate change, disasters, and conflict. We sought to answer the following research questions:

RQ: How are humanitarian organisations responding to the increasing complexity of displacement crises in the Philippines?

- *SRQ1: How do humanitarian organisations classify and label complex displacement contexts?*
- *SRQ2: What are the factors that influence humanitarian organisations' decisions to respond (or not respond) to complex displacement crises?*

This chapter first provides an overview of complex displacement. This is followed by our methods, which detail our case study context, participant selection process, interview structure and questions, along with the qualitative analysis approach and conceptual orientation. We conducted 32 semi-structured interviews with humanitarian practitioners in the Philippines to gain insights into their firsthand experiences, as well as the organisational norms and processes that govern responses to complex displacement. In the results, we first explore how practitioners classify displacement contexts, before diving into the four key factors underpinning humanitarian decision-making and their implications in complex displacement settings. Lastly, in the Conclusion, we summarise our findings, present key takeaways with global relevance, and highlight potential solutions to work towards a more integrated humanitarian system.

3.2 Background

The humanitarian system is grappling with overlapping crises now more than ever. Hazards and extreme weather events such as floods, droughts, and heatwaves are intensifying due to climate

change, with compounding climate hazards pushing vulnerable communities beyond their adaptive capacity (IPCC 2023). Yet, disasters are not merely caused by the occurrence of hazards; structural factors such as weak governance, systemic inequality, and marginalisation shape disaster risk, making disasters as much a product of human decisions as of natural climatic forces (Raju et al. 2022; Otto and Raju 2023; Lahsen and Ribot 2022; Chmutina and von Meding 2019; Wisner 2012).

At the same time, violent conflict has spiked dramatically since 2010 in several regions across the world (Chrimes et al. 2024). The World Bank estimates that 324 million people trapped in extreme poverty are residing across 33 fragile and conflict-affected countries (ibid). Rising inequality, discrimination, and exclusion are often deeply intertwined, occurring in the backdrop of countries that also suffer from chronically poor governance (World Bank 2020). Meanwhile, climate change is also exacerbating slow-onset environmental changes such as sea level rise, ocean acidification, desertification, and land degradation (IPCC 2023). Disasters, conflict, and climate change intersect in ways that compound vulnerabilities, forcing communities to flee their homes and sometimes trapping them in cycles of displacement (IDMC 2024).

Examples of this complexity abound. Syria is among the countries grappling with both high levels of climate-related hazards and protracted conflict, with 7.2 million internally displaced persons (IDPs) and 6.4 million refugees being hosted in neighbouring countries (UNHCR 2024a; IDMC 2024). In April 2019, an unusually intense rainfall triggered severe flooding in the Al Hassakeh region hosting many communities and camps displaced by the ongoing civil war (Norwegian Red Cross 2019). These populations, already dependent on humanitarian aid, were further distressed and displaced by the floods (ibid). In Libya, years of conflict have led to a lack of investment infrastructure, early warning systems, and disaster preparedness (Saeed et al. 2023). When Storm Daniel, an unusually intense Mediterranean storm struck the coast in September 2023, two aging dams located upstream of the port city of Derna collapsed, causing catastrophic flooding that claimed thousands of lives and displaced nearly a quarter of the city's population (REACH 2023; IOM 2023), highlighting vulnerabilities to climate shocks in the wake of prolonged conflict (IDMC 2024). While Colombia experienced a slight decrease in conflict-induced displacement from 2022, the figures for disaster displacement surged by 25 percent, reaching 351,000 displacements in 2023. La Guajira, in the north of the country, was hit the hardest by storms and floods, unfolding amid a broader crisis as the government declared a social, economic, and ecological emergency in July due to drought conditions, further intensifying humanitarian needs (ACAPS 2023a).

In recent years, research on disaster risk reduction (DRR), climate change adaptation (CCA), and armed conflict has increasingly recognised the need for integrated approaches, gradually bridging research fields that have expanded independently (L. E. R. Peters and Kelman 2020). Studies highlight how conflict creates disaster risk and hinders progress in DRR in fragile settings (L. E. R. Peters 2021; Mena and Hilhorst 2021; Mena et al. 2019; Wisner 2012; Walch 2018). Similarly, studies have begun to explore how CCA strategies can be applied in fragile contexts and potentially contribute to peacebuilding outcomes (Abrahams and Carr 2017; Sitati et al. 2021). This emerging research suggests a growing awareness that climate and conflict are not separate challenges but overlapping ones that require integrated and context-sensitive approaches. Building on this body of work, our study contributes to this discourse by offering a new perspective – exploring how humanitarian responses can bridge the gap in responding to complex displacement driven by the intersecting challenges of climate and conflict.

Humanitarian responses have witnessed notable improvements in preparedness and professionalisation, including strengthened partnerships, pre-positioned staff and stock, contingency plans, and early warning systems (ALNAP 2022). However, the humanitarian sector remains largely fragmented, with calls for further cross-sectoral collaboration and knowledge-sharing (Schmid and Raju 2021; Durrance-Bagale et al. 2020). The extent to which the system is adequately prepared for the magnitude of complex challenges ahead remains uncertain (ALNAP 2022).

In responding to displacement, humanitarian organisations appear to still operate with distinct mandates and policies, leading to disaggregated and sectorial approaches (Weerasinghe 2021; IDMC and NRC 2015; Sánchez-Mojica 2020). Displacement data are often reported separately according to their immediate trigger, isolating between those displaced by disasters or climate events and those displaced by conflict and violence (K. Peters et al. 2021; IDMC and NRC 2015). This is increasingly problematic considering the empirical evidence showing how frequently disasters and armed conflicts intersect (Walch 2018).

How can we ensure that populations subject to complex displacement do not fall through the cracks of the current humanitarian system? With overlapping crises escalating globally, there is an urgent need for strengthened coordination and collaboration across humanitarian actors (Schmid and Raju 2021; Durrance-Bagale et al. 2020; K. Peters et al. 2021). To address this, we must rethink the humanitarian system to ensure it is robust enough to navigate these increasingly overlapping displacement crises. A crucial first step is improving our understanding of how the existing system is structured. While there is a wealth of grey literature published, much of it is still reported separately by displacement triggers or organisational mandate. There is a significant gap in understanding how humanitarian practitioners are approaching the complex realities they face on the ground.

3.3 Methods

In order to understand the decision-making, programming, and implementation of humanitarian responses within increasingly complex displacement contexts, we employed a qualitative research methodology (Silverman 2022). Our research methods entailed conducting semi-structured interviews with humanitarian practitioners to gain insights into their firsthand experiences, as well as the organisational norms and processes that govern responses to complex displacement. Data gathered from the interviews were supplemented with field notes and secondary literature during data analysis. This section outlines our case study context, participant selection process, interview structure and questions, and data analysis. This research received approval from the Human Ethics Research Committee at the University of Sydney (2023/HE000821).

3.3.1 Case study context

According to IDMC (2024), the Philippines recorded 2,594,000 internal displacements due to disasters and 160,000 due to conflict in 2023. Notably, Severe Tropical Storm Tembin (Vinta) in 2017 crossed major flashpoints affected by the Marawi Siege (2017). Typhoon Rai (Odette) in 2021 is often cited as an example of shifting typhoon trends due to climate change. Meanwhile, localised violent incidents linked to communist insurgency New People's Army (NPA) continues, particularly in Western Visayas and Northern Mindanao. Figure 3.1 illustrates major recent climate and conflict events that triggered displacement in the Philippines.

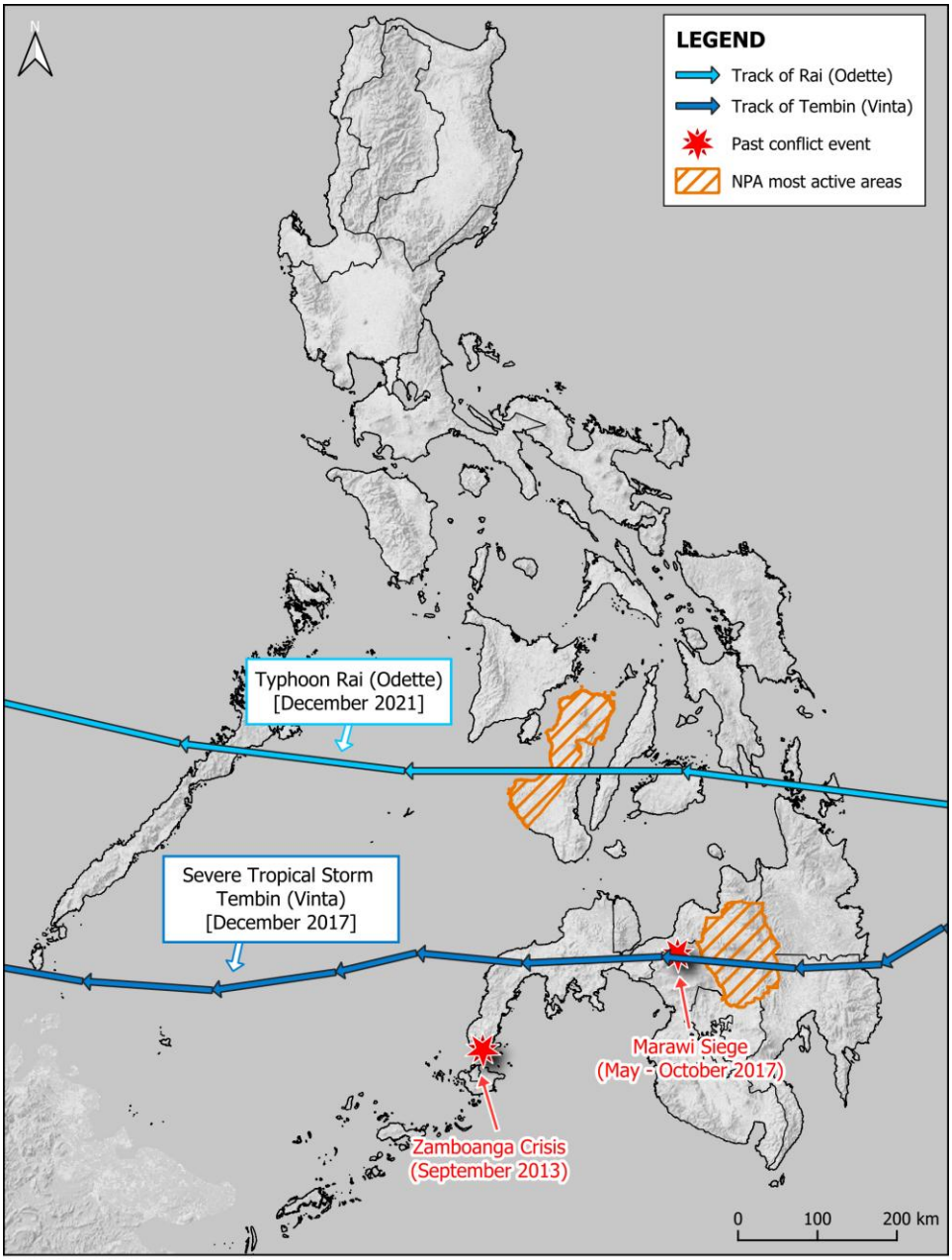

Figure 3.1: Significant climate and conflict events triggering displacement in the Philippines[2]

3.3.2 Participant selection

We sought to identify individuals who met two criteria: (1) hold a previous or current affiliation with a humanitarian organisation, government body, or local university in the Philippines; and (2) have a

[2] Best typhoon track positions for Rai (Odette) and Tembin (Vinta) are sourced from the "Annual Report on Philippine Tropical Cyclones 2021" (PAGASA 2024) and "DOST-PAGASA Annual Report ON Philippine Tropical Cyclones" (PAGASA 2019) published by the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), Department of Science and Technology (DOST). Data on New People's Army (NPA) activity is extracted from report titled "The Communist Insurgency in the Philippines: A 'Protracted People's War' Continues" (ACLED 2023) published by the Armed Conflict Location & Event Data Project (ACLED). The map uses the ESRI Gray (light) basemap sourced from ArcGIS Online.

minimum of three years' experience in displacement response or knowledge of displacement context in the Philippines. Our selection included both international and local humanitarian organisations actively involved in responding to displacement. Given the mobility of humanitarian staff, we considered individuals with relevant experience, even if they were no longer affiliated with an organisation in the Philippines. Additionally, we selected academics from local universities in Mindanao who were actively engaged in research on local peacebuilding activities, to provide valuable insights into the deeply rooted and longstanding interplay of climate and conflict. We limited our inclusion of academics to Mindanao as historical displacement data indicated that the south is likely where the most complex displacement has occurred. Lastly, we prioritised individuals with at least three years of experience as we considered this level of experience necessary for providing informed perspectives on displacement trends and organisational practices.

We recruited 32 participants from United Nations organisations (9), Red Cross societies (5), bilateral organisations (3), non-governmental organisations (11), national government (2), and local universities (2). The list of interviewees, whose roles are broadly described in Table 3.1 to maintain anonymity, consisted of approximately 60% women and 40% men. We sought to incorporate individuals from organisations of diverse scales (e.g., international, national, local), size (number of employees ranging from <10 to >5000), and mandate to ensure a comprehensive representation of perspectives and experiences across humanitarian practitioners in the Philippines. Among the participants, 13% were involved in responses that are perceived to be primarily conflict-induced, 50% had experience in those considered disaster-induced, and 37% worked in both contexts. These delineations are based on a combination of participants' self-reported experiences and insights inferred from their narratives. This diverse recruitment was essential for accessing experiences across both conflict-induced and disaster-induced displacement contexts and for gaining insights into how organisations operate at different scales.

Participants were identified through searches on team or staff pages of humanitarian organisation websites, LinkedIn profile searches, and snowball sampling from established contacts with knowledge about displacement in the Philippines. We concluded our participant recruitment when we achieved a balanced representation of participants from different types of organisations and when interviews ceased to reveal new themes and reached theoretical saturation. We deemed that new perspectives had stabilised when the emerging themes started to repeat with minimal variance (Guest et al. 2006).

Table 3.1: List of interview participants

Organisation name	Number of participants	Role
United Nations Organisations		
United Nations High Commissioner for Refugees (UNHCR)	3	Protection staff
		Protection staff
		Protection staff
United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)	4	Advisory staff
		Humanitarian affairs staff
		Office head
		Office head
United Nations World Food Programme (UNWFP)	1	Office head
International Organisation for Migration (IOM)	1	Disaster preparedness staff
Red Cross Society		
International Federation of Red Cross and Red Crescent Societies (IFRC)	3	Shelter and settlement staff
		Program staff
		Operations staff
Philippine Red Cross	1	Branch head
Philippine Shelter Cluster	1	Shelter and settlement staff
Bilateral organisation / government agency		
United States Agency for International Development (USAID)	1	Liaison staff
Australian Department of Foreign Affairs and Trade (DFAT)	2	Liaison staff
		Program staff
Non-governmental organisations		
International		
CARE	1	Emergency response staff
Adventist Development and Relief Agency (ADRA)	3	Program staff
		Disaster risk reduction staff
		Emergency response staff
Habitat for Humanity International	1	Technical staff
Local		
Philippine Disaster Resilience Foundation (PDRF)	2	Operations staff
		Executive staff
Ecosystems Work For Essential Benefits (ECOWEB)	1	Executive staff
Leyte Centre for Development (LCDE)	1	Executive staff
Pakigdait Incorporation (PI)	1	Executive staff
Kutawato Greenland Initiatives (KGI)	1	Executive staff
National government		
Disaster Response Management Bureau (DRMB), Department of Social Welfare and Development (DSWD)	2	Social welfare staff
		Social welfare staff
Local university		
Mindanao State University (MSU)	2	Academic staff
		Faculty staff

3.3.3 Interviews

Interviews were conducted both in-person (14) and online (18). Prior to commencing, information about the study was shared in a participant information statement and written consent was obtained. We began by asking participants to describe their roles and to share how they became involved in their respective organisations. We asked about their observation of displacement trends since the start of their engagement in the humanitarian system. These questions served as conversational openers to encourage participants to start sharing their experiences.

As the conversations unfolded, we probed into how participants classify or characterise displacement contexts based on their organisational norms. Questions we asked included, *"How does your organisation classify and characterise various forms of displacement?"* Further questions were followed up based on participants' responses, for instance, "*You have mentioned [response] labelling practice for conflict-induced displacement; does the same apply to climate-related contexts as well?"* Shifting the discussion from classification to action, we explored how programming decisions are made within participants' organisations. We posed questions such as, *"What factors does your organisation consider when determining which displacement crises to respond to?"* and "*Resources and funding within the humanitarian sector are scarce, how does your organisation balance allocating resources to different displacement crises?"*

Interview questions were supplemented by follow-up 'why' or 'how' questions, to dive deeper and explore new insights (Adams 2015) into the lived experiences and decisions of humanitarian practitioners. This approach was particularly helpful for us to understand the varied norms and practices across humanitarian organisations. The flexibility enabled participants to steer the dialogue in ways that aligned with their organisational practices and past experiences, capturing emergent insights. At the end of the interview, we asked closing remarks such as *"Is there anything else you want to comment on or any questions you have for us?"* These open-ended questions were intended to allow participants the opportunity to share anything that came to mind beyond the scope of the interview questions. The full list of interview questions is available in Appendix A: Interview Guide.

3.3.4 Data analysis

Interview transcripts were supplemented by notes and secondary literature by humanitarian organisations (i.e., annual reports, briefings, and operational reports). Interview transcripts were qualitatively coded using thematic analysis in NVivo, a qualitative research software used to systematically analyse unstructured texts. As our interviews were designed to be exploratory and open-ended, we applied grounded theory to guide our analysis. Grounded theory systematically develops theory directly from empirical data, rather than imposing pre-existing theoretical frameworks (Noble and Mitchell 2016; Flick 2018).

At the beginning of the analysis, we created codes or themes such as "defining displacement contexts", "factors influencing the decision to respond", and "displacement trends" at a first pass, assigning relevant responses under these categories. As we continued analysing the interviews, we coded relevant responses under initial categories and created new codes to accommodate emerging themes. New themes were compared to existing codes, refining and expanding codes where necessary until we developed a cohesive pattern across participants (Flick 2018). We carried out analysis iteratively to ensure that the themes formed a coherent pattern (Nowell et al. 2017), refining the codes as necessary

and merging them when overlapping (King 2004). We also added annotations and notes, which captured contradictions or consistencies between participants' responses or in comparison to existing literature. We also created a coding dictionary with descriptions to define each theme to ensure a consistent understanding and internal validity of the identified constructs, as shown in Appendix B: Coding Dictionary.

The coding process allowed us to distil classifications employed by organisations in defining displacement contexts, as well as the factors influencing how and if they respond to displacement crises. These codes were compared across different organisation types and displacement contexts to identify recurring themes and patterns. Responses to questions relating to climate-induced and conflict-induced displacement were also contrasted and compared to identify potential variations in humanitarian responses.

3.4 Results and discussion

This section presents the themes that emerged from semi-structured interviews with humanitarian practitioners in the Philippines. We begin by examining the categorisation practices utilised by humanitarian practitioners in labelling displacement contexts. Our analysis extends beyond what is reported publicly, examining how practitioners describe and interpret displacement in their own terms. Then, we explore the factors influencing humanitarian organisations' decision to respond, uncovering external, internal, security and logistical conditions that trigger responses while also discussing how they may hinder effective humanitarian responses in complex displacement contexts.

3.4.1 Classifying displacement

Through inductive coding of the interviews, we identified four primary ways participants classify and conceptualise displacement contexts: (1) trigger-based classification (the event preceding displacement); (2) temporal classification (the duration of displacement); (3) spatial classification (geographic distribution of displaced population); and (4) precedent-based classification (lessons from the past). These categories emerged directly from practitioner's accounts, offering a descriptive typology grounded in field perspectives. They are neither mutually exclusive nor hierarchical; participants often refer to multiple classifications simultaneously.

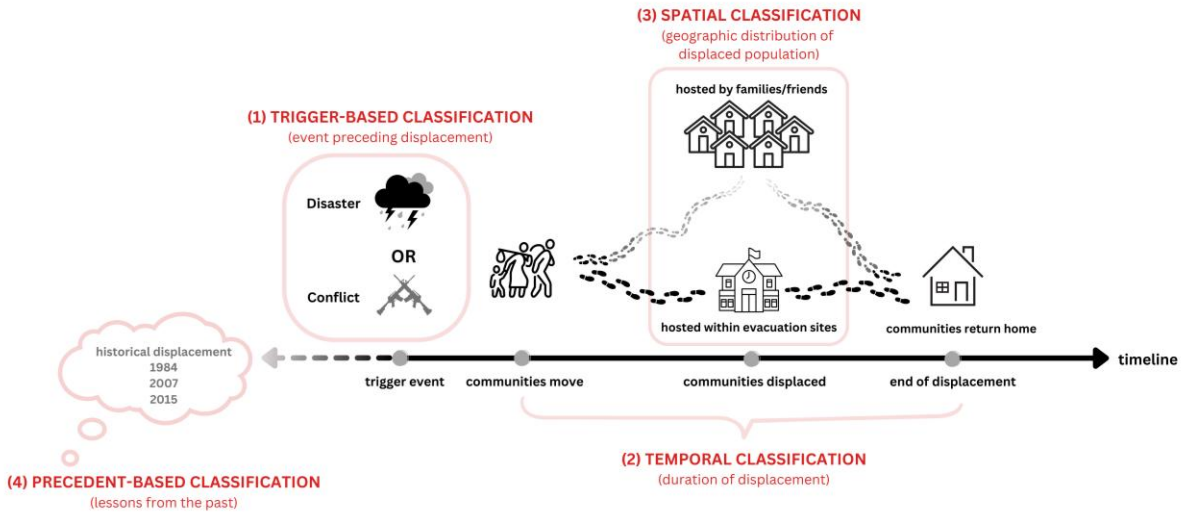

Figure 3.2: Illustration of four displacement classifications adopted by humanitarian practitioners in the Philippines

3.4.1.1 Trigger-based classification: preceding event

A common way participants described displacement contexts is through what we term 'trigger-based classification'. Participants often viewed displacement as an outcome of an emergency or disaster, as one participant succinctly put it, *"It depends on what comes first."* As such, displacement is labelled based on the preceding trigger, whether it is a disaster or conflict. This classification aligns with how displacement is reported in Disaster Response Operations Management, Information and Communication (DROMIC) reports published by the Philippines Department of Social Welfare and Development (DSWD) where incidents are labelled according to the preceding event (DSWD 2025).

Beyond formal reporting, participants' narratives of their work experiences also reflected this classification as many highlighted experiences within either disaster or armed conflict settings. These distinctions emerged both from participants' self-identification and from how they described their roles in displacement response. Several participants pointed out that their experience was limited to one context due to the mandate of their organisation. This distinction suggests that displacement is not only understood but operationalised in a disaggregated manner within the humanitarian system. This is evident in the way responsibilities are divided within the humanitarian system: *"[As UNHCR], we co-lead with IFRC when it comes to the Global Shelter Cluster, and we also co-lead with the IOM when it comes to the CCCM [Camp Coordination and Camp Management Cluster]. For displacement triggered by conflict, it's clear that it is UNHCR [leading]. These [other] agencies come in if the displacement is triggered by natural hazards and the adverse effects of climate change."*

Despite its widespread use, participants acknowledged the limitations of trigger-based classification, especially in the context of communities experiencing cycles of repeated displacement. As one United Nations staff explained, using Mindanao as an example: *"In Mindanao, if the conflict happens first, they would evacuate because of the conflict, and then sometimes they would go back, only to be evacuated again. And sometimes even while in evacuation, they would evacuate again because the area or the school that they went to also might be affected by a climate event, or by flooding, or by*

landslide … In Mindanao, you have a different context, because you might have complex displacement, so to speak and that is where the repeated displacement could happen." While there is growing recognition of the complexity and overlapping nature of displacement triggers, single trigger-based classification remains one of the most used frameworks for understanding displacement.

3.4.1.2 Temporal classification: duration of displacement

Another approach organisations use to classify displacement is through what we term a 'temporal classification', which focuses on the duration of displacement. For instance, the latest Mindanao Displacement Bulletin published by UNHCR in June 2023 categorises displaced persons into three groups: Group A (displaced for less than 30 days); Group B (displaced for more than 30 days); and Group C (displaced for more than 180 days). These groups were further delineated according to the causes of displacement such as 'armed conflict', 'natural disaster', 'crime/violence', and 'clan feud' (UNHCR Philippines 2023).

This temporal categorisation holds particular relevance in regions like Mindanao, where communities remain protractedly displaced from past conflict events such as the Zamboanga Siege in 2013 and the Marawi Siege in 2017 (IDMC 2024; UNHCR Philippines 2023). Given that recent protracted displacement in the Philippines largely traces back to these two major conflict events, UNHCR, an agency with a protection mandate for armed conflict (UNHCR 2023), has been the primary organisation adopting this classification. This enables UNHCR and other humanitarian actors to tailor support based on how long IDPs have been displaced, as explained by a UNHCR staff: *"It's important to understand how long people stay in displaced locations, [if] they have been able to return or resettled … to better understand solutions patterns for IDPs."*

A pattern emerged in participants' observations that climate-induced displacement often affects more people but for shorter durations, while conflict-induced displacement impacts fewer people but tends to last longer: *"Those displacement triggered by the adverse effects of climate change resulted to more massive displacement, but oftentimes in shorter duration compared to displacement triggered by conflict drivers."* While this temporal-based framework is not without its limitations, it offers organisations a practical way to understand and address different displacement scenarios. However, as climate change intensifies, the timing and duration of hazards, as well as their interaction with conflict, may evolve (IPCC 2023).

3.4.1.3 Spatial classification: geographic distribution of displaced population

Another way organisations characterise displacement contexts is through what we term 'spatial classification', essentially categorising displaced people on whether they are centralised in formal evacuation centres or dispersed across host communities. In the Philippines, public evacuation centres typically consist of community halls, school buildings, and gymnasiums that are repurposed to shelter those who evacuated (Bankoff 2003). While these locations serve as hubs where aid is sorted and distributed, some people stay with family and friends instead of evacuating to public centres, due to factors such as perception of safe spaces, family ties, protection of assets and possessions, and gender and sexual harassment concerns (Dalisay and De Guzman 2016; I. Fernandez 2019; Scott 2019).

This preference naturally creates a distinction in how organisations label displaced people, as noted by a local NGO staff: *"We have IDPs that are inside evacuation centres, and then second are IDPs that*

are outside evacuation centres. So it could be internally displaced people that are staying at their families', their close relative's home or maybe outside their home." This delineation shapes how displacement data is being recorded. The Department of Social Welfare and Development (DSWD) DROMIC reports, which detail the status of IDPs, categorises those inside and outside of evacuation centres (DSWD 2025). Similarly, IOM, leading the Camp Coordination and Camp Management (CCCM) Cluster, utilises its Displacement Tracking Matrix (DTM) to classify population demographics into "evacuation centres" and "home-based/community-based sites" (Navidad and Boasso 2017).

This spatial classification applies across both conflict and disaster displacement contexts, revealing a fundamental way in which organisations classify displaced populations based on their location. The emphasis is often on the physical spatiality of displaced individuals, rather than the cause of their displacement. This focus is likely driven by logistical considerations as organisations need to effectively coordinate and deliver aid. Yet, in doing so, it reinforces a classification system that risks oversimplifying displacement, potentially overlooking insights needed for a more effective response.

3.4.1.4 Precedent-based classification: lessons from the past

The last classification we identified is the 'precedent-based classification' which is especially common for climate-induced displacement contexts. When speaking to participants familiar with disaster-induced displacement, we found they often rely on past experiences, which could stem from previous disasters or preparedness interventions. Given the frequent occurrence of disasters in the Philippines, humanitarian practitioners drew on tacit knowledge from past events. As an IFRC staff explained: *"When displacement occurs, we will somehow make some assumption, because I mean, the Philippines [have] been visited by typhoon like 20 times a year ... so you already have this past experience. From there, we just use that experience to understand how we will categorise specific displacement. For example, if there's a typhoon, displacement would be because of the damaged shelter, damaged livelihood and all. And if some flooding will be triggered, then definitely, there will be some short-term to mid-term displacement."*

Drawing upon past experience, practitioners often predict key aspects of displacement, such as the number of people affected, the anticipated duration of displacement, the specific types of aid required (such as food, clothing, and non-food items) and the length of time this aid would be necessary. As preparedness interventions within disaster-prone areas are common, they also provide an existing reference framework for humanitarian practitioners to understand displacement contexts when responding: *"Let's just use Leyte, for example … they have been visited with many typhoons, some are really devastating. In the previous operation, usually they already have some preparedness interventions as well. So if a previous disaster happened in that specific area, definitely, you already have some references. So you use all these references to understand the displacement situation."*

This reliance on "lessons from the past" suggests that responses are often built on established precedents. By anchoring classifications in the precedent, organisations risk overlooking evolving displacement trends and shifting needs of displaced population. While some scenarios may echo past events, relying solely on historical experiences may not be sufficient to address the emerging complexities of future displacement.

3.4.2 Factors underpinning humanitarian decision-making

Building on our exploration of how humanitarian organisations characterise displacement contexts, this subsection examines the factors influencing their decisions to respond to complex displacement crises. We identified four factors that play a role in shaping these decisions – government requests, operational presence, security, and logistics. Together, these factors form a complex web of influences that determine how and where responses are targeted.

3.4.2.1 Government requests

The delivery of humanitarian aid is often contingent upon formal requests from governments, a foundational element of the international humanitarian response system. According to a participant from a bilateral government agency, humanitarian organisations play a supporting role: *"We're not the one leading the response. It's really the Philippine government who owns the response and it's more of us just augmenting that support."* Typically, the government takes the lead in coordinating responses and organisations only intervene upon receiving a request for additional support, emphasised by a UN staff: *"We usually do not come in [to assist] when we're not asked to do so."* This approach aligns with the UN General Assembly Resolution 46/182 (1991), which states, "the affected State has the primary role in the initiation, organisation, coordination, and implementation of humanitarian assistance within its territory."

However, our interviews highlighted the limitations of this traditional system for populations in protracted and overlapping displacement crises. A notable example is the situation of IDPs from the Marawi Siege in 2017 and the Zamboanga Siege in 2013. As of June 2023, UNHCR reported approximately 80,000 people remain displaced from the Marawi Siege and 3,600 people from the Zamboanga Crisis (UNHCR Philippines 2023). While it is being reported that the Philippines government is taking action towards durable solutions for the Marawi IDPs (IDMC 2024), our interviews revealed a different picture. Many of these IDPs are, in fact, increasingly forgotten, overshadowed by recurring disasters, and thus, receiving declining attention from the government compared to more recent displacement events. As one academic observed: *"So what we are seeing right now is because it's no longer in the media, it's been seven years almost and people are less interested in whatever happened to Marawi."* Disparities in aid across different displacement contexts can emerge if certain triggers garner greater political or public attention (Weerasinghe 2021). This sentiment was echoed by a humanitarian staff advocating for protracted conflict IDPs, pointing out how other displacement events are often given priority:

> *"The government is recognising IDPs more because of natural hazards. For them, there is no caseload of IDPs due to conflict … We're also surprised by that reality, even in the Marawi crisis, because we still have a caseload right now; they're very visible in the transitory sites even up to now. But I'm happy that our security sector in the government recognises that, but only some high-level officials are … Just a very recent incident in one of the provinces in Mindanao, the provincial government said that there are no more IDPs, and this is in a conflict-affected area. And it was like, no way you deny these people."*

This reliance on government requests disproportionately impacts protractedly displaced IDPs in conflict scenarios. As one UN staff explained: *"If it's going to be international support, it has to be a clear ask from the government, and you don't usually see that in armed conflict setting. That happens*

mostly with natural disasters[3]*."* In the absence of a formal request, humanitarian organisations, particularly large international actors, are often limited in their ability to coordinate and provide aid, further marginalising these populations. For instance, in the southern regions of Basilan, Sulu, and Tawi-Tawi, localised 'horizontal' conflicts involving extremist groups, family feuds, and land dispossessions of non-Moro Indigenous communities are often considered too minor to warrant intervention from international, non-governmental, and UN agencies (M. C. Fernandez et al. 2022). Consequently, these IDPs, who frequently drift between the southern islands and Sabah, Malaysia, remain highly vulnerable to the compounded risks of displacement and climate change (ibid). As one participant noted from past experiences of being involved in conflict responses: *"In terms of vulnerability, the IDPs in conflict situations that are also affected by the adverse effects of climate change are even more vulnerable".* A similar situation persists with IDPs from the 2013 Zamboanga Siege, with many still awaiting durable solutions even after a decade (Quintero 2024).

The lack of government attention to protracted conflict IDPs also has significant implications for aid coordination and funding. A UN staff member highlighted the challenges in maintaining support for IDPs once an emergency declaration or the cluster system is deactivated: *"During emergency declaration or cluster activation, there's a regular meeting [to discuss] all the needs of the IDPs. But usually, once the government deactivated the clusters, these coordination meetings also stopped. So in that sense, the monitoring of IDPs who are still in evacuation centres to some extent also stopped."* The funding landscape follows a similar pattern, as noted by another academic involved in local peacebuilding activities: *"Once they are out of the news and they are no longer a priority, IDPs will have a substantial decrease in funding. This is what we have been seeing for many, many years."*

Despite funding cuts, the hardship of these protracted IDPs persists in various forms long after the initial conflict has ended. Just two months after the end of the Marawi Siege, Severe Tropical Storm Tembin (Vinta) tore through the region in December 2017, displacing more than 138,000 people (ACAPS 2017). Families who fled the conflict faced a second upheaval, while those who had recently returned found themselves grappling with the successive impacts of conflict and disaster (Lutheran World Relief 2018). Three years after Tembin, Typhoon Rai (Odette) swept across central and southern Philippines in December 2021, with the Caraga region in Mindanao among the most affected areas, once again upending lives and livelihood (UNOCHA 2022b). It marked the strongest storm to hit Mindanao in 10 years (ibid), impacting many who were still protractedly displaced. In addition to losing government attention – and with it, the request for continued humanitarian aid – these displaced communities have been living in poverty conditions, continually experiencing climate shocks and facing challenges such as complex land ownership and tenure that were prevalent even prior to the siege (M. Fernandez et al. 2018).

According to a participant who is also a Marawi IDP, residents in four barangays (the lowest governance division in the Philippines) – Datu Sa Dasalan, Sabala Manao, Barrio Naga, and Dansalan – have been permanently displaced because of government infrastructure projects. Initially displaced by the

[3] Interview quotes have been lightly edited for general readability; however, original terminology used by participants has been retained. While the term "natural disasters" is widely used colloquially, we acknowledge it is increasingly discouraged in academic discourse, given the well-established understanding that disasters are as much socially constructed as they are triggered by natural hazards.

Marawi Siege in 2017, the participant described their current situation as *"displacement by government in the name of structural development"*, a paradoxical situation where the very entity responsible for their protection becomes a source of their secondary displacement. The government's focus on infrastructural solutions has left these IDPs homeless and precarious.

Over time, attention from both the government and media towards the Marawi IDPs subsides, with limited support from the outset and few calls for continued humanitarian assistance. When new disasters such as Tembin (Vinta) and Rai (Odette) hit the same communities, humanitarian responses tend to be narrowly structured around the new "trigger" event, as described in the trigger-based classification outlined in Section 4.1.1. This labelling practice, combined with the traditionally disaggregated nature of displacement data, classifies affected communities according to the most recent event, often disregarding the lingering impacts of previous conflict. One international NGO staff member reflected on how this systemic exclusion from the government compounds vulnerability over time: *"They've been displaced by conflict, and they've been pushed to an area where they were forced to relocate sometimes. Since they are no longer able to return, then basically the relocation area has become their permanent place of residence. So basically, if another disaster occurs, a natural disaster that would also affect them, their current homes or residents, it exacerbates. But the reason why the situation exacerbated is because they were left out [in the first place]."*

3.4.2.2 Operational presence

A common theme that emerged from interviews is that organisations tend to respond in areas where they have an established office or presence. This is because having an existing presence allows humanitarian organisations to build existing connections with local government units and develop a level of understanding of local communities, as depicted by a participant from a local grassroots organisation: *"Of course, it's easier for us in our experience to do emergency relief operations in areas where we did DRR, disaster risk reduction programs. Why? Because there's already an organisation we formed that we are able to partner with, or a disaster preparedness committee."* This rationale was echoed by an international organisational staff: *"What's the advantage is that we have boots on the ground. We are essentially present already and mingling even before the disaster comes. We have this partnership arrangement and support with the government."*

This form of path dependency was common across all types of organisations, including international organisations such as UNHCR. A UNHCR staff explained their approach: *"When responding to emergencies, we have this policy – there are three things that must be considered first, there should be a request from the government. Second thing is operational presence, and the other thing is that an interagency act."* While UNHCR's core mandate focuses on humanitarian crises stemming from armed conflict, it also contributes to responses induced by hazardous climate events and environmental conditions. However, as highlighted in their "Policy on Emergency Preparedness and Response" (2023), "the level of involvement in natural hazard-induced crises is linked to UNHCR's presence and added-value operational capacity in the country and/or expertise compared to other humanitarian actors."

Another participant from an international NGO spoke about the "mandate areas" of their organisation. Essentially, these are focus areas within the Philippines in which they have existing operations, and it is imperative for them to respond, while other emergencies that fall outside of those areas will require discussions and decisions that are dependent on funding capacity and existing

resources. Similarly to UNHCR, this international NGO's response is conditional depending on operational presence: "*So if [emergencies are] happening there or at least near the vicinity of those areas, it's almost an imperative that we will respond. But if that area is not near or located on those areas, there are some discussions that are going to happen first before we respond … it would be on a case-to-case basis."* As humanitarian needs continue to grow in scale and complexity, this organisation has adapted by refining its geographic focus to manage resources more effectively. Reflecting on this shift, the participant noted: *"We were really working everywhere at least five years ago; we didn't have a geographical focus. The geographical focus is a recent thing as a lesson from not spreading, at least operationally, not spreading the organisation too thinly and causing some issues in the implementation."* This organisation found that focusing on specific areas helps prevent operational overstretch and improves the effectiveness of its response. Yet, this approach also reinforces a pattern in which organisations tend to prioritise familiar settings and past experiences when making decisions about where to respond.

Both local grassroots and international organisations similarly rely on existing relationships and structures to facilitate a more efficient response. While practical, this approach also reflects a broader tendency in humanitarian aid known as "tarmac bias", where humanitarian aid organisations prioritise the most accessible areas, rather than focusing on those in greatest need (Cochrane and Thornton 2016; Chambers 2006). During humanitarian emergencies, while needs-based assessments inform the identification of target communities, accessibility can exclude those not located near roads or tarmacs (Marshak et al. 2023). This bias is further reinforced by the need for humanitarian organisations to deliver a timely response to affected populations while juggling practical constraints such as limited time and resources (Bosmans et al. 2022).

However, climate change and the increasing complexity of displacement patterns are starting to show the limitations of humanitarian practice that responds based on operational presence. Concerns have been raised about the equitable distribution of aid, particularly gaps in geographic coverage based on presence. Typhoon Rai (Odette) was frequently cited by participants as an example of how climate change is intensifying weather patterns, making them more unpredictable and striking places historically less affected. According to the Humanitarian Needs and Priorities Plan issued by UNOCHA (2022b), "contrary to predictions, Rai intensified from a tropical storm to a super typhoon within hours before making landfall." Furthermore, "while storms typically make landfall in the southern parts of Luzon or the eastern part of the Visayas, Rai (Odette) struck regions further south, which do not typically experience the brunt of typhoons." For many communities, Rai was a wake-up call. As one participant reflected:

> *"During Typhoon Odette, a lot of regions were affected, but the most affected one was Caraga region because it was more than 10 or 15 years since that happened in the region. It was really a surprise for them. Even in Region 6, Negros Oriental and Occidental, they said that it was the first time they experienced such a typhoon. It was also really a wake-up call for Siargao Island. Since it was the first time, and also it is an island, it was difficult to move items to the areas."*

A participant described how, during the initial response to Typhoon Rai (Odette), areas that had not previously experienced such impacts were overlooked by the government and the Humanitarian Country Team (HCT). This led to some areas receiving inadequate attention, while others became saturated with aid and resources: *"So during the initial response of [Typhoon Odette], both the government and the humanitarian country team focused on two regions – Caraga region, which is in*

Mindanao, and Eastern Visayas … because that's where the majority of the people [were affected] … That was an unpredictable typhoon because it literally hit [areas] that hadn't been affected before ... Even if it's a bigger hit for the two regions that they initially identified, there will be a lot of competing resources in terms of a lot of people putting in money because that's the priority area. They get saturated. Too many actors focus in one place." When humanitarian organisations rely on operational presence and predefined priority areas, unpredictable disasters such as Rai (Odette) expose gaps in coverage, overlooking emerging needs in previously unaffected areas.

Meanwhile, organisations such as UNHCR had to step in, leveraging their established presence and ongoing interventions in the area to fill gaps in response, as recalled by a UNHCR staff who was operating in Mindanao at the time: *"When Typhoon Odette happened in 2021 in Eastern Mindanao, it was a disaster due to a natural hazard and climate change, but it impacted a conflict-affected area where UNHCR has a presence. Since IFRC was not there, also there are no camps being established; it is UNHCR leading the protection cluster and also working with the government."* Humanitarian responses to disasters and armed conflict have traditionally been managed separately with distinct mandates for different agencies (K. Peters et al. 2021). However, when disasters strike conflict-affected areas, these predefined roles may shift, as the UNHCR staff explained: *"Natural disaster is [typically under the] care of IOM when you talk about protection and CCCM. But because Caraga is a conflict affected area and we have previous interventions, that's why they have given us the protection cluster lead [during Typhoon Odette]."* This crossover in responses illustrates how organisations had to adapt to a traditional humanitarian system that has not kept pace with the growing complexities of overlapping displacement trends.

This reliance on operational presence as a deciding factor is closely related to the precedent-based classification discussed in Section 4.1.4. This system significantly influences who receives aid, creating disparities where displaced populations in areas with humanitarian operational presence are prioritised over those without. For instance, the simple presence of a field office plays a critical role in enabling effective responses. A UNHCR staff member highlighted, *"Our support right now is limited compared to before when we had a field office in Mindanao."* With the closure of their field offices, their capacity to respond has diminished: *"The recent low-pressure area in Mindanao this year and last year – we did not do anything because we don't have the presence. We no longer have a field office, so what we focused on was advocacy and coordination, just sharing referrals of the issues that we gathered from partners. Just that, only that."*

As displacement patterns become increasingly complex and deviate from the norm, there is a pressing need for the humanitarian system to adapt. Typically, areas within humanitarian organisations' operational footprint are where preparedness interventions most well-established. This means organisations have more comprehensive data and information available prior to displacement, making them the more likely places for organisations to coordinate responses. These exclusions may not be deliberately intentional from the humanitarian sector, but rather structural in nature, driven by practical considerations, and thus appear less visible (M. C. Fernandez et al. 2022). However, if organisations were to restrict their assistance to only areas where they already have an ongoing presence, new, unaddressed regions would be sidelined, especially as these needs evolve spatially.

3.4.2.3 Security

Although participants in our interviews used "access" and "security" interchangeably, we define security risks as the threats humanitarian staff face within conflict settings. These include the risk of exposing humanitarian staff to physical safety, reputational damage, or legal harm (Stoddard et al. 2016) as well as the risk of compromising their political neutrality (Lockyear and Cunningham 2017). Security risks are a major determinant for organisations when deciding whether to respond in conflict-affected zones, even during the post-conflict phase. An assessment on global humanitarian access ranked the Philippines in the "very high access constraints" tier – the second highest tier of access challenges – placing the Philippines on par with countries such as Bangladesh and Pakistan (ACAPS 2024).

In recent years, the UN has identified the practice of "red-tagging" – the labelling of individuals or groups as communists or terrorists – as a human rights issue in the Philippines, as a result of the longstanding conflict between the Philippine government and the New People's Army (NPA) (UN High Commissioner for Human Rights 2020; Tugade 2022). The risk of red-tagging has implications on humanitarian staff, as depicted by an international organisation participant: *"Sometimes when you help these displaced communities and the government are claiming, oh, so you're practically helping the other side as well. So there are also situations like that happening; I have some friends who were red-tagged."*

Several participants mentioned the difficulty in obtaining necessary approvals to operate in conflict-impacted areas and the risk of being perceived as aligned with one of the conflicting parties. One participant described that despite having sufficient resources and personnel, their operations would not be possible if the government denied access, stating: *"Those in the conflict area, when they were affected by the typhoon, the need is still there and you need to respond immediately. But even though you have the resources, you have the manpower and everything, if the government say you cannot enter there, you cannot respond."* This challenge extends beyond government to conflicting parties as well, as support for one side in an internal conflict could lead to accusations of partiality: *"If it is an internal conflict, not with the government, if the other party will see you supporting the other party, you know, they might tell you – why are you supporting them? So you are our enemy and all. That's why it's very complex and critical process … especially if it's in a conflict situation."*

Even when organisations are permitted to operate within conflict contexts, the inherent security challenges in these fragile environments are often beyond an organisation's control and require more complex solutions. As one participant noted*, "Because of security issues, we have access issues for a conflict-prone area. So that would mean we suspend the monitoring, we delay the delivery of the response."* These risks lead to the unfortunate reality that disaster-affected communities within conflict-affected areas are overlooked. For instance, Severe Tropical Storm Tembin (Vinta) which struck in December 2017, only two months after the Marawi Siege, impacted over 870,000 people in the southern Philippines (Department of Social Welfare and Development 2018). The combination of Marawi and Vinta resulted in compounding displacement, resulting in a complex crisis involving both conflict and disasters (I. Fernandez 2019). Some communities in conflict areas were overlooked and did not receive the same support and assistance as others. As a participant from a local grassroot NGO recalled: *"Those affected by conflict are in location[s] that are also posing security risks to humanitarian workers. For example, during the Marawi Siege then followed by Typhoon Vinta … for the [ones which] Typhoon Vinta affected, those can be easily located then they are also assisted. But*

those who took refuge in more interior municipalities and those are also conflict areas, we actually tried to reach out to those as they don't easily receive support and assistance."

While the BARMM often garners attention when it comes to conflict displacement, security issues are not limited to that region. With the ongoing conflict between the government and the New People's Army (NPA), the Philippines has the longest-running communist insurgency in Southeast Asia (Tugade 2022), stirring localised incidents of violence throughout the country. According to the IDMC, conflict and violence triggered 160,000 displacements in 2023, the highest figure since 2019, due to clashes between non-state armed groups and government forces across various islands. This reflects a shift from previous years when most movements were reported on the southern island of Mindanao (IDMC 2024). According to a report by the Armed Conflict Location & Event Data (ACLED), NPA activities are most active in the Western Visayas and Northern Mindanao (ACLED 2023). This geographic spread of conflict violence beyond BARMM is also observed by an IFRC staff: *"If you go to IDMC's website, on the map you'll find orange dots on different parts of Luzon, in Kalinga mountain province, and Cagayan region, and in Visayas, you'll definitely find some areas where conflict happen. Actually, in Luzon, Visayas, and Northern Mindanao, conflict and climate is kind of intersecting with each other."*

Additionally, red-tagging complicates humanitarian operations, leading to some organisations choosing not to operate and respond in areas where their staff might be in danger. Several participants noted that security concerns such as red-tagging have led some organisations to choose not to operate in high-risk areas. As an international organisation staff noted: *"For example, in Northern Luzon where there is also the New People's Army, some presence of such, it's still in an insecure area. There's no ongoing large-scale conflict so to speak. But because of insecurity, we also have to consider access."* Another participant openly shared: *"Some organisations would also decide not to respond at all considering if these things are really happening. I'm not sure if that's the reason why there are only a few organisations really working on these areas because of these complications. I think our organisation would not want to be involved in those kinds of situations."* As this comment demonstrates, the assignment of a displacement context as being conflict-related creates a perverse incentive to hold back on aid provision. As one of the world's most hazard-prone countries (IFHV 2023; The World Bank Group 2021), it is inevitable that these hazards will continue to strike and impact localised conflict-affected areas. Moreover, with climate change influencing the predictability of these hazards, organisations increasingly must navigate unprecedented displacement patterns within insecure environments.

3.4.2.4 Logistics

As displacement grows more complex under the intersecting drivers of climate and conflict, and as the humanitarian sector grapples with overlapping crises, we asked participants what factors shape their priorities in responding. Time and again, their answers point to the reality of logistical considerations. These logistical considerations can be thought of in two dimensions broadly – accessibility (ability to physically reach communities or regions) and centrality (how clustered the displaced populations are).

Accessibility issues often arise from physical constraints such as isolated islands, blocked roads, or damaged infrastructure. The unique archipelagic geography of the Philippines exacerbates these challenges, making it difficult to access communities when disasters strike, as a participant described: *"Accessibility is a big issue for the Philippines, here we have isolated islands with few very few families, but poor families they rarely get connectivity. So, no internet, no telephones. No way of communicating*

how badly they were affected." Responses to inaccessible areas often requires more complex and adaptive solutions, which can influence an organisation's decision to respond. This disparity has led to uneven distribution of aid among communities, as noted by a local NGO participant drawing from her experience of observing conflict-impacted displaced population in less accessible areas: *"The prioritisation [of humanitarian organizations] really differs … if they have very limited resources, they would usually say the most vulnerable and the devastated [are prioritised]. But what we have observed is that usually the most accessible are prioritised. Those in the hinterlands, those in the areas that need more effort of reaching? Usually, they're left out."*

Participants also highlighted that aid tends to be directed more towards those clustered within evacuation centres as centralised location makes it easier to distribute relief items, as depicted by a UN staff: *"What I noticed is that those in evacuation centres are receiving more assistance on a regular basis, because partners – those who are providing assistance – it's easier for them. They are already identified. And there's always the perception that those who are staying in the evacuation centres, that's their only coping mechanism. They cannot go elsewhere other than the evacuation centres."* This pattern relates to the spatial classification commonly adopted in displacement reporting, where displaced populations are categorised based on whether they reside within or outside centralised distribution hubs.

The inclination to direct relief efforts to evacuation centres has long been an ingrained part of humanitarian responses in the Philippines as it aligns with the country's mass displacement following disasters and conflicts (Navidad and Boasso 2017). An international NGO staff also observed that even if the evacuation centre is damaged, the preference for distributing aid at these sites remained: *"The government doesn't want to go directly to the community. They don't always have resources, so they rather distribute aid in areas that are conducive to them, which is the evacuation centres if it's not destroyed. But even if it's destroyed, they would still go there and do the distribution in that designated area."* Yet, this prioritisation does not end with emergency relief. For instance, after Typhoon Washi in 2011, reports showed that the government prioritised closing evacuation centres and tent camps "over and above assisting community-based IDPs" (Catholic Relief Services 2018). This preference is no longer an incidental feature of humanitarian response, but rather a systemic practice that shapes who receives aid and who remains on the margins.

This tendency to prioritise IDPs in easily accessible, centralised areas becomes especially problematic in the context of overlapping displacement crises. For instance, during the aftermath of the Marawi Siege, only 10% of IDPs were residing in evacuation centres as of October 2017 (Navidad and Boasso 2017). However, according to IOM's Displacement Tracking Matrix (DTM), home-based IDPs were documented to receive delayed, excess food packs only after distribution in evacuation centres had been completed (Navidad and Boasso 2017). UNHCR (2017b) reported a similar disparity, noting that "during scheduled days of food distribution, home-based IDPs were frequently advised to leave the distribution area in favour of evacuation centre-based IDPs". These discrepancies in aid between centralised and home-based IDPs were already apparent following the Siege.

The situation worsened when Vinta struck two months later in December 2017. Evacuation centres already overwhelmed by displacement from the Siege became further strained, as the number of Vinta IDPs outside of evacuation centres grown to three times the population within evacuation centres (Department of Social Welfare and Development 2018). As one local interviewee described, *"In December 2017, it was just right after the Siege. So the focus of the humanitarian organizations, the*

responses are focused on those other IDP of Marawi who are staying in the evacuation centres and the temporary shelters." Amid this overlap of crises and the resulting chaotic movement of IDPs, home-based IDPs became even more marginalised in the response efforts.

In cases of prolonged, secondary, or overlapping displacement due to disasters and conflict, the movement of IDPs in and out of evacuation centres becomes increasingly complex and messy. Moreover, the decision to seek refuge in evacuation centres is shaped by a complex interplay of personal and family pride, risk perception, and fears of sexual abuse and violence (Dalisay and De Guzman 2016; I. Fernandez 2019; Scott 2019). Such incidents are often exacerbated during complex emergencies when disasters and conflict combine to evoke humanitarian crises (Bhadra 2022; Hilhorst et al. 2018).

The assumption that those in evacuation centres are the most vulnerable who lack alternative coping strategies has long underpinned humanitarian aid. However, as displacement patterns evolve, this assumption may no longer hold true. For instance, in situations of protracted displacement where there are IDPs sheltering in evacuation centres, where do newly displaced individuals from a different trigger event seek refuge? It is clear that the needs of all IDPs are not adequately addressed when humanitarian responses are primarily structured around spatiality, centrality, and logistical considerations. As noted by an international NGO staff: *"If they're being displaced in a given municipality, but then there's a typhoon coming, then that's another challenge that you need to address. How you can provide aid during those particular times? They are already displaced, and a typhoon is coming, and they don't have proper evacuation centres that can support them, with whatever natural disasters occur on top of the complex situation that they have experienced."*

3.5 Conclusion

Climate and conflict continuously interact in ways that compound vulnerabilities, displacing communities, and sometimes trapping them in cyclical displacement (IDMC 2024; Sturridge and Holloway 2022). Yet, humanitarian responses remain fragmented, structured around distinct triggers that fail to address overlapping drivers of displacement (IDMC and NRC 2015; K. Peters et al. 2021). To understand pragmatic future approaches, we engaged directly with practitioners who saw their roles as responding to displacement in disaster, conflict, or both contexts. Through 32 semi-structured interviews, we explored their firsthand experiences and the organisational norms that shape responses to complex displacement and uncovered how the current system navigates complex displacement, highlighting both its limitations and opportunities for reform.

We observed that the humanitarian response landscape in the Philippines is largely shaped by DRR and climate-related interventions. Practitioners reflected that the humanitarian system in the country has a stronger institutional focus on disasters rather than conflict. This aligns with Weerasinghe (2021) who found that there is a stronger emphasis on displacement data associated with disasters relative to conflict in the Philippines. Unlike other contexts with ongoing large-scale conflicts such as Sudan and Syria, the Philippines experiences protracted displacement from past conflicts alongside new displacement caused by localised violence. While these conflict-impacted communities remain highly vulnerable to climate impacts, they are often overshadowed by the country's frequent disasters. As a result, efforts to address conflict-induced displacement remain less developed compared to disaster-induced displacement. Our findings also reveal inconsistencies in how practitioners perceive conflict dynamics in the country – some still view conflict as largely confined to the southern Philippines,

despite data showing that conflict occurs across multiple regions (ACLED 2023). Others, however, acknowledge the presence of complex displacement throughout the country. On the other hand, climate change remains underexplored in humanitarian response, with responses far less developed for slow-onset climate events than for rapid-onset disasters.

In our interviews, practitioners acknowledged the complexity and overlap of displacement; however, their labelling and classification of displacement contexts still fall short of reflecting the full, messy reality of displacement. By identifying their labelling classifications, we can better understand how humanitarian response and data collection might evolve to address current limitations. For example, spatial classification often results in responses favouring displaced populations in centralised locations, which can lead to the exclusion of home-based IDPs. For trigger-based classification, moving beyond binary labelling to also record whether communities were recently displaced by other events could better capture compounded vulnerabilities Temporal classification is valuable for addressing protracted displacement, but could be further strengthened by documenting whether individuals experienced overlapping or secondary displacement during their flight. Precedent-based classification, which is closely tied to operational presence, points to the need for organisations to prioritise inclusion over familiarity when deciding where to respond.

Ultimately, identifying labelling classifications helps reveal the unintended exclusions embedded within these classifications, informing opportunities for alternative approaches. Displacement is a non-linear, continuous experience, and organisations are often expected to deliver aid in a fast-paced, emergency-driven environment. Additionally, large-scale data collection struggles to capture people experiencing repeated displacement across multiple triggers. Just as there are distinct categories for disaster- and conflict-induced displacement, a promising starting point would be introducing a new category that captures the intersection of these two.

Our analysis of humanitarian decision-making in the Philippines reveals four key factors influencing response and non-response. First, the reliance on government requests for international humanitarian action creates significant gaps, particularly for IDPs protractedly displaced by conflict. Already marginalised, the previous displacement of these communities is overlooked when new disasters strike. Second, humanitarian responses are often concentrated in areas with existing operational presence, a practice that becomes increasingly problematic as climate change introduces greater unpredictability. Third, security concerns continue to constrain humanitarian efforts, rendering populations in conflict-affected areas largely invisible in data and response systems and creating a critical blind spot in humanitarian action. Finally, logistics strongly influence response, with evacuation centres receiving substantial attention from both the government and humanitarian organisations due to high accessibility and centrality. Meanwhile, home-based IDPs are systematically overlooked. Together, these four factors form a complex web of influences that determine how and where responses are targeted during complex displacement.

Through our conversations with interviewees, practitioners pointed to gaps in the humanitarian system and highlighted areas in need of improvement. Drawing from these insights, we suggest potential solutions and avenues for future research to adapt humanitarian response. Local grassroots NGOs, with their flexibility and deep community ties, are well-positioned to fill gaps where international organisations are constrained by government requests and bureaucratic processes. However, interviewees stressed that grassroots actors often lack the necessary resources and capacity, underscoring the need for stronger partnerships with international organisations. Future research

could explore the distribution of organisational presence, identifying where operational presence is saturated and where it is lacking, to better inform strategic resource allocation. With complex crises on the rise, the humanitarian sector must move away from relying on precedent or historical patterns and tap into new, under-served areas. A deeper understanding of displacement patterns is also needed – particularly in tracking the movement of IDPs in and out of evacuation sites. A stock analysis of displacement trends within centralised locations could inform more targeted strategies. Additionally, home-based IDPs, who are often neglected, require better tracking and registration systems to ensure they are not systematically excluded. Mapping family networks and historical hosting arrangements could potentially offer insights for more equitable aid distribution.

Our study has addressed a critical gap: theoretically, by understanding how practitioners classify displacement and the underlying factors underpinning humanitarian decision-making; and practically, by identifying where the humanitarian system continues to fall short in future complex displacement settings. The lessons drawn here extend beyond the Philippines, offering relevance to other regions and countries facing the convergence of climate and conflict. We advocate for similar practitioner-focused research in regions affected by overlapping crises to better understand how the humanitarian system can evolve to meet the demands of a new era of displacement. As displacement becomes increasingly complex and multi-dimensional, there is an urgent need to move towards a more adaptive, integrated, and holistic humanitarian system.

Chapter 4: Bridging the Data Divide: A Comparative Analysis of Complex and Single-Event Displacement Reporting in the Philippines

Abstract

Disasters and armed conflict increasingly overlap in driving displacement, yet humanitarian data reporting systems have traditionally addressed disaster-induced and conflict-induced displacement separately. Consequently, communities who are doubly affected often fall through the cracks. However, little is known about who is left out and how reporting gaps occur. To address this gap, we conducted a comparative analysis of data reporting following the Marawi Siege and Severe Tropical Storm Tembin (Vinta) in 2017 and Severe Tropical Storm Nalgae (Paeng) in 2022. Using time-series spatial analysis and interviews, we reveal disparities in both the frequency and the temporal and spatial coverage of displacement reporting. Through the case of Paeng, we also explore the potential of implementing anticipatory action during complex crises. We present recommendations to reform humanitarian data systems to enable more dynamic tracking of displacement across multiple triggers and moving beyond static, one-time counts to better capture complex displacement crises. We argue for a rethinking of forecast-based models and triggers within anticipatory action to fully capture and respond to overlapping events by incorporating displacement history and conflict footprints. Our study provides clear empirical evidence of exclusion in complex displacement reporting and outlines what is needed to build a more holistic data reporting system.

4.1 Introduction

Natural hazards often cause greater harm in areas affected by armed conflict, where inequality, poor governance, and weakened systems heighten vulnerability (Siddiqi 2018; Blaikie et al. 2003; Caso et al. 2023). In these fragile settings, conflict and disasters frequently overlap, compounding risks and leading to severe consequences (Mena and Hilhorst 2021; L. E. R. Peters 2021; IDMC 2024). This convergence is a reality for millions around the world. As of June 2024, over 120 million people were forcibly displaced by conflict, with three-quarters living in countries highly exposed to natural hazards (UNHCR 2024b). In 2023, Typhoon Mocha triggered 1.3 million displacements in Bangladesh and an additional 912,000 in Myanmar, including highly vulnerable communities such as Rohingya refugees living in Cox's Bazar (IDMC 2024). In Syria, extreme rainfall in April 2019 caused flooding in the Al Hassakeh region hosting conflict-affected communities reliant on humanitarian aid (Norwegian Red Cross 2019).

While there is an abundance of grey literature documenting the vicious cycle of climate, conflict, and displacement, the empirical evidence on communities affected by both remains limited (K. Peters et al. 2021). Insecurity often makes consistent and reliable data collection near impossible, therefore, systems for collecting data on disasters are often severely limited or entirely absent in fragile contexts (SPARC 2024). Consequently, while it is well understood that hazards impact conflict-affected populations, there is limited data to construct figures and profiles of those experiencing overlapping crises. This results in the unequal visibility of communities and distribution of aid, with those affected by both conflict and disasters being sidelined (ALNAP 2022; Siddiqi 2018).

The humanitarian system has traditionally addressed climate-induced and conflict-induced displacement as separate challenges, reporting displacement data separately according to their immediate triggers (Weerasinghe 2021; IDMC and NRC 2015; Sánchez-Mojica 2020; Caso et al. 2023; K. Peters et al. 2021). Yet, empirical evidence increasingly shows that disasters and conflicts often overlap, making this data binary approach problematic (Walch 2018). It is not uncommon for conflict-affected populations in disaster-prone countries to be overlooked in favour of those affected solely by disasters (Siddiqi 2018). Despite general awareness of data gaps in disaster-conflict settings (K. Peters 2019; SPARC 2024), there has been limited systematic comparison of reporting practices between complex, overlapping crises and single-event disasters. Questions persist about where data shortfalls lie, how they impede effective response, and how a more holistic data system might be developed. This study aims to assess the reporting discrepancies to identify current limitations and inform opportunities for reform. We set out to answer the following research question:

> *How does humanitarian data reporting differ between complex (involving both climate and conflict) and single-event displacement (climate)?*

We conducted a comparative case study to analyse the difference in data reporting between a complex displacement case (involving both disaster and conflict) and single-event displacement case (involving disaster only). Examining the case of the Philippines, we selected the *Marawi Siege and Severe Tropical Storm Tembin (Vinta)* in 2017 as our complex displacement scenario and *Severe Tropical Storm Nalgae (Paeng)* in 2022 as our single-event displacement scenario. Paeng represents a more recent example that took place when humanitarian actors were beginning to adopt proactive approaches to disaster responses through anticipatory action (Anticipation Hub 2021).

In recent decades, anticipatory action has emerged in humanitarian responses to address disasters proactively, acting ahead of predicted hazards to prevent or minimise impacts on lives (ALNAP 2022; UNOCHA 2024b). Anticipatory action is defined as "actions taken to reduce the humanitarian impacts of a forecast hazard before it occurs, or before its most acute impacts are felt. The decision to act is based on a forecast, or collective risk analysis, of when, where and how the event will unfold" (IFRC 2020). This reflects a shift beyond traditional early warning systems (EWS). While early warning systems alert communities to impending hazards, anticipatory action builds on this by using impact-based forecasting, which integrates data on exposure and vulnerability to predict the impact of hazards or multi-hazards on communities at risk (WMO 2015). Moreover, unlike reactive responses triggered by observed impacts, anticipatory action uses forecasts and pre-agreed thresholds to mobilise aid before a shock occurs (Chaves-Gonzalez et al. 2022). Forecast-based financing (FbF) automatically releases funds when a forecast threshold is reached, guided by an early action protocol (EAP) that outlines pre-defined triggers and early actions to be taken (Thalheimer et al. 2022). Anticipatory action has been expanding rapidly, with 107 projects recorded across 47 countries as of 2023 (UNOCHA 2025).

While the anticipatory action community is beginning to consider conflict-affected settings (Wagner and Simons 2025; Kjærum and Madsen 2025), the ability to forecast conflict outbreaks remains limited (Schillinger et al. 2025). Most research and practice continue to focus on the physical aspects of hazards and meteorological forecasting (Jaime et al. 2024). As climate hazards intensify and complex displacement becomes more frequent (K. Peters and Dupar 2020; K. Peters et al. 2020), there is a need to understand the role of anticipatory action in addressing overlapping crises (Jaime et al. 2024; Chaves-Gonzalez et al. 2022). Furthermore, evidence on the implementation of anticipatory action in complex crises remains limited, especially since in fragile contexts where the delivery of regular humanitarian aid has already been constrained, there is limited opportunity to introduce new forms of aid (Easton-Calabria 2025; Kjærum and Madsen 2025). Therefore, while the focus of this study is on data reporting practices, we use the Paeng case to explore how pre-emptive humanitarian interventions can minimise disaster impacts during overlapping crises.

The Methods section details the framework for our comparative case study. We extracted displacement data from Disaster Response Operations Management, Information and Communication (DROMIC) reports, the primary source for displacement data in the Philippines, for time-series and spatial analysis. We supplemented this comparative analysis with additional grey literature and semi-structured interviews that offer contextual insights from humanitarian practitioners. The Findings section then presents descriptive themes from our comparative analysis that highlight the differences in data reporting between both cases, followed by a Discussion that offers recommendations for improving the reporting of complex displacement and addresses the study's limitations.

4.2 Methods

This section details our case selection criteria, case description, data collection and analysis. We combined grey literature comprising reports produced by government and humanitarian organisations and semi-structured interviews to examine how displacement data was collected and reported in both cases. Our comparative analysis relied on cross-case synthesis following Yin's (2009) analytic approach. We first examined each case independently using time-series plots, a spatial map, and qualitative interview insights to identify within-case patterns, before moving to cross-case comparison and synthesis.

4.2.1 Case selection criteria

We employed a case study selection process guided by pre-defined criteria. Our criteria sought to ensure a robust comparison between complex displacement scenarios (where disaster-induced and conflict-induced displacement overlap) and single-event displacement scenarios (displacement induced by disaster) in the Philippines. We aimed to identify one historical case representative of each scenario. The guiding selection criteria included:

1) **Displacement scenarios** – One case must have displacement induced by overlapping conflict events and hazards, while the other case must have displacement induced by hazards only.
2) **Hazard intensity** – The cases should involve hazards of similar intensity, as indicated by metrics such as the "peak intensity within the Philippine Area of Responsibility (PAR)" as reported by the Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA).
3) **Extent of damage** – The hazard of each case should involve comparable levels of infrastructure damage.
4) **Displacement figures** – The number of displaced individuals should be comparable across cases.
5) **Scale of humanitarian responses** – The cases should have received similar levels of humanitarian intervention (e.g., both cases triggering international assistance or neither) to control for differences in aid provision.
6) **Data availability** – The cases should have sufficient and reliable data on humanitarian responses from sources such as Disaster Response Operations Management, Information and Communication (DROMIC) reports, the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), and the International Federation of Red Cross and Red Crescent Societies (IFRC) to ensure a robust and evidence-based analysis.

We selected the Marawi Siege and Severe Tropical Storm Tembin (Vinta) as our complex displacement scenario and Severe Tropical Storm Nalgae (Paeng) as our single-event displacement scenario. The case of the Marawi Siege and Vinta in December 2017 is relevant as the storm occurred just two months after the end of the conflict event. It illustrates how communities displaced by conflict can be subsequently affected by natural hazards, with the storm directly impacting communities already displaced by the conflict, further straining humanitarian response efforts (I. Fernandez 2019). Examining this case offers insights into the challenges of responding to the overlap of disaster-induced and conflict-induced displacement and the complexities of data reporting in such contexts.

Severe Tropical Storm Nalgae (Paeng) in October 2022 represents a more recent example of a single-event displacement scenario. It occurred at a time when humanitarian responses were beginning to adapt more proactive approaches, particularly through the implementation of anticipatory action. As climate-related hazards intensify, cases of complex displacement are likely to become more frequent (K. Peters and Dupar 2020; K. Peters et al. 2020). It is becoming pressing to understand the potential of anticipatory actions in addressing overlapping crises (Jaime et al. 2024; Chaves-Gonzalez et al. 2022). To the best of our knowledge, no complex displacement case in the Philippines has coincided with the implementation of anticipatory action. Therefore, while the primary focus of this comparative analysis is on differences in data reporting, Paeng also offers a useful contrast to illustrate the evolution from a reactive response during Vinta to a more proactive approach in Paeng, where the system was equipped – at least in theory – with tools to anticipate and act before impact. With that, we explore how pre-emptive humanitarian interventions can minimise disaster impacts during overlapping crises.

Table 4.1: Summary of selected case studies

Criteria	Case 1: Marawi Siege and Severe Tropical Storm Tembin (Vinta)	Case 2: Severe Tropical Storm Nalgae (Paeng)
Date of occurrence	Marawi Siege (May - October 2017) Vinta (December 2017)	October 2022
Displacement scenario	Complex displacement (Vinta struck two months after the end of the Marawi Siege, impacting the same conflict-affected area)	Single-event displacement
Hazard intensity (peak storm intensity within the PAR)[4]	120 km/h	100 km/h
Extent of damage	Vinta: 9,580 damaged houses	77,742 damaged houses
Displacement figures (cumulative displacement)	Marawi Siege: 527,704 displaced persons[5] Vinta: 436,586 displaced persons	3,030,198 displaced persons
Size of humanitarian response	Marawi Siege: 764,585,081 PHP (13,757,477 USD) Vinta: 48,096,500 PHP (865,419 USD)	592,592,581 PHP (10,662,749 USD)

Table 4.1 provides a summary of both case studies, while Figure 4.1 presents a contextual map illustrating the geographic extent of each event. We acknowledge that these two real-world cases may not have identical characteristics regarding reported housing damage, displacement numbers, and aid allocations. However, the differences between both cases are analytically relevant as they reflect variation in data availability, reporting systems, and institutional capacities at the time of occurrence. We consider Vinta and Paeng sufficiently comparable along key dimensions, and that the contrasts that emerge between the cases offer valuable insights into how the quality of data and reporting influence humanitarian responses.

[4] The duration of wind speeds is reported as 10-minute maximum sustained wind speeds.

[5] There are inconsistencies in the cumulative displacement numbers reported during the Marawi Siege. The figure cited here reflects the highest cumulative displacement number throughout the reporting period, extracted from the DSWD DROMIC Report #71 dated 20 July 2017.

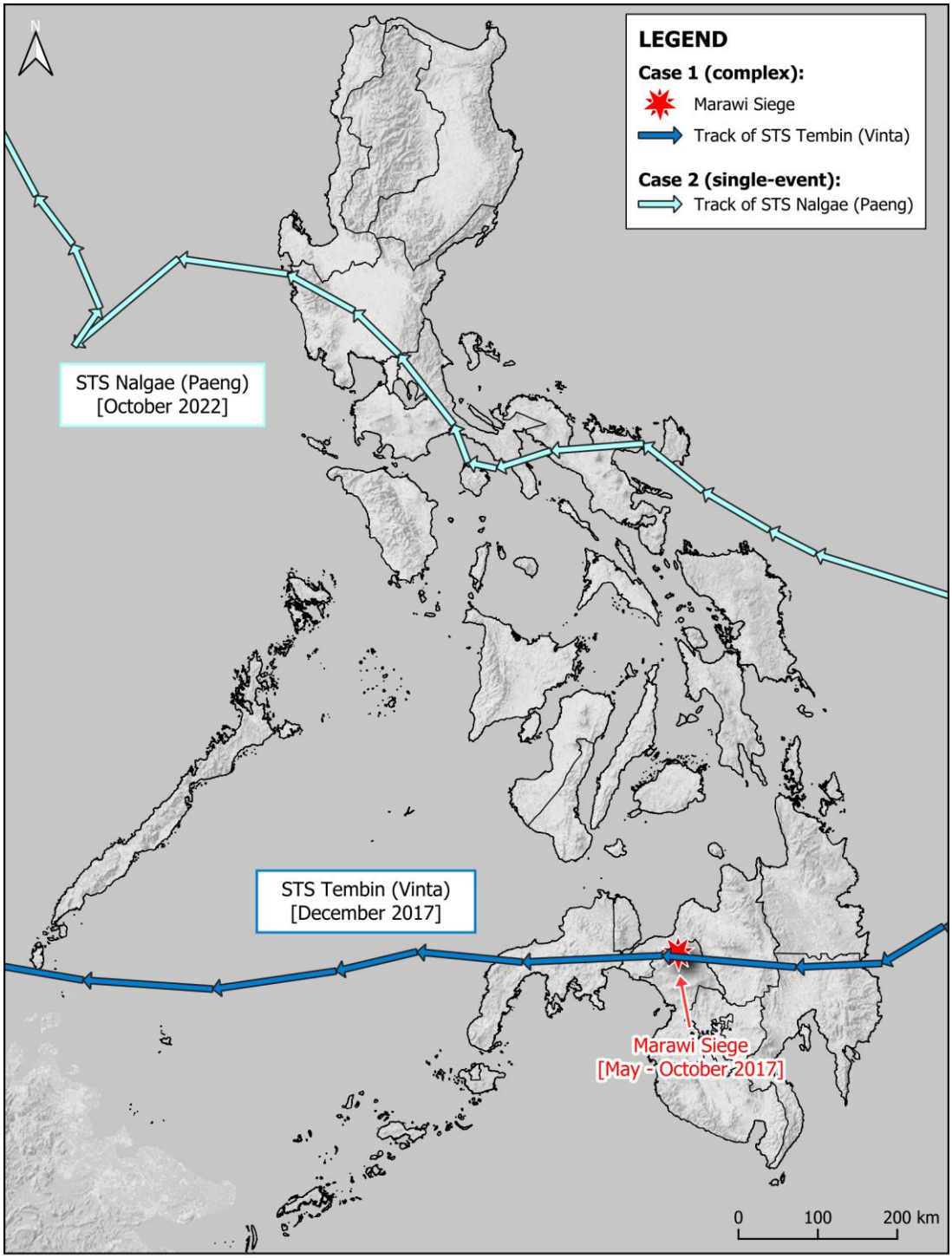

Figure 4.1: Geographical context of Case 1: Marawi Siege (May – Oct 2017) and Severe Tropical Storm Tembin (Vinta) (Dec 2017) and Case 2: Severe Tropical Storm Nalgae (Paeng) (Oct 2022)

4.2.2 Description of cases

4.2.2.1 Case 1: Marawi Siege and Severe Tropical Storm Tembin (Vinta)

On 23 May 2017, just three days before the beginning of Ramadan, conflict erupted in Marawi City, the capital of Lanao del Sur province in the southern Philippines (Dizon 2017; Maitem 2017). The Philippine military launched operations against local extremist groups, triggering intense fighting that

lasted for 5 months (*Amnesty International* 2017; Bueza 2017). By the time a ceasefire was declared on 23 October 2017, the once-vibrant city had transformed into a landscape of ruins, leaving a profound psychological toll on those being displaced, who were primarily ethnic and religious minorities (Wapano and Dagalangit-Pundato 2024; Veloso 2022).

DSWD reported that approximately half a million people were displaced during the Siege (DSWD 2017). Many people fled to neighbouring cities and municipalities in Northern Mindanao and the Autonomous Region of Muslim Mindanao (ARMM), now known as the Bangsamoro Autonomous Region of Muslim Mindanao (BARMM) (Veloso 2022). In 2023, an estimated 71% of the country's conflict-induced internally displaced persons (IDPs) still trace their displacement back to the 2017 conflict (IDMC 2024).

Just two months after the end of the siege, on 22 December 2017, Tropical Storm Tembin (Vinta) hit Mindanao (IFRC 2019b), affecting areas hosting the Marawi Siege IDPs (I. Fernandez 2019). The storm brought heavy rainfall that triggered widespread flooding and landslides (IFRC 2019b), damaging evacuation centres that were sheltering IDPs of the Marawi Siege (UNHCR 2017a). It is estimated that a total of 436,586 persons were displaced (DSWD 2018a) and a total of 9,580 houses were damaged by Severe Tropical Storm Tembin (Vinta) (DSWD 2018b). During the disaster response, the coordination and delivery of aid to consecutive crises were made complex given the presence of violence, as humanitarian organisations faced security-related challenges due to the presence of non-state armed groups during Tembin (Vinta) (IFRC 2019b; I. Fernandez 2019).

4.2.2.2 Case 2: Severe Tropical Storm Nalgae (Paeng)

On 28 October 2022, Severe Tropical Storm Nalgae (Paeng) made its first landfall in the Philippines (PAGASA 2022). The storm brought intense rains to the country, resulting in massive flooding and rain-induced landslides in Luzon, Visayas, and Mindanao (UNOCHA 2022a). At the height of the disaster, displacement figures peaked at over 1.1 million people, with cumulative numbers eventually recording over 3 million people (DSWD 2023).

Paeng occurred at a time when anticipatory action mechanisms were gaining traction in the Philippines. Since 2019, the country has served as a pilot site for FbF and EAPs for typhoons and floods, led by the Philippine Red Cross (PRC) (Anticipation Hub 2021). Informed by forecast thresholds, these systems are designed to activate funding and pre-planned actions such as evacuation of livestock, early harvesting of crops, and shelter strengthening, enabling early intervention ahead of a disaster's impact (ibid).

Two days prior to Paeng's entry into the PAR, the Philippines Department for Social Welfare and Development (DSWD) began releasing preparedness reports mapping predicted populations requiring assistance. Around the same time, early warning indicators also reached the threshold for the Philippine Red Cross (PRC) to activate the EAP for typhoons in several municipalities in the Aurora Province, including Casiguran, Dinangulan, Dilasag, and Dipaculao (IFRC 2023). PRC mobilised staff and volunteers to distribute and install shelter strengthening kits for 78 targeted households in the Municipality of Dipaculao.

On 31 October 2022, Paeng weakened and exited the Philippine Area of Responsibility (PAR) (DSWD 2023). Despite these early actions, the scale of disruption from Paeng was still significant across the country, damaging 77,742 houses (DSWD 2023). Paeng marked the first instance of EAP being triggered

and FbF being utilised in the country (IFRC 2023), seen as a crucial step in enhancing disaster preparedness.

4.2.3 Data collection

We drew on a combination of grey literature comprising reports produced by government and humanitarian organisations and semi-structured interviews to examine how displacement data was collected and reported in both cases. While often an overlooked source of knowledge in peer-reviewed studies, grey literature is a critical source in the humanitarian and non-profit sector, offering insights drawn from years of operational experience (Davidson 2017; Lawrence 2017). Meanwhile, semi-structured interviews with humanitarian practitioners were used to complement the analysis by helping interpret reported patterns and offering context from the ground (Adams 2015). The combination of these data sources was intended to capture both the quantitative dimensions of displacement reporting and the qualitative insights needed to contextualise these reporting practices. Figure 4.2 presents the methodological framework for the comparative analysis.

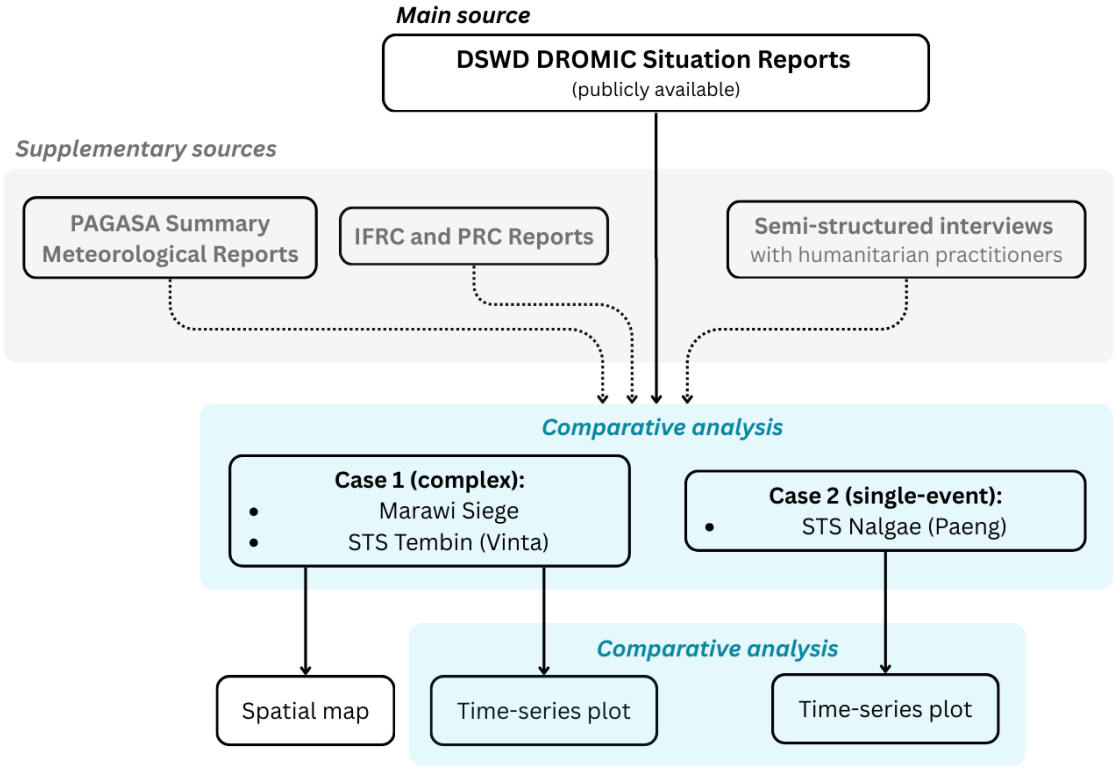

Figure 4.2: Methodological framework of comparative analysis

4.2.3.1 Displacement, meteorological, and response reporting data

We reviewed three sources of grey literature:

1) **DSWD DROMIC Situation Reports** served as the primary source of displacement data. These reports are published by the Philippine Department of Social Welfare and Development (DSWD) during disasters to track the evolving situation. They provide numbers of internally displaced persons (IDPs) both inside and outside evacuation centres, with figures typically disaggregated by

administrative boundaries (region, province, municipality). The reports are updated daily during the emergency phase and are publicly available.

2) **PAGASA Summary Meteorological Reports** were used as supplementary references to understand the meteorological timeline of Vinta and Paeng. These reports include detailed summaries of each storm's progression, documenting key moments in a storm's lifecycle, including its entry into the PAR, the timing and location of landfall(s), peak intensity within the PAR, and its eventual exit. Aligning these timelines with DROMIC reporting allowed us to assess the timing and responsiveness of reporting relative to the progression of the storms.
3) **IFRC and PRC Reports** provided supplementary information on the implementation of anticipatory action in the case of Paeng. As leading actors in disaster response in the Philippines, the International Federation of Red Cross and Red Crescent Societies (IFRC) and Philippine Red Cross (PRC) produced reports detailing early action protocols, shelter-based interventions, and the targeting of beneficiaries. These documents provided context for the operational rollout of anticipatory action.

4.2.3.2 Interview data

Participants were selected based on two criteria: (1) a previous or current affiliation with a humanitarian organisation, government body, or local university in the Philippines; and (2) a minimum of three years' experience in displacement response in the Philippines. Our selection included both international and local humanitarian organisations as well as academics from Mindanao-based universities who engaged in peacebuilding activities and provided valuable insights into the deeply rooted interplay of climate and conflict. We prioritised individuals with at least three years of experience as we considered this level of experience necessary for providing informed perspectives on displacement trends and organisational practices.

We recruited 32 participants from United Nations organisations (9), Red Cross societies (5), bilateral organisations (3), non-governmental organisations (11), national government (2), and local universities (2), consisting of approximately 60% women and 40% men. We ensured diversity of perspectives and experiences by including organisations of varying scales, size, and mandate. Participants were identified through staff directories on humanitarian organisation websites, LinkedIn searches, and snowball sampling. Recruitment concluded once we achieved balance across organisational types and reached thematic saturation, where no substantially new insights emerged (Guest et al. 2006). Interviews were conducted both in-person (14) and online (18). Before commencing, participants were provided with an information statement, and written consent was obtained.

During interviews, we explored participants' observations on the intersection of climate-induced and conflict-induced displacement, prompting questions such as *"Could you share a bit about your observations of seeing climate and conflict overlap and creating displacement?"* For those who indicated direct experience of responding during the Marawi Siege and Severe Tropical Storm Vinta, follow-up questions were asked for event-specific insights: *"For the case of Marawi Siege and Typhoon Vinta, can you tell me a bit more about what happened and what humanitarian organisations were doing at that time?"* We also posed reflective and forward-looking questions such as *"What do you think are the gaps that humanitarian organisations have yet to fill when they're addressing overlapping displacement crises?"* and *"Do you see any opportunities for responses to disaster displacement and conflict displacement to overlap and learn from the other?"*

Interviews were semi-structured and supplemented with follow-up 'why' or 'how' questions to explore participants' perspectives in greater depth (Adams 2015). This flexible format allowed participants to steer the conversation towards themes relevant to their experience. At the end of the interview, we asked closing remarks such as *"Is there anything else you want to comment on or any questions you have for us?"*, inviting them to share anything that came to mind beyond the scope of the interview questions.

4.2.4 Data analysis

4.2.4.1 Time-series and spatial analysis of displacement

To analyse patterns in displacement reporting, we constructed time-series plots that will allow us to observe reporting frequency, identify inconsistencies, and detect gaps in displacement data throughout the reporting period. We extracted key variables from the DROMIC reports for each event, including the report number, report release date, and the total number of IDPs (inside and outside evacuation centres). The data were extracted and processed using Python (see Appendix C-H) and plotted chronologically. For Case 1, the Marawi Siege and Vinta displacement figures were plotted on a unified timeline to examine how reporting practices responded to overlapping conflict and climate events. This allowed for identifying potential gaps, delays, or discontinuities in reporting during concurrent displacement. For Case 2, a separate timeline was created for Severe Tropical Storm Paeng using a matching temporal resolution to enable comparison with Vinta. To evaluate the responsiveness of humanitarian reporting relative to storm development, report dates of Vinta and Paeng were cross-referenced with meteorological information from respective PAGASA reports (PAGASA 2019; 2022). Specifically, we examined the timing of preparedness reports relative to the storm's entry into PAR, the continuity of situation reporting following landfall, and the document of returns relative to the landfall dates.

To examine spatial patterns in reporting for the complex displacement scenario (Case 1), we mapped province-level IDP figures for Vinta, with particular attention to how the preceding Marawi Siege may have influenced reporting in affected areas. We extracted cumulative IDP data from the DROMIC report dated 17 January 2018 – the final DROMIC report (2018a) containing cumulative figures by province. We combined IDP counts inside and outside evacuation centres to determine total displacement per province. As the provinces have varying population sizes, we normalised the IDP numbers by calculating the proportion of IDPs relative to each province's population, using the 2015 population census data from the Philippine Statistics Authority (2016) – the most recent census available prior to the 2017 events. These figures were then standardised and expressed as reported IDPs per 100,000 population, allowing for more meaningful comparison across regions.

Using Quantum Geographic Information System (QGIS), we mapped the calculated IDP proportions by provinces onto administrative boundaries (NAMRIA 2023) to assess spatial variation in displacement reporting. In addition, we overlaid the track position of Vinta, as recorded in the PAGASA report (2019), to contextualise the storm's trajectory relative to areas impacted by the Marawi Siege. This spatial mapping enabled the identification of reporting disparities during Vinta in post-conflict areas, offering insights into how reporting responded spatially to complex displacement scenarios.

4.2.4.2 Interview qualitative analysis

Interview transcripts were analysed thematically using NVivo, guided by a grounded theory approach that allowed patterns and concepts to emerge from the data (Noble and Mitchell 2016; Flick 2018). We created initial codes such as “complex displacement”, “climate vs conflict response”, and “examples of overlap responses” during the first round of coding. As new insights emerged, additional themes were created while existing codes were refined. This process was carried out iteratively, allowing the merging of overlapping codes and continuous adjustment to ensure thematic consistency across datasets (Nowell et al. 2017; King 2004).

4.2.4.3 Cross-case comparative analysis and synthesis

We employed cross-case synthesis as the primary strategy for our comparative analysis, following the analytic approach outlined by Yin (2009). We began by analysing each case independently to identify within-case patterns, drawing upon both time-series plots and qualitative interview data. Rather than relying on direct variable comparisons, we adopted a qualitative lens to synthesise findings and retain the holistic integrity of each case (Yin 2009). We examined each event’s reporting trajectory by analysing key dimensions such as the frequency and duration of reporting, the scale and resolution of displacement data, and the alignment of reporting timelines with meteorological benchmarks. These within-case analyses explored “how” displacement data was reported. Interview data were used to supplement some of the “why” questions and provide contextual insights. After constructing a detailed narrative for each case, we then proceeded to cross-case comparison.

For the complex displacement scenario (Case 1), we also analysed how displacement was represented (or underrepresented) through time-series plots and a spatial map of displacement data. We considered how existing conflict, security issues, and institutional presence may have shaped the reporting process. These findings were then compared against the single-event displacement scenario (Case 2) to examine whether similar patterns were present. In Case 2, we focused on the role of anticipatory action, particularly how predictive data was reported and when preparedness reports were released. Comparing this with Case 1, which occurred five years earlier in the absence of anticipatory action, allowed us to explore how institutional preparedness and data practices may have evolved over time.

Following Yin’s (2009) guidance, we sought to “think upward conceptually” by examining broader themes emerging from the synthesis. This included identifying divergent patterns, such as how reporting practices differ in complex versus single-event displacement scenarios, and how humanitarian responses evolve from reactive to proactive approaches. This cross-case synthesis enabled a more grounded and forward-looking discussion on how humanitarian systems can be adapted to better anticipate and respond to the realities of complex displacement.

4.3 Findings

This section presents the results from our comparative analysis. We arranged our findings according to four descriptive themes: reporting structure and consistency; spatial variation of disaster IDP data in conflict-impacted areas; visibility of conflict IDPs amid political dynamics; and the evolution from reactive to predictive data reporting.

4.3.1 A shift from patchy to structured reporting

We compare how displacement was reported across our two cases, revealing important shifts and inconsistencies in how displacement was recorded. Figure 4.3 presents the number of IDPs triggered by Case 1 – Marawi Siege and Severe Tropical Storm Tembin (Vinta) and Case 2 – Severe Tropical Storm Nalgae (Paeng), based on data extracted from DROMIC reports. Each data point represents the total number of IDPs at the time of reporting.

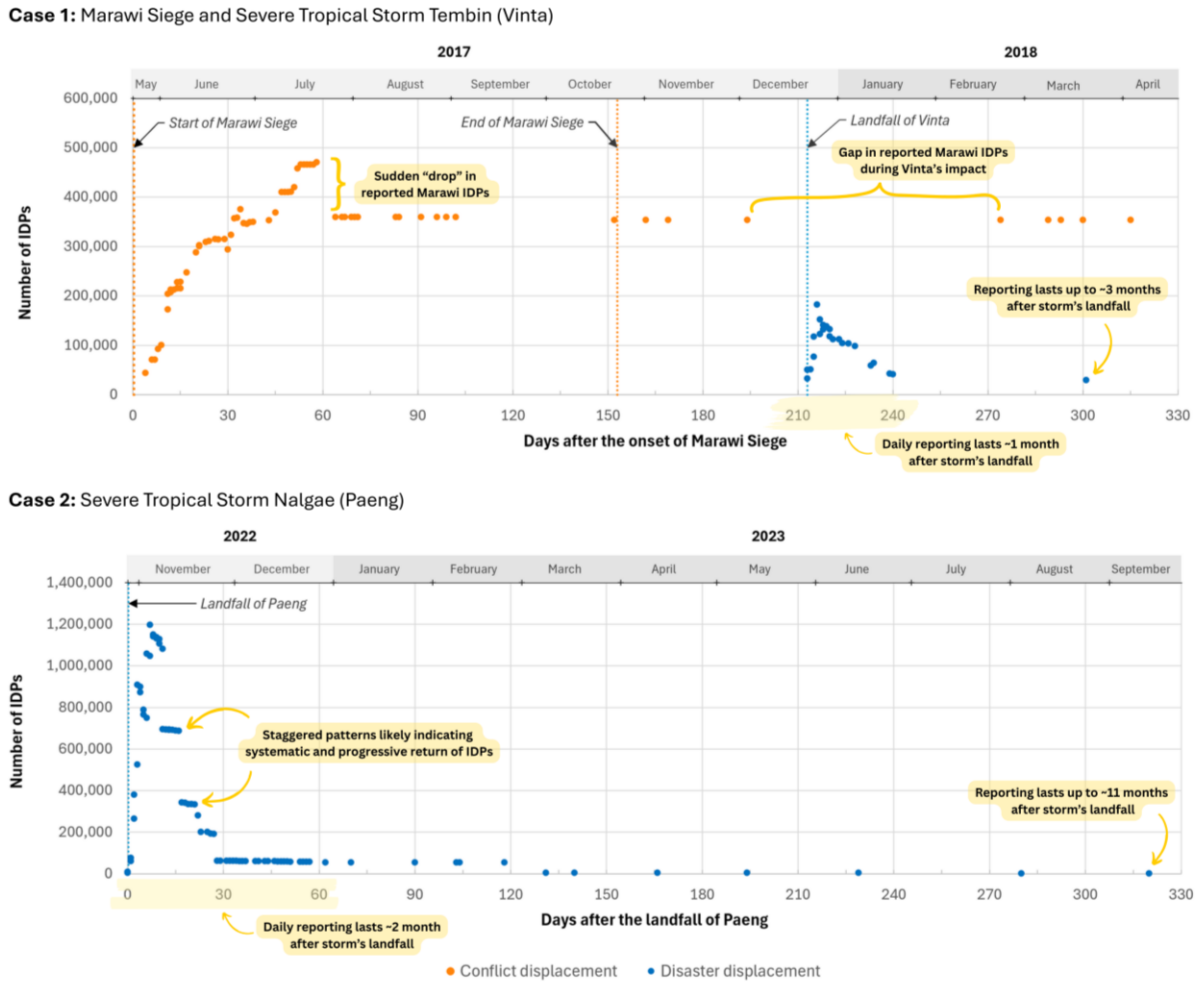

Figure 4.3: Comparison of displacement data from Case 1: Marawi Siege (May – Oct 2017) and Severe Tropical Storm Tembin (Vinta) (Dec 2017) and Case 2: Severe Tropical Storm Nalgae (Paeng) (Oct 2022)

DSWD began releasing preparedness reports for Vinta on 20 December 2017, coinciding with the storm's entry into the PAR. Regular situation reports followed on 22 December 2017, the day Vinta made landfall. Daily reports were issued for approximately one month following the storm's landfall, after which updates became more sporadic, continuing intermittently for up to three months. Reporting throughout the Vinta event was marked by inconsistencies in geographical scale and resolution. While most of the reports included municipality-level data for IDPs outside evacuation centres, IDPs residing within evacuation centres were only recorded at the provincial level. Some reports presented only region-level figures, making it challenging to construct a detailed and consistent picture of displacement across affected areas.

For the case of Paeng, DSWD started releasing preparedness reports on 24 October 2022, two days before the Severe Tropical Storm entered the PAR. Regular situation reports containing displacement figures followed on 26 October 2022, coinciding with the storm's entry into PAR two days before its first landfall. This marked an earlier reporting timeline compared to Vinta. Reporting for Paeng was also both more frequent and consistent. Daily reports continued for nearly two months following the storm's landfall, with additional updates extending up to eleven months afterwards, providing a longer temporal window to monitor protracted displacement. Reporting for Paeng was also notably more consistent than Vinta, with IDPs both inside and outside evacuation centres reported down to the municipal level in nearly every report, providing a more granular picture of the evolving displacement situation.

When reviewing the documentation of IDP returns, Vinta's reporting revealed limited and uneven documentation of returns. The earliest indication of returns was reported in the Caraga Region, citing *"the remaining families who are still staying inside evacuation centres will probably return to their respective houses by today December 24, 2017".* A more definitive return estimate was officially reported on 26 December 2017 (four days after landfall) in Region XI: *"More and more families have exited the Evacuation Centers as Internally Displaced families from the Municipalities of Montevista, Nabunturan, Pantukan, Compostela, and Mabini of Compostela Valley Province have returned to their homes".* At the end of Vinta's reporting period, approximately 16% of the peak recorded IDPs were still displaced, suggesting a notable degree of protracted displacement.

In the case of Paeng, there were evident staggered patterns in the displacement figures following the peak of IDPs recorded on 4 November 2022, likely reflecting the systematic and progressive return of displaced populations. Unlike Vinta, the Paeng reports were more explicit in tracking returns, with the first instance documented on 2 November 2022 (five days after the first landfall) in Region VIII (Eastern Visayas), specifically among those who had been pre-emptively evacuated. This return was recorded even before peak displacement figures appeared in the reports. By the end of the reporting period, less than 1% of IDPs (relative to the peak recorded) remain displaced.

When comparing protracted displacement at the end of the reporting period, it is important to note that Paeng had a much longer reporting period (eleven months) than Vinta (three months), limiting the validity of a direct, like-for-like comparison. However, examining both events at the three-month mark after landfall still reveals notable differences, with approximately 16% of Vinta's peak IDP population remaining displaced, compared to only 5% of Paeng's peak IDP population at the same stage of reporting. This contrast suggests important differences in return trajectories and long-term displacement outcomes between the two events. From a data perspective, Paeng appears to have been supported by a more structured reporting system overall – one that may not only have reflected, but also contributed to, a more coordinated response. The combination of a more extended reporting period, consistent high-frequency updates, and more granular data resolution likely facilitated more accurate monitoring of displacement patterns. Although multiple exogenous factors may have influenced the lower rate of protracted displacement, improved data systems may have contributed to a more informed and coordinated response in the case of Paeng.

4.3.2 Disaster displacement data less captured in post-conflict areas

Spatial analysis of province-level IDP figures for Vinta revealed patterns potentially influenced by the preceding Marawi Siege. Figure 4.4 presents the reported IDPs per 100,000 population during Vinta,

based on cumulative IDP data from the DROMIC report as of 17 January 2018. The figures include IDPs both inside and outside evacuation centres and are normalised against respective provincial population data from the 2015 census data (Philippine Statistics Authority 2016). The map also traces the track of Vinta and highlights geographical variation in displacement reporting across the southern Philippines.

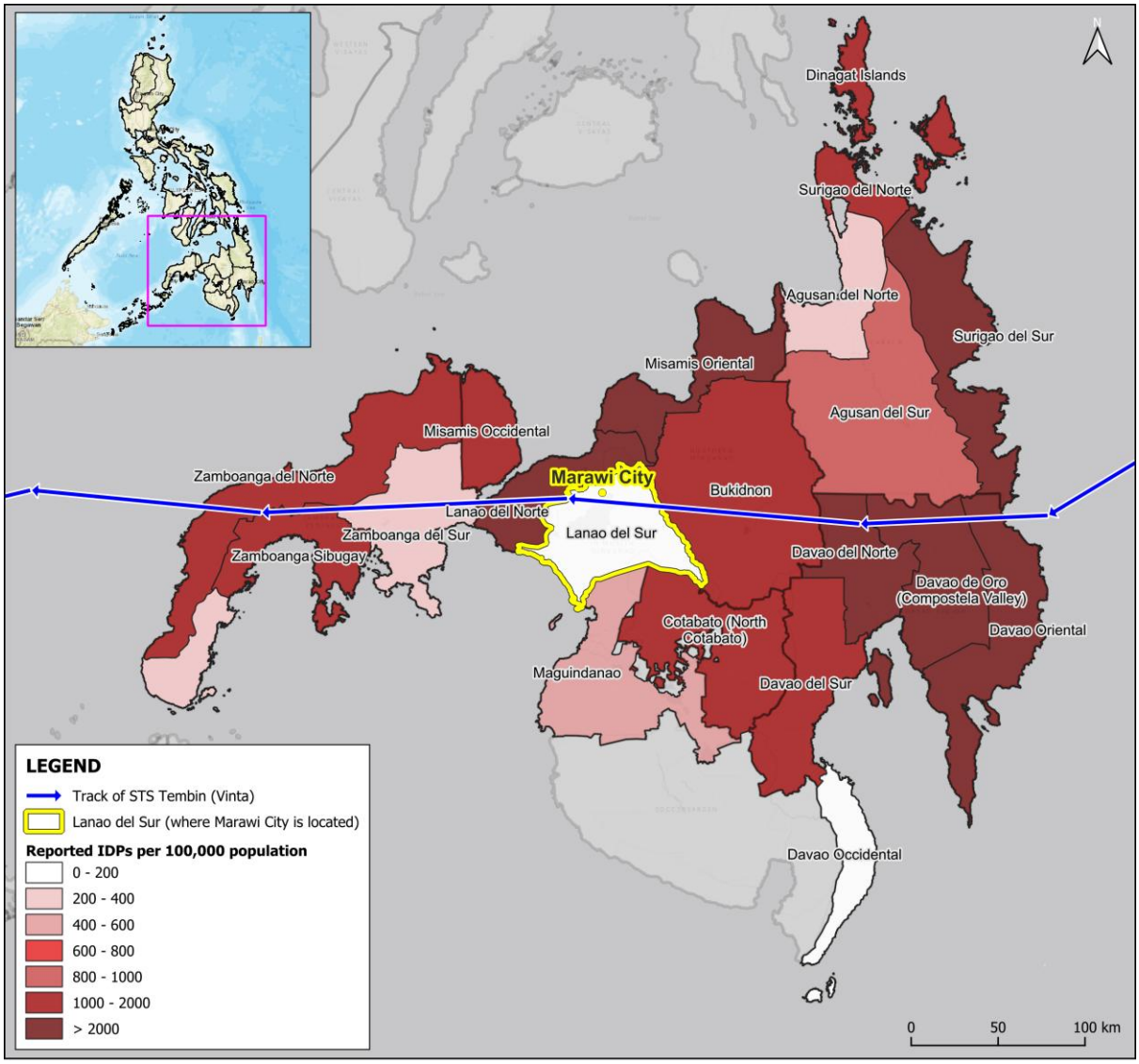

Figure 4.4: Reported IDPs per 100,000 population across provinces during Severe Tropical Storm Tembin (Vinta) (Dec 2017) [6]

The province of Lanao del Sur (depicted in a yellow outline polygon in Figure 4.4) – where the Marawi Siege took place just months earlier – lay directly in the path of Vinta. As one local grassroots

[6] This map displays displacement data for the island of Mindanao only. IDP figures reflect cumulative totals reported by DSWD DROMIC as of 17 January 2018. Population data are based on the 2015 Philippine census published by the Philippine Statistic Authority (PSA). Administrative boundaries were downloaded from the Humanitarian Data Exchange. The map uses the ESRI Gray (light) basemap sourced from ArcGIS Online.

interviewee recalled: *"[Marawi IDPs] were also displaced by the typhoons, particularly those IDPs who stayed in the municipalities of Madalum and Tugaya. These are municipalities in Lanao del Sur."* Despite this direct exposure, Lanao del Sur recorded the lowest reported displacement rate throughout the region, with only 98 IDPs per 100,000 population. This figure stands in sharp contrast to the reported displacement rate in adjacent provinces – Lanao del Norte (6,564), Misamis Oriental (2,149), and Bukidnon (1,407). The highest rate was observed in Davao del Norte, with 12,261 IDPs per 100,000 people.

A broader examination across the southern Philippines also shows both Lanao del Sur and Maguindanao del Norte – both part of BARMM (known as ARMM) – reported lower displacement rates compared to directly adjacent provinces that experienced similar levels of storm impact. These discrepancies suggest potential underreporting in these post-conflict areas, raising questions about the visibility of displaced communities in areas where institutional capacity, access, and security may influence data collection and reporting during disasters. Our interviews with humanitarian practitioners revealed anecdotal accounts of Marawi IDPs who were affected by Vinta, though the overlapping complexity of their experiences were not captured: *"In December 2017, there was also Vinta typhoon, where the displaced Marawi residents were also affected, were also displaced at the time of their displacement."* According to a local grassroot worker, humanitarian access also played a role in shaping who was seen and supported: *"During the Marawi Siege then followed by Typhoon Vinta … those who took refuge in more interior municipalities and that are also conflict areas, we actually tried to reach out to those as they don't easily receive support and assistance."* With data often being used to guide aid distribution, underreporting can have significant implications, resulting in humanitarian responses being deprioritised in areas that are already vulnerable and underserved.

4.3.3 Who counts as displaced and when?

Before the arrival of Severe Tropical Storm Vinta in December 2017, there was an existing wave of displacement from the Marawi Siege, which started seven months prior to the storm. Anomalies in the reporting of Marawi IDPs prompted closer examination of how IDP figures evolved, especially during the period of overlap with Vinta, revealing potential gaps in how concurrent displacement events are captured in the data.

There was a sudden "drop" in the reported number of Marawi IDPs around July 2017 (approximately two months after the onset of the conflict event), after which the displacement figures remained stagnant. This "decline" stands out given that the Siege continued through to October 2017. This drop coincided with a shift in the collection of displacement data using the Disaster Assistance Family Access Cards (DAFAC) issued by the DSWD, which is the primary instrument used by the Philippine government for identifying and tracking beneficiaries and services after disasters (I. Fernandez 2019). While the DAFAC system is intended to standardise beneficiary tracking, access to such mechanisms is often influenced by local political dynamics. As a participant from an international organisation observed:

> *"In the Philippines … political parties or patronage politics is highly practised. If you transfer from one village to another, this host village will not necessarily provide support – sustained support, especially if you are not a registered voter in that community because you belong to the community where you previously lived. That's why you need to go back for you to avail services … those displaced families that have relocated in that municipality*

will not be provided any support from the municipality, but they'll receive support from the national government, from the Department of Social Welfare and Development."

A local grassroot practitioner reflected: *"Unfortunately in the Philippine context, even relief goods have political colour … Sometimes the basis of release of these goods are on the basis of whether or not that is their political ally or that is their supporters."* As DROMIC reports prior to the sudden "drop" made no mention of DAFAC, the adoption of this system likely excluded some IDP populations from the remaining reporting period. These observations are also echoed in a report by UNOCHA (2017), which cited reports of displaced people excluded from the DAFAC registration process, further validating the risk of politically influenced exclusion in data collection.

There was also a noticeable gap in the reporting of Marawi IDPs during Vinta's impact from December 2017 to January 2018. During this time, Marawi IDP data effectively halted as reporting focused on displacement associated with Vinta. This reflects the current single-event reporting system, which tends to isolate and attribute IDPs according to specific trigger events. Although the Marawi IDPs remained displaced, attention had been shifted to the more recent displacement event. In effect, the occurrence of the second crisis rendered the earlier displacement invisible within the data.

It is also plausible that some Marawi IDPs were "reclassified" under the Vinta event, given that displacement data is often linked to the most recent trigger, noted by a practitioner: *"The data that are made available, usually it's really the recent triggers that this displacement is being linked to."* This labelling practice, combined with the traditionally disaggregated nature of displacement data end up disregarding the lingering impacts of previous conflict. It provides little insight into whether the reported figures include individuals already displaced by prior crises. As a UN staff member pointed out, despite their local experience indicating that the same populations are repeatedly affected, the lack of clear data makes it difficult to confirm: *"What we haven't received yet is the breakdown of data [showing] that these are the same areas that are affected by flooding that they reported are also affected by conflict. It's really a challenge … because it's the typical cycle, it's a repeated displacement for Maguindanao and some parts of North Cotabato … It's like an assumption because we would see the same areas, but we haven't really had the clarity yet to identify these are the same people."*

As a result, IDPs' compounded vulnerabilities and previous conflict experiences were neglected, leading to gaps in responses and a failure to fully address the complex realities of the IDPs' situation. An international organisation staff member stressed the importance of identifying overlapping displacement events to corroborate what they had witnessed firsthand: *"It would be a very strategic study if we're able to identify overlapping emergencies conflict and natural disaster, and we can actually do that in areas plagued with conflict like in the BARMM region of Mindanao. Nobody has done that. But we're aware that it's happening, especially if the conflict happens on the Monsoon season, that's already an indicator that people will be displaced due to overlapping emergencies."*

As revealed in our interviews, data collection practices are further influenced by a broader tendency within the Philippines' humanitarian system to prioritise climate-induced disasters over conflict events. A local respondent in Mindanao reflected, *"Usually the humanitarian organisations – the way I'm seeing it in the Philippines – are more used to responses to humanitarian crises that are [resulting from] natural calamities, but not really on conflict."* This tendency is also reflected in funding preferences during overlapping crises, noted by another interviewee from an international organisation, *"When [events] overlap, [the way displacement is labelled] is often related to the disaster*

… [As] humanitarian organisations, when we label it based on the disaster, we can appeal for more support. It's one of the nuances." This data collection practice appears to have been shaped by funding and administrative considerations, which may distort the data informing humanitarian decisions.

4.3.4 Data evolving from reactive to predictive

One of the most notable improvements to Paeng's response was the implementation of anticipatory action before the storm. Preparedness reports for Paeng included a section on "predictive analysis for humanitarian response", a component absent from Vinta's reporting. This analysis identified regions expected to receive at least 100mm of accumulated rainfall over the next 72 hours. The analysis also includes the estimated population exposed and the number of family food packs required in advance of the impact.

Paeng also marked one of the pilot cases of anticipatory action implementation for shelter-based early interventions. Based on forecast monitoring of Paeng's projected path, anticipated shelter damage, and available lead time, PRC mobilised staff and volunteers to distribute and install shelter strengthening kits in the Municipality of Dipaculao on 29 October 2022 (a few hours before the storm's nearest landfall in the area). Across two barangays in Dipaculao, 78 households – which were pre-identified as high-risk – received and installed the kits, with post-disaster survey indicating that the reinforced shelters withstood the storm conditions effectively and helped mitigate the impacts of Paeng's strong winds (IFRC 2023). As noted, the implementation of the EAP in Dipaculao marked a significant milestone for the Philippines, being the first instance of EAP being triggered and FbF being utilised in the country. While the number of households reached was small compared to the overall affected population, the success of this early intervention demonstrated the potential of forecast-based action in reducing disaster impacts.

While both Vinta and Paeng involved government standby funds and pre-positioned relief stockpiles as part of their response measures, these actions are generally considered part of the traditional disaster risk management rather than anticipatory action. In the case of Vinta, response measures were still largely reactive, based on the existing pre-positioning of resources, and lacked forward-looking components. Paeng was differentiated by the emergence of forecast-informed early action, which consisted of interventions that were explicitly triggered by pre-defined thresholds and linked to specific early response activities. The shift toward more proactive humanitarian action reflects a reporting approach where data is not only used to document what has occurred, but to inform and trigger early interventions before impacts escalate. Essentially, our comparison of Vinta and Paeng illustrates a shift in data from being a static record of past events to a dynamic tool that can shape anticipatory decision-making.

4.4 Discussion

Building on the findings from our comparative analysis, we present concrete recommendations for reforming humanitarian data systems to better address complex displacement crises. We also urge a rethinking of forecast-based models and triggers within anticipatory action to fully capture and respond to these overlapping events.

4.4.1 Integrating disaster-conflict displacement data

Overlaying data from Marawi and Vinta reveals a broader trend within humanitarian data systems: the heavy reliance on event-based frameworks and administrative considerations that are often shaped by political dynamics, such as eligibility requirements tied to voter registration or local government recognition. Our findings on the sudden "drop" in IDP numbers align with Fernandez's (2019) study, which drew on interviews with individuals displaced by both the Marawi Siege and Vinta. This earlier work found that not all IDPs had access to DAFAC documentation, including one case of an IDP who, after fleeing Marawi and being displaced again by Vinta in Madalum, was automatically denied a DAFAC card due to not being a registered voter in the host municipality. National displacement reporting by DSWD typically relies on data submitted by barangay and municipal offices, which are not free from biases in who is included and excluded (I. Fernandez 2019). The reporting gap due to the shift to DAFAC-based registration, as well as spatial gap in Vinta IDP numbers in the Province of Lanao del Sur where the Marawi Siege took place (presented in Figure 4.4) reflects how reporting protocols, funding preferences, and political dynamics determine what gets recorded and consequently, who is recognised as displaced. As Crisp (1999) argues in his analysis of refugee statistics, data reporting in humanitarian contexts is rarely neutral; it is entangled with politics, institutional mandates, and strategic priorities. Other sources have also pointed to how political influences resulted in data suppression or underreporting of the recent COVID-19 disease (Hedges and Lasco 2021; Bernadas and Ilagan 2020). Similarly, displacement and peacebuilding responses in BARMM have been shown to embed patterns of inclusion and exclusion with marginalised cultural groups facing social stigma falling through institutional and assistance gaps (M. C. Fernandez et al. 2022).

The siloed way of documenting displacement – separating data into either conflict or disaster-induced events – directly influences how displacement is documented, interpreted, and ultimately understood. As a result, we find in our analysis that individuals who experience overlapping displacement are at risk of being underreported. These issues extend beyond the technical processes of data collection but are rather rooted in epistemic practices that influence the way we construct and understand complex displacement. This fragmentation has serious practical implications for how the humanitarian sector makes decisions.

To address this, the humanitarian system must move toward a more holistic displacement tracking framework to capture displacement across multiple conflict-related and climate-related triggers over extended timeframes. This is not merely a matter of improving data reporting. Instead, it requires a fundamental shift in how displacement is conceptualised and documented. While Paeng was relatively well documented, its reporting still treated the event as a standalone disaster. For instance, the BARMM was also heavily impacted by Paeng in October 2022 (OCHA 2022), yet reports made no reference to the region's existing population of over 80,000 protractedly displaced individuals from the Marawi Siege (UNHCR Philippines 2022).

The humanitarian system must also move beyond static, one-time counts of displaced populations. For instance, if during Vinta, the data had been distinguished between individuals newly displaced by the storm and those already displaced by the Marawi conflict, the resulting figures would have provided a more representative picture of displacement. During our interviews, several participants noted that populations affected by both events received limited support. More broadly, one participant reflected on the recurring challenge of overlapping disasters in the Philippines, and how the preceding event

may be forgotten: *"Because of the multiple disasters, sometimes we forget the previous disasters. So the focus will be moved to the bigger one until such time these people will just recover on their own."*

There is a need for dynamic data systems that can document initial displacement, secondary or overlapping displacement, and long-term, protracted cases, all within the same reporting cycle. This could have supported more equitable resource allocation and ensured those experiencing complex, overlapping displacement were not overlooked. One practical starting point is to integrate questions on previous displacement experiences into existing rapid needs assessment and recovery plans. Rather than introducing new data collection mechanisms, this information can be gathered alongside current processes. At present, the DROMIC produces separate situation reports for disaster-induced and conflict-induced displacement; the next step should be to report and cross-reference other events occurring in the same area that may have compounded community vulnerability. Implementing such a holistic data collection system would require standardised protocols across government and humanitarian actors. Regular training for field staff on recording multiple displacement triggers is also needed, as training has often been delivered in a disaggregated manner according to organisational mandate. Data collection in insecure or hard-to-reach areas require mobile data teams, remote sensing tools, or partnerships with grassroot organisations to help overcome access gaps. Finally, data gathered during initial rapid assessment should be complemented by follow-up rounds to capture evolving situations and potential secondary displacement.

4.4.2 Rethinking forecast-based models and triggers

Anticipatory action has gained increasing traction in recent years (ALNAP 2022), allowing humanitarian organisations to act before a disaster strikes based on forecasts or predictive analysis (UNOCHA 2024b; Chaves-Gonzalez et al. 2022). Forecast-based thresholds such as projected wind speed, accumulated rainfall over a 72-hour period, or anticipated percentage of housing damage typically serve as the standard triggers for early action. However, applying uniform thresholds across all areas assumes that communities share similar levels of exposure and vulnerability when, in reality, the impacts of disasters are unevenly distributed (Choong et al. 2025). Communities still recovering from previous disasters, or those experiencing protracted displacement, may be far more susceptible to the same hazard than populations encountering a single event in isolation (de Ruiter and van Loon 2022).

Moreover, while anticipatory action's forward-looking nature aims to reduce disaster impacts pre-emptively, its forecast models and implementation are still rooted in precedent. Anticipatory action models are typically developed using historical datasets such as climate, agro-meteorological, vulnerability, exposure, damage or loss data to identify the timing, location, and severity of previous shocks (Chaves-Gonzalez et al. 2022). When these data are unavailable, incomplete, or lacks sufficient granularity, it becomes challenging to determine what qualifies as an "out-of-the-ordinary" event and the threshold for action (OCHA Centre for Humanitarian Data 2022). This is especially apparent in countries affected by conflict, as data gaps such as limited observational weather stations undermine the accuracy of historical weather records and the ability to forecast future events, making the implementation of anticipatory action challenging (Easton-Calabria 2025; Schultz and Mankin 2019). At the implementation level, the latest framework for tropical cyclones in the Philippines states that the anticipatory framework "focuses on the areas frequently affected regions of Bicol, Eastern Visayas and Caraga" (UNOCHA 2024a).

While this approach provides a practical basis for targeting resources, it also means that anticipatory initiatives are biased towards areas that have been previously impacted and have sufficient historical data. As a result, new and emerging hotspots may be overlooked, particularly as climate change introduces greater unpredictability in weather patterns (IPCC 2023). Several participants reflected on this growing challenge in our interviews, with one noting: *"It has become increasingly difficult because of climate change primarily because it does not affect the same areas anymore as it previously did."* For instance, Typhoon Rai (Odette) in 2021 was frequently cited by participants as an example of how climate change is intensifying weather patterns. As reported in UNOCHA's Humanitarian Needs and Priorities Plan (2022b), "contrary to predictions, Rai intensified from a tropical storm to a super typhoon within hours before making landfall." Furthermore, "while storms typically make landfall in the southern parts of Luzon or the eastern part of the Visayas, Rai (Odette) struck regions further south, which do not typically experience the brunt of typhoons."

A further blind spot lies in the absence of displacement data within forecast models. To date, there has been limited attention within anticipatory initiatives to address people who have already been displaced (Easton-Calabria et al. 2024). Current anticipatory action triggers in the Philippines do not account for recent or ongoing displacement, nor integrate spatial conflict footprints such as areas affected by past or ongoing armed violence or insecurity. Yet these factors are critical in anticipating where humanitarian needs are crucial. Overlaying displacement history and conflict footprints with hazard forecasts could enable more nuanced triggering mechanisms. In contexts where populations are already displaced, aid could be scaled earlier or targeted more precisely. With this, the system is not only responding to forecasted hazard intensity, but also in recognition of compounded vulnerability (Schillinger et al. 2025; Start Network 2023).

4.4.3 Limitations

We recognise several limitations in our analysis. Firstly, we rely on displacement data directly from DROMIC reports. However, reporting during the emergency and response phase often experiences delays and regional inconsistencies, so both displacement and return data may lag or vary in quality across provinces and municipalities. Secondly, our study is grounded primarily in documented data and reports, which means we capture only one dimension of humanitarian response. Exogenous factors such as institutional capacity, funding availability, and media attention likely influenced reporting practices but lie beyond our data-centric scope. Furthermore, there is a five-year gap between Vinta (2017) and Paeng (2022), during which broader humanitarian system reforms and technological advances may account for some differences we observe, irrespective of the overlapping occurrence of disaster and conflict events. Finally, our reliance on grey literature and interviews may introduce biases based on source availability and participant recall of their memory. Despite these constraints, the patterns we identify, such as reporting frequency and resolution, spatial underrepresentation, and the emergence of anticipatory data, still offer a reliable basis for recommendations to strengthen reporting in complex displacement contexts.

4.5 Conclusion

Despite general acknowledgement and anecdotal evidence of poor data quality in overlapping crises, the communities excluded and the mechanisms driving humanitarian reporting gaps remain underexplored. In this study, we assess the reporting discrepancies across two case studies in the

Philippines to identify current limitations and highlight recommendations for reforming data practices for complex displacement contexts where disaster and conflict events overlap. We conducted a comparative case study to analyse the difference in data reporting between a complex displacement case (involving both disaster and conflict) and single-event displacement case (involving disaster only). We examined the overlapping incidences of the Marawi Siege and Severe Tropical Storm Tembin (Vinta) in 2017 as a complex displacement case (Case 1) and Severe Tropical Storm Nalgae (Paeng) in 2022 as a single-event displacement case (Case 2) that also incorporated anticipatory action measures.

Our analysis of these two case studies offers clear empirical evidence of exclusion during the reporting of complex displacement and what is needed to build a more holistic data reporting system. We demonstrate how reporting protocols, funding preferences, and political dynamics shape what gets recorded and, consequently, who is recognised as displaced. We highlight that capturing displacement data is not only an accounting exercise – it constructs the way displacement is understood. Those who are captured in the data are often those who fall within the institutional frameworks of visibility and recognition, while others remain undocumented and overlooked. We urge the humanitarian system to move towards a unified tracking framework that captures across overlapping triggers and documents displacement resulting from concurrent disaster and conflict. The system must also evolve beyond one-off counts of displaced populations and account for nuanced, repeated displacement. Through time-series plots, we visualised differences in the frequency, scale, and granularity of reporting. Through spatial mapping, we revealed how displacement data in conflict-affected areas is unevenly documented. We encourage further research that applies similar analytical approaches to primary humanitarian data, with the aim of uncovering reporting gaps and informing improvements in how complex displacement is recorded and documented.

In addition to analysing past displacement data, we also adopt a forward-looking lens by examining how anticipatory action could address complex overlapping crises. We see an enormous potential in adapting forecast-based models and triggers in anticipatory action to incorporate vulnerability metrics rather than uniform thresholds and integrate conflict and displacement histories. Perhaps in contexts where populations are already displaced, aid could be scaled earlier or targeted more precisely. With this, the system is not only responding to forecasted hazard intensity, but also in recognition of compounded vulnerability (Schillinger et al. 2025; Start Network 2023). Anticipatory action has no doubt brought notable improvements in acting pre-emptively ahead of disasters. Building on its current momentum, the next phase must better reflect the layered realities of communities experiencing complex crises resulting from climate change, disasters, and conflict.

Chapter 5: Conclusion

The overarching aim of my thesis was to advance knowledge of the current gaps within the humanitarian system in addressing complex displacement driven by the converging influences of climate and conflict. In this Conclusion chapter, I first discuss the theoretical contributions of my research, reflecting on how the preceding chapters collectively advance existing scholarship. This is followed by practical implications of this study for various humanitarian actors, including government and humanitarian organisations. Finally, I highlight future directions that can build on this study and prior research in the field.

In Chapter 2, I conducted a narrative literature review to explore existing scholarship on climate change, disasters, conflict, and displacement. By examining studies exploring the relationship between climate change, disaster, and conflict, I conceptually mapped these multi-directional relationships as they contribute to the complexity of current displacement landscapes. Furthermore, I examined how humanitarian organisations frame diverse displacement contexts. My review revealed two dichotomies: one between climate-related and conflict-related triggers, and another between displacement drivers and triggers.

In Chapter 3, through 32 semi-structured interviews with humanitarian practitioners in the Philippines, I identified four classifications used by organisations in defining displacement contexts: (1) trigger-based classification (the event preceding displacement); (2) temporal classification (the duration of displacement); (3) spatial classification (geographic distribution of displaced population); and (4) precedent-based classification (lessons from the past). I also identified four major factors that influence whether and how organisations respond – government requests, operational presence, security, and logistics. These factors interact to form a complex web of considerations that shape the target and extent of humanitarian responses in complex displacement scenarios.

In Chapter 4, I conducted a comparative case study analysis to compare the differences in data reporting between a complex displacement case (involving both disaster and conflict) and single-event displacement case (involving disaster only). I examined the overlapping incidences of the Marawi Siege and Severe Tropical Storm Tembin (Vinta) in 2017 as a complex displacement case (Case 1) and Severe Tropical Storm Nalgae (Paeng) in 2022 as a single-event displacement case (Case 2). Through time-series and spatial analysis as well as cross-case synthesis, I found that Paeng (Case 2) had a more detailed, frequent, and granular reporting than Vinta (Case 1). Moreover, Vinta revealed temporal and spatial gaps – a shift to DAFAC-based registration and single-event reporting system influenced who was recognised as displaced. Lastly, although both events involved pre-positioned relief and standby funds, I found that Paeng stood out for incorporating forecast-based early actions. This illustrates a shift in data being a static record of past events to a dynamic tool for informing early response. Building on this, I propose ways to rethink forecast-based models and triggers to better account for complex crises.

5.1 Theoretical contributions

My thesis has addressed current knowledge gaps in understanding how the humanitarian system responds to the growing complexity of displacement. Through my narrative literature review, I draw together traditionally disparate literature on climate change, disaster, conflict, displacement, and

humanitarian responses. While previous syntheses focus on one or two of these topics in isolation (Abel et al. 2019; K. Peters et al. 2021), I offer an integrated conceptual framework that collectively illustrates the multi-directional relationships among climate change, disaster, and conflict. This framework reflects the current state of knowledge while also highlighting areas of literature where these intersections are less understood. One of the core theoretical contributions of my thesis is the reconceptualisation of the term "complex displacement". While humanitarian discourse increasingly recognises the growing complexity of displacement contexts, there remains no widely adopted term to articulate this complexity, making it difficult to reflect in policy and response. The term "complex displacement" has been by scholars in various contexts, but it remains loosely defined. "Complex displacement", as reconceptualised in this thesis, offers a vocabulary and conceptual starting point for referring to and understanding the compounding nature of displacement. This framing captures the nuanced and intersecting factors that drive displacement, while recognising the compounded challenges and needs of communities affected by complex crises. It challenges the siloed practice of categorising displacement and calls for a shift toward understanding overlapping displacement as a highly complex experience. On a broader level, this thesis argues that displacement should be analysed within its specific situational context, drawing parallels to Wisner's (2004; 2020) conceptualisation of situational vulnerabilities.

By examining how humanitarian organisations frame and label diverse displacement contexts, I reveal two prevailing tendencies: to distinguish climate-related and conflict-related triggers separately, and to treat displacement triggers and drivers separately. Drawing on examples, I highlight a critical disconnect between the escalating complexity of displacement and the current structure of the humanitarian regime. In contrast to scholarly literature, which increasingly recognises the interconnected nature of climate change, disasters, and conflict, my analysis of grey literature reveals that humanitarian practice remains largely rooted in compartmentalised responses. Many of these challenges stem not from a lack of awareness within the humanitarian sector, but from operational constraints that limit humanitarian organisations to act differently. As such, this thesis is intended less as a critique of the humanitarian sector and more as an effort to understand the real-world limitations that shape humanitarian response.

Building on these insights from grey literature, my empirical findings further demonstrate how these conceptual gaps manifest in practice. Interviews with humanitarian practitioners revealed a continued reliance on familiar and measurable classifications – trigger-based, temporal, spatial, and precedent-based. While these classifications are operationally useful, they often simplify the lived realities of displaced populations. This empirical evidence reinforces the conclusion that, both in documentation and in practice, the humanitarian system continues to address displacement through silos. Moreover, my analysis of government-reported displacement data during overlapping climate-induced and conflict-induced events highlights how inclusion and exclusion are embedded within reporting practices. Decisions about who is counted, how often, and where, directly shape the design and scale of humanitarian responses. These patterns are not incidental, but systemic, reflecting deeper institutional norms and biases. I highlight that capturing displacement data is not only an accounting exercise – it constructs the way displacement is understood. Those who are captured in the data are often those who fall within the institutional frameworks of visibility and recognition, while others remain undocumented and overlooked. Drawing upon these reporting gaps, I propose a forward-looking approach to collect data that can reshape how we continue to conceptualise displacement. By collecting integrated data on both disaster-induced and conflict-induced displacement, we can move

towards creating a more accurate and holistic understanding of complex displacement and, ultimately, inform more inclusive humanitarian responses. It is also important to emphasise that more data will not automatically result in improved humanitarian responses. Nevertheless, data represents a critical first step in building a more accurate picture of displacement on the ground. Ultimately, the translation of data into timely and effective humanitarian action depends on the broader institutional capacities and decision-making structures that underpin humanitarian response.

While the adoption of the Humanitarian-Development-Peace (HDP) Nexus and durable solution frameworks by humanitarian organisations is on the rise (OECD 2024; Joireman and Haddad 2023; Nguya and Siddiqui 2020), this thesis also contributes by examining how these organisations operate in practice. I argue that, although long-term sustainable solutions for displaced populations are essential, achieving them requires a fundamental shift in how humanitarian actors conceptualise and respond to displacement. At present, responses are largely framed around simplistic, immediate triggers, with limited recognition of overlaps between triggers, or between triggers and the deeper structural drivers of displacement. Without adapting these underlying approaches, efforts towards durable solutions risk being undermined by current operational models that fail to address the complexity of displacement.

Beyond how displacement is being conceptualised and reported, this thesis also examines how decisions are made within humanitarian organisations. Through interviews with practitioners, I identified four key factors that guide humanitarian response: government requests, operational presence, security, and logistics. While these influences are not particularly new, my contribution lies in examining how they interact specifically in contexts where climate-induced and conflict-induced displacement converge. Although most practitioners do not explicitly differentiate the type of aid to both contexts – for example, shelter, food, and water – the interplay of these factors influences how aid is structured and delivered. What appears on the surface as uniform response practices is underpinned by deeper structural conditions that remain largely invisible in policy and grey literature. By revealing these blind spots, this research contributes to a more nuanced understanding of institutional and contextual constraints that influence response.

Furthermore, while this thesis points to how current humanitarian systems fall short in addressing future complexity, it also points to emerging improvements. This is particularly evident through the shift from reactive to predictive forms of reporting during disasters. Given the Philippines' relatively advanced disaster response and its position leading anticipatory action implementation (OCHA Centre for Humanitarian Data 2022), I discuss how data practices can evolve to account for overlapping climate and conflict risks. I argue for rethinking forecast-based models and triggers – while historically grounded data and thresholds are useful, expanding anticipatory action to incorporate additional elements such as prior displacement and conflict footprints could enable more nuanced and context-sensitive triggering. In areas where populations are already displaced, this approach could support earlier and more targeted aid delivery. While anticipatory action has undoubtedly improved pre-emptive disaster response, I argue that its next phase must build on this momentum by more fully reflecting the layered realities of communities experiencing complex crises resulting from climate change, disasters, and conflict.

The lessons drawn here extend beyond the Philippines, offering relevance to other regions and countries facing the convergence of climate and conflict. The findings are particularly relevant in countries that experience frequent disasters, such as typhoons, floods, and landslides, that trigger

large-scale displacement. It is also pertinent in contexts where protractedly displaced populations face recurring or new rapid-onset disasters, compounding their already precarious situation. This study may also resonate strongly for contexts where emergency responses rely on similar evacuation practices, such as centralised shelters, or where home-based evacuation is common but underreported. However, the transferability of these insights also has limits. Conflict-induced displacement in the Philippines tends to stem from protracted conflict in the past, or localised violence, rather than large-scale war. As such, in contexts characterised by active armed conflict or open warfare, examining those responses requires a more robust conflict-sensitive approach tailored to local dynamics. Additionally, as the Philippines is not a major host country for refugees, the findings of this research may be less applicable to contexts where cross-border displacement is more prominent. Lastly, in regions where slow-onset climate impacts such as drought, sea level rise, or land degradation are more pronounced in driving displacement, alternative frameworks are needed to understand humanitarian responses in these contexts. As this study focuses on the Philippine context, where rapid-onset events are more prominent, it offers less insight into responses to displacement driven by slow-onset climate events compared to rapid-onset events.

5.2 Practical implications

This research has important implications for humanitarian organisations globally, particularly in adapting policies and mandates to better reflect the complexity of climate-induced and conflict-induced displacement. It echoes calls by IDMC and NRC (2015), and IOM and UNHCR (2021), to move beyond siloed trigger-based classifications and consider both immediate triggers and underlying drivers. Humanitarian practitioners should explore and test new methods of data collection that can capture the complexity of displacement. The humanitarian system must capture displacement across multiple conflict-related and climate-related triggers over extended timeframes. One starting point could be to integrate questions about past displacement, disaster, and conflict experiences into rapid needs assessment and recovery plans. As DSWD DROMIC remains the primary source of displacement data in the Philippines, its reporting system must evolve beyond static, one-off counts of displacement events. A dynamic tracking system should be able to capture initial, secondary, overlapping, and protracted displacement within a single reporting cycle. Such a system would better support equitable resource allocation and ensure that those experiencing complex displacement are not overlooked. Moreover, as many home-based IDPs remain excluded from formal counts, improved registration and monitoring are required. While data collection in emergency settings is inherently difficult, gathering meaningful, nuanced data is essential to inform equitable responses. This is not merely a matter of improving data reporting. Instead, it requires a fundamental shift in how displacement is conceptualised and documented. Emerging technologies, such as big data (Henningsen 2025), offer alternative ways to collect data without the high costs typically associated with traditional methods which can potentially shift how displacement is monitored during complex crises.

As identified in Chapter 3, operational presence and security remain major constraints, particularly in regions impacted by shifting hazard patterns and fragile political influences. Local grassroots NGOs, with their flexibility and strong community ties, are well-positioned to reach underserved populations that international actors struggle to reach. Their ability to navigate bureaucratic processes and deliver timely assistance makes them invaluable in complex contexts. However, limited resources, funding, and institutional support often restrict the scale and continuity of their efforts. This highlights the need for stronger partnerships and resource-sharing between international and local actors. Supporting

grassroots organisations through direct funding, joint responses, and knowledge exchange can help reach hard-to-access communities in insecure environments. Furthermore, humanitarian organisations must also challenge “tarmac bias” by moving beyond easily accessible areas to reach and reevaluating the weight given to factors such as operational presence and logistics. With this, organisations can begin to shift the system toward more inclusive responses, reaching communities affected by complex displacement, particularly those who remain invisible in official data or are systematically excluded from aid provision.

In the context of anticipatory action, current trigger mechanisms rely on meteorological and structural indicators such as projected wind speed, forecasted rainfall, or predicted housing damage. However, these uniform thresholds fail to account for compounded vulnerabilities. Communities still recovering from previous disasters or experiencing protracted displacement may be far more susceptible to the same hazard. Disaster impacts are rarely evenly distributed across communities (de Ruiter and van Loon 2022). Overlaying other data, such as displacement histories and conflict footprints, into anticipatory action models can enhance their ability to detect and respond to complex patterns of risk and vulnerability. By using these data to train forecasting systems alongside conventional hazard metrics, we can develop more context-sensitive triggers that account not only for projected hazard intensity but also for the compounded vulnerabilities of communities with prior displacement or conflict exposure. For instance, in areas already impacted by displacement or conflict, early action could be deployed sooner or targeted more precisely. This would shift the anticipatory system from responding solely to hazard intensity toward recognising and acting on compounded vulnerability (Schillinger et al. 2025; Start Network 2023).

5.3 Future directions

This research opens several avenues for future research to strengthen preparedness and responses to complex displacement. Future research should deepen theoretical understanding of how climate change, disasters, and conflict intersect to drive displacement. While there is a vast body of literature exploring climate-conflict, climate-displacement, and conflict-displacement linkages individually, the intersection of climate and conflict as co-drivers of displacement remains underexplored. There is a particular need for studies that draw on both historical data and mixed-method approaches to uncover how these forces interact. This intersection is inherently multidimensional and difficult to quantify. However, as demonstrated by the extensive climate-conflict literature, contextualised, interdisciplinary research can reveal important insights. To meaningfully address complex displacement, it is imperative to first grasp the displacement dynamics created, the challenges involved, and the unique needs that arise.

This research examines humanitarian organisations responding to complex displacement, but future studies could expand this focus to include a broader range of actors within the humanitarian community in the Philippines. Local Government Units (LGUs), in particular, are responsible for managing evacuations and relief distribution during immediate response. Yet, little is known about the factors that shape their decision-making processes when it comes to addressing complex, overlapping crises. Future research could explore how responses to complex displacement are coordinated across different levels of government (national, regional, local) as well as with the international and local grassroots humanitarian communities. Additional research could also extend this study by exploring the wider network of humanitarian actors, including the private sector, non-state armed groups, or

diaspora communities in responding to complex displacement. Moreover, it would be valuable for future research to explore the implications of definitional fragmentation by comparing how displacement is defined and operationalised across agencies such as DSWD, IOM, UNHCR, and others. Such analysis could provide a clearer understanding of how divergent definitions shape which displacement cases are recorded and why other remain undocumented.

Future research should also explore ways to improve the tracking of IDPs, particularly the movement of IDPs in and out of evacuation centres and home-based displacement patterns. For instance, a stock analysis of IDP trends in centralised locations could help identify patterns of temporary return or recurrent displacement, while mapping historical hosting arrangements and family networks could help inform more inclusive and targeted aid distribution for home-based IDPs. Furthermore, given that operational presence is identified as a key factor in shaping humanitarian decision-making, future studies could explore mapping the density of humanitarian actors alongside physical accessibility indicators such as road conditions or isolated island communities to help identify underserved "coldspots". This would help pinpoint where operational presence is saturated and where it is lacking. Overlaying these data together could inform the expansion of operational coverage and strategic pre-positioning of relief supplies in areas likely to be cut off during disasters. Such spatial planning could significantly enhance the equity of future humanitarian responses. Furthermore, this thesis has outlined potential reforms aimed at developing more inclusive displacement data systems and rethinking approaches to anticipatory action. Future research could build on this by exploring practical, context-appropriate methods for implementing data reforms in low-resource settings such as the Philippines, where mandates are often fragmented and institutional capacity remains limited. Finally, while this thesis focuses on displacement and mobility, immobility – situations where individuals are unable to move due to a lack of resources or barriers imposed by external factors – also warrants future investigation. These trapped population face significant vulnerabilities, highlighting the need for future inquiry into how humanitarian organisations are responding to their needs.

The lessons drawn from this research extend beyond the Philippines and are relevant to other contexts facing overlapping climate and conflict risks. However, as different conflict dynamics and climate hazards will produce distinct needs and vulnerabilities, there remains a pressing need for more context-specific humanitarian approaches. This study advocates for similar research in other contexts to better understand how the humanitarian system can adapt to an increasingly complex displacement landscape. Lastly, while this research defines complexity as the intersection of climate and conflict, future research would benefit from exploring how impacted communities themselves understand and articulate this overlap based on their lived experience. A qualitative approach grounded in community narratives could help identify locally meaningful indicators of complexity, which may then inform the development of community-defined ways to quantify displacement complexity. Grounding definitions in community perspectives can provide more meaningful insights into how humanitarian responses should be designed and delivered.

References

Abel, G.J., M. Brottrager, J. Crespo Cuaresma, and R. Muttarak. 2019. 'Climate, Conflict and Forced Migration'. *Global Environmental Change* 54: 239–49. Scopus. https://doi.org/10.1016/j.gloenvcha.2018.12.003.

Abrahams, Daniel, and Edward R. Carr. 2017. 'Understanding the Connections Between Climate Change and Conflict: Contributions From Geography and Political Ecology'. *Current Climate Change Reports* 3 (4): 233–42. https://doi.org/10.1007/s40641-017-0080-z.

ACAPS. 2017. *Tropical Storm Tembin Philippines*. Briefing Note. https://www.acaps.org/fileadmin/Data_Product/Main_media/171228_start_acaps_briefing_note_philippines_tropical_storm.pdf.

ACAPS. 2023a. 'Colombia: Food Insecurity in Alta Guajira Region'. Briefing Note. https://www.acaps.org/fileadmin/Data_Product/Main_media/20231027_ACAPS_briefing_note_Colombia_Food_insecurity_in_Alta_Guajira_region.pdf.

ACAPS. 2023b. 'Humanitarian Access Overview - July 2023'.

ACAPS. 2024. 'Humanitarian Access Overview - July 2024'.

ACLED. 2023. *The Communist Insurgency in the Philippines: A 'Protracted People's War' Continues*. https://acleddata.com/2023/07/13/the-communist-insurgency-in-the-philippines-a-protracted-peoples-war-continues/.

Adams, William C. 2015. 'Conducting Semi-Structured Interviews'. In *Handbook of Practical Program Evaluation*. John Wiley & Sons, Ltd. https://doi.org/10.1002/9781119171386.ch19.

Adger, W. Neil, and Ricardo Safra de Campos. 2020. 'Climate-Change Disruptions to Migration Systems'. In *Routledge Handbook of Migration and Development*, edited by Tanja Bastia and Ronald Skeldon. Routledge.

Albuja, Sebastián, and Isabel Cavelier Adarve. 2011. 'Protecting People Displaced by Disasters in the Context of Climate Change: Challenges from a Mixed Conflict/Disaster Context'. *Tulane Environmental Law Journal* 24 (2): 239–52.

ALNAP. 2022. *THE STATE OF THE HUMANITARIAN SYSTEM*. ALNAP Study. London.

Amnesty International. 2017. 'Philippines: "Battle of Marawi" Leaves Trail of Death and Destruction'. November 17. https://www.amnesty.org/en/latest/press-release/2017/11/philippines-battle-of-marawi-leaves-trail-of-death-and-destruction/.

Anderson, Craig A., and Matt Delisi. 2011. 'Implications of Global Climate Change for Violence Developed and Developing Countries'. In *The Psychology of Social Conflict and Aggression*, edited by Joseph Forgas, Arie Kruglanski, and Kipling Williams. Taylor & Francis Group. http://ebookcentral.proquest.com/lib/usyd/detail.action?docID=692338.

Anthonia, Abugu Nkechinyere, Yero Ahmed Bello, Odele Muyiwa Oliatan, and Irene Amahagbor Macaulay. 2021. 'Reviewing the Links between Climate Change and Resource Conflict'. *Global Journal of Pure and Applied Sciences* 27 (2): 2. https://doi.org/10.4314/gjpas.v27i2.16.

Anticipation Hub. 2021. *How Local Governments Allocated Funding for Anticipatory Action in the Philippines*. https://www.preventionweb.net/publication/how-local-governments-allocated-funding-anticipatory-action-philippines.

Bagozzi, Benjamin E., Ore Koren, and Bumba Mukherjee. 2017. 'Droughts, Land Appropriation, and Rebel Violence in the Developing World'. *The Journal of Politics* 79 (3): 1057–72. https://doi.org/10.1086/691057.

Bankoff, Greg. 2003. *Cultures of Disaster: Society and Natural Hazard in the Philippines*. RoutledgeCurzon. https://doi.org/10.4324/9780203221891.

Banlaoi, Rommel C., ed. 2020. *The Marawi Siege and Its Aftermath: The Continuing Terrorist Threat*. Cambridge Scholars Publishing.

Basheer, Mohammed, and Nadir Ahmed Elagib. 2024. 'Armed Conflict as a Catalyst for Increasing Flood Risk'. *Environmental Research Letters* 19 (10): 104034. https://doi.org/10.1088/1748-9326/ad6fb6.

Beaumont, Paul, and Cedric de Coning. 2022. 'Coping with Complexity: Toward Epistemological Pluralism in Climate–Conflict Scholarship'. *International Studies Review* 24 (4): viac055. https://doi.org/10.1093/isr/viac055.

Bergholt, Drago, and Päivi Lujala. 2012. 'Climate-Related Natural Disasters, Economic Growth, and Armed Civil Conflict'. *Journal of Peace Research* 49 (1): 147–62. https://doi.org/10.1177/0022343311426167.

Bernadas, Jan Michael Alexandre C, and Karol Ilagan. 2020. 'Journalism, Public Health, and COVID-19: Some Preliminary Insights from the Philippines'. *Media International Australia* 177 (1): 132–38. https://doi.org/10.1177/1329878X20953854.

Bhadra, S. 2022. 'Exploring Dimensions of Sexual Issues in Disasters and Conflicts: Need to Bridge the Gaps between Policy and Practice'. *Sexologies* 31 (3): 277–90. https://doi.org/10.1016/j.sexol.2021.11.006.

Billon, Philippe Le, and Arno Waizenegger. 2007. 'Peace in the Wake of Disaster? Secessionist Conflicts and the 2004 Indian Ocean Tsunami'. *Transactions of the Institute of British Geographers* 32 (3): 411–27. https://doi.org/10.1111/j.1475-5661.2007.00257.x.

Blaikie, Piers, Terry Cannon, Ian Davis, and Ben Wisner. 2003. *At Risk: Natural Hazards, People's Vulnerability and Disasters*. 2nd ed. Taylor & Francis Group. http://ebookcentral.proquest.com/lib/usyd/detail.action?docID=182221.

Blattman, Christopher, and Edward Miguel. 2010. 'Civil War'. Articles. *Journal of Economic Literature* (Nashville, United States) 48 (1): 3–57. https://doi.org/10.1257/jel.48.1.3.

Boeyink, Clayton. 2022. 'Deconstructing the Migrant/Refugee/Host Ternary in Kigoma, Tanzania: Toward a Borderland Politics of Solidarity and Reparation'. *Journal of Immigrant & Refugee Studies* 20 (2): 240–52. https://doi.org/10.1080/15562948.2022.2050455.

Bosmans, M. W. G., C. Baliatsas, C. J. Yzermans, and M. L. A. Dückers. 2022. 'A Systematic Review of Rapid Needs Assessments and Their Usefulness for Disaster Decision Making: Methods, Strengths and Weaknesses and Value for Disaster Relief Policy'. *International Journal of Disaster Risk Reduction* 71 (March): 102807. https://doi.org/10.1016/j.ijdrr.2022.102807.

Brück, Tilman, Marco d'Errico, and Rebecca Pietrelli. 2019. 'The Effects of Violent Conflict on Household Resilience and Food Security: Evidence from the 2014 Gaza Conflict'. *World Development* 119 (July): 203–23. https://doi.org/10.1016/j.worlddev.2018.05.008.

Bueza, Michael. 2017. 'TIMELINE: The "liberation" of Marawi'. *RAPPLER*, October 22. https://www.rappler.com/newsbreak/iq/185978-timeline-liberation-marawi-city/.

Buhaug, Halvard. 2010. 'Climate Not to Blame for African Civil Wars'. *Proceedings of the National Academy of Sciences* 107 (38): 16477–82. https://doi.org/10.1073/pnas.1005739107.

Buhaug, Halvard, and Nina von Uexkull. 2021. 'Vicious Circles: Violence, Vulnerability, and Climate Change'. *Annual Review of Environment and Resources* 46 (1): 545–68. https://doi.org/10.1146/annurev-environ-012220-014708.

Burke, Marshall B., Edward Miguel, Shanker Satyanath, John A. Dykema, and David B. Lobell. 2009. 'Warming Increases the Risk of Civil War in Africa'. *Proceedings of the National Academy of Sciences* 106 (49): 20670–74. https://doi.org/10.1073/pnas.0907998106.

Burrows, Kate, and Patrick L. Kinney. 2016. 'Exploring the Climate Change, Migration and Conflict Nexus'. *International Journal of Environmental Research and Public Health* 13 (4): 4. https://doi.org/10.3390/ijerph13040443.

Cantor, David James. 2024. 'Divergent Dynamics: Disasters and Conflicts as "Drivers" of Internal Displacement?' *Disasters* 48 (1): e12589. https://doi.org/10.1111/disa.12589.

Carey, Sabine C, and Belén González. 2021. 'The Legacy of War: The Effect of Militias on Postwar Repression'. *Conflict Management and Peace Science* 38 (3): 247–69. https://doi.org/10.1177/0738894219899006.

Caruso, Raul, Ilaria Petrarca, and Roberto Ricciuti. 2016. 'Climate Change, Rice Crops, and Violence: Evidence from Indonesia'. *Journal of Peace Research* 53 (1): 66–83. https://doi.org/10.1177/0022343315616061.

Caso, Nicolás, D. Hilhorst, and R. Mena. 2023. 'The Contribution of Armed Conflict to Vulnerability to Disaster: Empirical Evidence from 1989 to 2018'. *International Journal of Disaster Risk Reduction* 95. Scopus. https://doi.org/10.1016/j.ijdrr.2023.103881.

Caso, Nicolás, Dorothea Hilhorst, Rodrigo Mena, and Elissaios Papyrakis. 2024. 'Does Disaster Contribute to Armed Conflict? A Quantitative Analysis of Disaster–Conflict Co-Occurrence between 1990 and 2017'. *International Journal of Development Issues* 23 (1): 1–23. https://doi.org/10.1108/IJDI-01-2023-0015.

Catholic Relief Services. 2018. *Housing, Land and Property in Urban Transitional Settlements*. Humanitarian Response Case Study 13. https://www.crs.org/sites/default/files/cs13_-_philippines.pdf.

Cazabat, Christelle. 2021. *No Matter of Choice: Displacement in a Changing Climate*. With Pablo Cortés Ferrández, Marine Franck, Alesia O'Connor, Chloé Sydney, and Louisa Yasukawa. Internal Displacement Monitoring Centre (IDMC).

Chambers, Robert. 2006. *Poverty Unperceived: Traps, Biases and Agenda*. IDS Working Paper 270. Institute of Development Studies. https://opendocs.ids.ac.uk/articles/report/Poverty_unperceived_traps_biases_and_agenda/26475748?file=48249247.

Chaves-Gonzalez, Juan, Leonardo Milano, Dirk-Jan Omtzigt, et al. 2022. 'Anticipatory Action: Lessons for the Future'. *Frontiers in Climate* 4 (December). https://doi.org/10.3389/fclim.2022.932336.

Chen, Chen, Ian Noble, Jessica Hellmann, Joyce Coffee, Martin Murillo, and Nitesh Chawla. 2015. *University of Notre Dame Global Adaptation Initiative: Country Index Technical Report*. Notre Dame Global Adaptation Initiative, University of Notre Dame. https://gain.nd.edu/assets/522870/nd_gain_countryindextechreport_2023_01.pdf.

Cheshirkov, Boris. 2022. *Devastation in South Sudan Following Fourth Year of Historic Floods*. UNHCR. https://www.unhcr.org/au/news/briefing-notes/devastation-south-sudan-following-fourth-year-historic-floods.

Chmutina, Ksenia, and Jason von Meding. 2019. 'A Dilemma of Language: "Natural Disasters" in Academic Literature'. *International Journal of Disaster Risk Science* 10 (3): 283–92. https://doi.org/10.1007/s13753-019-00232-2.

Choong, Jeanette J., Dennis Wagenaar, Maricar L. Rabonza, Perrine Hamel, Adam D. Switzer, and David Lallemant. 2025. 'Shared Hazards, Unequal Outcomes: Income-Driven Inequities in Disaster Risk'. *Npj Natural Hazards* 2 (1): 1–14. https://doi.org/10.1038/s44304-025-00087-2.

Chrimes, Tommy, Bram Gootjes, M. Ayhan Kose, and Collette Wheeler. 2024. *The Great Reversal: Prospects, Risks, and Policies in International Development Association (IDA) Countries*. World Bank. https://doi.org/10.1596/978-1-4648-2145-5.

Cochrane, Logan, and Alec Thornton. 2016. 'Charity Rankings: Delivering Development or Dehumanising Aid?' *Journal of International Development* 28 (1): 57–73. https://doi.org/10.1002/jid.3201.

Crisp, Jeff. 1999. *Who Has Counted the Refugees? UNHCR and the Politics of Numbers*. Working Paper No. 12. United Nations High Commissioner for Refugees, Evaluation and Policy Analysis Unit. https://www.unhcr.org/au/media/who-has-counted-refugees-unhcr-and-politics-numbers-jeff-crisp.

Crost, Benjamin, Claire Duquennois, Joseph H. Felter, and Daniel I. Rees. 2018. 'Climate Change, Agricultural Production and Civil Conflict: Evidence from the Philippines'. *Journal of Environmental Economics and Management* 88 (March): 379–95. https://doi.org/10.1016/j.jeem.2018.01.005.

Dalisay, Soledad Natalia, and Mylene T. De Guzman. 2016. 'Risk and Culture: The Case of Typhoon Haiyan in the Philippines'. *Disaster Prevention and Management* (Bradford, United Kingdom) 25 (5): 701–14. https://doi.org/10.1108/DPM-05-2016-0097.

Davidson, Brett. 2017. 'Storytelling and Evidence-Based Policy: Lessons from the Grey Literature'. *Palgrave Communications* 3 (1): 1–10. https://doi.org/10.1057/palcomms.2017.93.

Degroot, Dagomar. 2018. 'Climate Change and Conflict'. In *The Palgrave Handbook of Climate History*, edited by Sam White, Christian Pfister, and Franz Mauelshagen. Palgrave Macmillan UK. https://doi.org/10.1057/978-1-137-43020-5_29.

Delina, Laurence L., Nicolo Paolo P. Ludovice, Jon Gaviola, and Rufa Cagoco-Guiam. 2023. 'Living with Climate and State Fragility in a "Chaotic Paradise:" Securitizing Livelihoods in the Philippines' Cotabato River Basin'. *Climate Risk Management* 42 (January): 100558. https://doi.org/10.1016/j.crm.2023.100558.

Department of Social Welfare and Development. 2018. *DSWD DROMIC Report #32 on Severe Tropical Storm 'VINTA' (TEMBIN) as of 20 March 2018, 7PM - Philippines | ReliefWeb*. Disaster Response Operations Management, Information and Communication. https://reliefweb.int/report/philippines/dswd-dromic-report-32-severe-tropical-storm-vinta-tembin-20-march-2018-7pm.

Dizon, Nikko. 2017. 'AFP Finds Lapses by Troops in Clashes with Marawi Terrorists'. *INQUIRER.Net*, June 14. https://newsinfo.inquirer.net/905553/afp-finds-lapses-by-troops-in-clashes-with-marawi-terrorists.

D'Souza, Anna, and Dean Jolliffe. 2012. 'Conflict, Food Price Shocks, and Food Insecurity: The Experience of Afghan Households'. *IDEAS Working Paper Series from RePEc* (St. Louis, United States). https://www.proquest.com/docview/1698647133?pq-origsite=primo&sourcetype=Working%20Papers.

DSWD. 2017. *DSWD DROMIC Report #71 Armed Conflict in Marawi City as of 20 July 2017, 8PM*. Disaster Response Operations Monitoring and Information Center (DROMIC) Report 71. Department of Social Welfare and Development.

DSWD. 2018a. 'DSWD DROMIC Report #28 on Severe Tropical Storm "Vinta" (Tembin) as of 17 January 2018, 6AM'. DSWD DROMIC Report. Department of Social Welfare and Development (DSWD) Disaster Response Operations Management, Information and Communication (DROMIC). https://dromic.dswd.gov.ph/severe-tropical-storm-vinta-20-dec-2017/.

DSWD. 2018b. 'DSWD DROMIC Report #32 on Severe Tropical Storm "Vinta" (Tembin)'. DSWD DROMIC Report. Department of Social Welfare and Development (DSWD) Disaster Response Operations Management, Information and Communication (DROMIC). https://dromic.dswd.gov.ph/severe-tropical-storm-vinta-20-dec-2017/.

DSWD. 2023. 'DSWD DROMIC Report #81 on Severe Tropical Storm "Paeng"'. DROMIC. Department of Social Welfare and Development (DSWD) Disaster Response Operations Management, Information and Communication (DROMIC). https://dromic.dswd.gov.ph/low-pressure-area-24-oct-2022/.

DSWD. 2025. 'DROMIC Situation Reports'. Disaster Response Operations Management, Information and Communication. 2025. https://dromic.dswd.gov.ph/category/situation-reports/.

Durrance-Bagale, Anna, Omar Mukhtar Salman, Maryam Omar, et al. 2020. 'Lessons from Humanitarian Clusters to Strengthen Health System Responses to Mass Displacement in Low and Middle-Income Countries: A Scoping Review'. *Journal of Migration and Health* 1–2 (January): 100028. https://doi.org/10.1016/j.jmh.2020.100028.

Eastin, Joshua. 2016. 'Fuel to the Fire: Natural Disasters and the Duration of Civil Conflict'. *International Interactions* 42 (2): 322–49. https://doi.org/10.1080/03050629.2016.1115402.

Eastin, Joshua. 2018. 'Hell and High Water: Precipitation Shocks and Conflict Violence in the Philippines'. *Political Geography* 63 (March):116–34. https://doi.org/10.1016/j.polgeo.2016.12.001.

Easton-Calabria, Evan. 2025. 'Possibilities and Limitations of Anticipatory Action in Complex Crises: Acting in Advance of Flooding in South Sudan'. *Disasters* 49 (1): e12654. https://doi.org/10.1111/disa.12654.

Easton-Calabria, Evan, Adeline Siffert, Joanna Moore, and Eddie Jjemba. 2024. 'Anticipatory Action to Build Displaced Populations' Resilience at the Intersection of Climate Change, Conflict and Displacement'. *Humanitarian Practice Network*, no. 84 (March). https://odihpn.org/publication/anticipatory-action-to-build-displaced-populations-resilience-at-the-intersection-of-climate-change-conflict-and-displacement/.

Fernandez, Ica. 2019. *The Two Sides of Dignity in Post-Crisis Response in the Philippines: Insights from Marawi and Typhoon Tembin (Vinta)*. ODI.

Fernandez, Maria Carmen, Bai Shaima Baraguir, and John Bryant. 2022. *Inclusion and Exclusion in Displacement and Peacebuilding Responses in Mindanao, Philippines: Falling through the Cracks*. HPG working paper. ODI. https://odi.org/en/publications/inclusion-and-exclusion-in-displacement-and-peacebuilding-responses-in-mindanao-philippines-falling-through-the-cracks/.

Fernandez, Maria, David Garcia, and Assad Baunto. 2018. *Community-Led Rehabilitation Is the Practical Thing to Do in Marawi: Critical Points for Addressing Land Issues after the Siege*. The Asia Foundation. https://doi.org/10.13140/RG.2.2.19023.64164.

Fjelde, Hanne, and Nina von Uexkull. 2012. 'Climate Triggers: Rainfall Anomalies, Vulnerability and Communal Conflict in Sub-Saharan Africa'. *Political Geography* 31 (7): 444–53. https://doi.org/10.1016/j.polgeo.2012.08.004.

Flick, Uwe. 2018. *Doing Grounded Theory*. SAGE Publications Ltd. https://doi.org/10.4135/9781529716658.

Gao, H., T. J. Bohn, E. Podest, K. C. McDonald, and D. P. Lettenmaier. 2011. 'On the Causes of the Shrinking of Lake Chad'. *Environmental Research Letters* 6 (3): 034021. https://doi.org/10.1088/1748-9326/6/3/034021.

Gates, Scott, Håvard Hegre, Håvard Mokleiv Nygård, and Håvard Strand. 2012. 'Development Consequences of Armed Conflict'. *World Development* 40 (9): 1713–22. https://doi.org/10.1016/j.worlddev.2012.04.031.

Gatti, Nicolas, Kathy Baylis, and Benjamin Crost. 2021. 'Can Irrigation Infrastructure Mitigate the Effect of Rainfall Shocks on Conflict? Evidence from Indonesia'. *American Journal of Agricultural Economics* 103 (1): 211–31. https://doi.org/10.1002/ajae.12092.

Ghimire, Ramesh, and Susana Ferreira. 2016. 'Floods and Armed Conflict'. *Environment and Development Economics* 21 (1): 23–52. https://doi.org/10.1017/S1355770X15000157.

Gilmore, Elisabeth A. 2017. 'Introduction to Special Issue: Disciplinary Perspectives on Climate Change and Conflict'. *Current Climate Change Reports* 3 (4): 193–99. https://doi.org/10.1007/s40641-017-0081-y.

Ginnetti, Justin, and Travis Franck. 2014. *Assessing Drought Displacement Risk for Kenyan, Ethiopian and Somali Pastoralists*. Norwegian Refugee Council (NRC) and Internal Displacement Monitoring Centre (IDMC). https://doi.org/10.1163/2210-7975_HRD-9806-2014039.

Goodwin-Gill, Guy S, and Jane McAdam. 2017. *Unhcr and Climate Change, Disasters, and Displacement*. United Nations High Commissioner for Refugees (UNHCR). https://www.refworld.org/reference/research/unhcr/2017/en/117626.

Greenhalgh, Trisha, Sally Thorne, and Kirsti Malterud. 2018. 'Time to Challenge the Spurious Hierarchy of Systematic over Narrative Reviews?' *European Journal of Clinical Investigation* 48 (6): e12931. https://doi.org/10.1111/eci.12931.

Guest, Greg, Arwen Bunce, and Laura Johnson. 2006. 'How Many Interviews Are Enough?: An Experiment with Data Saturation and Variability'. *Field Methods* 18 (1): 59–82. https://doi.org/10.1177/1525822X05279903.

Hall, Nina. 2016. *Displacement, Development, and Climate Change*. 1st ed. Global Institutions Series. Routledge. https://doi.org/10.4324/9781315639758.

Hedges, Kristin, and Gideon Lasco. 2021. 'Medical Populism and COVID-19 Testing'. *Open Anthropological Research* 1 (1): 73–86. https://doi.org/10.1515/opan-2020-0109.

Henningsen, Geraldine. 2025. 'Big Data for the Prediction of Forced Displacement'. *International Migration Review* 59 (1): 141–64. https://doi.org/10.1177/01979183231195296.

Hilhorst, Dorothea, Holly Porter, and Rachel Gordon. 2018. 'Gender, Sexuality, and Violence in Humanitarian Crises'. *Disasters* 42 (S1): S3–16. https://doi.org/10.1111/disa.12276.

Hore, Katherine, Ilan Kelman, Jessica Mercer, and JC Gaillard. 2018. 'Climate Change and Disasters'. In *Handbook of Disaster Research*, edited by Havidán Rodríguez, William Donner, and Joseph E. Trainor. Handbooks of Sociology and Social Research. Springer International Publishing. https://doi.org/10.1007/978-3-319-63254-4_8.

HPG. 2015. *A New Global Humanitarianism*. Integrated Programme Proposal April 2015 – March 2017. Humanitarian Policy Group.

Hsiang, Solomon M., Marshall Burke, and Edward Miguel. 2013. 'Quantifying the Influence of Climate on Human Conflict'. *Science* 341 (6151): 1235367. https://doi.org/10.1126/science.1235367.

Hultquist, Philip. 2017. 'Is Collective Repression an Effective Counterinsurgency Technique? Unpacking the Cyclical Relationship between Repression and Civil Conflict'. *Conflict Management and Peace Science* 34 (5): 507–25.

IASC. 2010. *IASC Framework on Durable Solutions for Internally Displaced Persons*. The Brookings Institution - University of Bern.

ICRC. 2008. *How Is the Term 'Armed Conflict' Defined in International Humanitarian Law?* International Committee of the Red Cross (ICRC). https://www.icrc.org/sites/default/files/external/doc/en/assets/files/other/opinion-paper-armed-conflict.pdf?utm_source=chatgpt.com.

ICRC. 2024. 'Our Mandate and Mission'. 2024. https://www.icrc.org/en/our-mandate-and-mission.

ICRC and PRC. 2015. *Shelter Report 2015*. International Committee of the Red Cross. Asia and the Pacific/Philippines. https://www.icrc.org/en/document/philippines-new-and-safer-homes-thousands-haiyan-survivors.

Ide, Tobias, Michael Brzoska, Jonathan F. Donges, and Carl-Friedrich Schleussner. 2020. 'Multi-Method Evidence for When and How Climate-Related Disasters Contribute to Armed Conflict Risk'. *Global Environmental Change* 62 (May): 102063. https://doi.org/10.1016/j.gloenvcha.2020.102063.

Ide, Tobias, Anders Kristensen, and Henrikas Bartusevičius. 2021. 'First Comes the River, Then Comes the Conflict? A Qualitative Comparative Analysis of Flood-Related Political Unrest'. *Journal of Peace Research* 58 (1): 1. https://doi.org/10.1177/0022343320966783.

IDMC. 2020. *Global Report on Internal Displacement 2020*. Internal Displacement Monitoring Centre (IDMC). https://www.internal-displacement.org/publications/2020-global-report-on-internal-displacement-grid/.

IDMC and ADB. 2022. 'Disaster Displacement in Asia and the Pacific: A Business Case for Investment in Prevention and Solutions'. [Mandaluyong, Philippines] : Geneva, Switzerland: Asian Development Bank ; Internal Displacement Monitoring Centre.

IDMC. 2023. 'Global Report on Internal Displacement 2023'. Switzerland. https://www.internal-displacement.org/global-report/grid2023/.

IDMC. 2024. 'Global Report on Internal Displacement 2024'. Switzerland.

IDMC. 2025. 'Internal Displacement'. IDMC - Internal Displacement Monitoring Centre. 1 May 2025. https://www.internal-displacement.org/internal-displacement.

IDMC and NRC. 2015. *Understanding the Root Causes of Displacement: Towards a Comprehensive Approach to Prevention and Solutions*. Internal Displacement Monitoring Centre (IDMC). https://www.internal-displacement.org/publications/understanding-the-root-causes-of-displacement-towards-a-comprehensive-approach-to.

IFHV. 2023. *World Risk Report 2023*. Berlin.

IFRC. 2019a. *Country Acceleration Plan 2019 Philippines*. International Federation of Red Cross and Red Crescent Societies.

IFRC. 2019b. 'Emergency Appeal Final Report'.

IFRC. 2020. 'COME HEAT OR HIGH WATER'. World Disasters Report 2020. Geneva: International Federation of Red Cross and Red Crescent Societies. https://www.ifrc.org/sites/default/files/2021-05/20201116_WorldDisasters_Full.pdf.

IFRC. 2023. 'Early Action Protocol Activation Final Report'. https://reliefweb.int/report/philippines/philippines-typhoon-paeng-early-action-protocol-activation-final-report-eap-no-eap2019ph01-operation-no-mdrph049-30-june-2023.

IFRC. 2024. 'About the IFRC'. 2024. https://www.ifrc.org/who-we-are/about-ifrc.

IOM. 2020. *Internal Displacement in the Context of the Slow-Onset Adverse Effects of Climate Change - Submission by the International Organization for Migration to the Special Rapporteur on the Human Rights of Internally Displaced Persons*. Geneva.

IOM. 2023. 'Libya - Impact of Storm Daniel: An Update on Displacement and Needs'. https://reliefweb.int/report/libya/libya-impact-storm-daniel-update-displacement-and-needs-november-2023.

IPCC. 2022. *Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (Eds.)]*. 1st ed. Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. https://doi.org/10.1017/9781009325844.

IPCC. 2023. 'Climate Change 2023: Synthesis Report'. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. [Core Writing Team, H. Lee and J. Romero (Eds.). Geneva, Switzerland: IPCC. 10.59327/IPCC/AR6-9789291691647.

Jaime, Catalina, Erin Coughlan de Perez, Maarten van Aalst, and Evan Easton-Calabria. 2024. 'Beyond the Forecast: Knowledge Gaps to Anticipate Disasters in Armed Conflict Areas with High Forced Displacement'. *Environmental Research Letters* 19 (2): 023001. https://doi.org/10.1088/1748-9326/ad2023.

Joireman, Sandra F, and Fidaa Haddad. 2023. 'The Humanitarian–Development–Peace Nexus in Practice: Building Climate and Conflict Sensitivity into Humanitarian Projects'. *Current Opinion in Environmental Sustainability* 62 (June): 101272. https://doi.org/10.1016/j.cosust.2023.101272.

Kelman, Ilan. 2020. *Disaster by Choice: How Our Actions Turn Natural Hazards into Catastrophes*. Oxford University Press.

Kelman, Ilan, Jessica Mercer, and JC Gaillard, eds. 2020. *The Routledge Handbook of Disaster Risk Reduction Including Climate Change Adaptation*. 1st ed. https://www.routledge.com/The-Routledge-Handbook-of-Disaster-Risk-Reduction-Including-Climate-Change-Adaptation/Kelman-Mercer-Gaillard/p/book/9780367581282.

King, Nigel. 2004. 'Using Templates in the Thematic Analysis of Text'. In *Essential Guide to Qualitative Methods in Organizational Research*, with Catherine Cassell and Gillian Symon. SAGE Publications Ltd. https://doi.org/10.4135/9781446280119.n21.

Kjærum, Alexander, and Bo S. Madsen. 2025. 'Pushing the Boundaries of Anticipatory Action Using Machine Learning'. *Data & Policy* 7 (January): e8. https://doi.org/10.1017/dap.2024.88.

Klomp, Jeroen, and Erwin Bulte. 2013. 'Climate Change, Weather Shocks, and Violent Conflict: A Critical Look at the Evidence'. *Agricultural Economics* 44 (s1): 63–78. https://doi.org/10.1111/agec.12051.

Koch, Anne. 2020. 'On the Run in Their Own Country: Political and Institutional Challenges in the Context of Internal Displacement (SWP Research Paper 5)'. *Stiftung Wissenschaft Und Politik*, ahead of print. https://doi.org/10.18449/2020RP05.

Koser, Khalid, and Susan Martin, eds. 2011. *The Migration-Displacement Nexus: Patterns, Processes, and Policies*. Vol. 32. Berghahn Books, Incorporated. http://ebookcentral.proquest.com/lib/usyd/detail.action?docID=1337709.

Koubi, Vally. 2017. 'Climate Change, the Economy, and Conflict'. *Current Climate Change Reports* 3 (4): 200–209. https://doi.org/10.1007/s40641-017-0074-x.

Koubi,Vally. 2019. 'Climate Change and Conflict'. *Annual Review of Political Science* 22 (1): 343–60. https://doi.org/10.1146/annurev-polisci-050317-070830.

Koubi, Vally, Thomas Bernauer, Anna Kalbhenn, and Gabriele Spilker. 2012. 'Climate Variability, Economic Growth, and Civil Conflict'. *Journal of Peace Research* 49 (1): 113–27. https://doi.org/10.1177/0022343311427173.

Lahsen, Myanna, and Jesse Ribot. 2022. 'Politics of Attributing Extreme Events and Disasters to Climate Change'. *WIREs Climate Change* 13 (1): e750. https://doi.org/10.1002/wcc.750.

Landis, Steven T. 2014. 'Temperature Seasonality and Violent Conflict: The Inconsistencies of a Warming Planet'. *Journal of Peace Research* 51 (5): 603–18. https://doi.org/10.1177/0022343314538275.

Lawrence, Amanda. 2017. 'Influence Seekers: The Production of Grey Literature for Policy and Practice'. *Information Services and Use* 37 (4): 389–403. https://doi.org/10.3233/ISU-170857.

Lichtenheld, Adam G., and Justin Schon. 2021. 'The Consequences of Internal Displacement on Civil War Violence: Evidence from Syria'. *Political Geography* 86 (April): 102346. https://doi.org/10.1016/j.polgeo.2021.102346.

Lizarralde, Gonzalo, Lisa Bornstein, Mélanie Robertson, et al. 2021. 'Does Climate Change Cause Disasters? How Citizens, Academics, and Leaders Explain Climate-Related Risk and Disasters in Latin America and the Caribbean'. *International Journal of Disaster Risk Reduction* 58 (May): 102173. https://doi.org/10.1016/j.ijdrr.2021.102173.

Lockyear, Christopher, and Andrew Cunningham. 2017. 'Who Is Your Constituency? The Political Engagement of Humanitarian Organisations'. *Journal of International Humanitarian Action* 2 (1): 9. https://doi.org/10.1186/s41018-017-0024-1.

Lutheran World Relief. 2018. *Situation Report The Philippines: Typhoon Tembin*. https://reliefweb.int/report/philippines/typhoon-tembin-situation-report-3.

Mach, Katharine J., Caroline M. Kraan, W. Neil Adger, et al. 2019. 'Climate as a Risk Factor for Armed Conflict'. *Nature* 571 (7764): 7764. https://doi.org/10.1038/s41586-019-1300-6.

Maitem, Jeoffrey. 2017. 'Gov't Wants to Free Marawi from Terrorists "as Soon as Possible"'. *INQUIRER.Net*, June 16. https://newsinfo.inquirer.net/906019/govt-wants-to-free-marawi-from-terrorists-as-soon-as-possible.

Marktanner, Marcus, Edward Mienie, and Luc Noiset. 2015. 'From Armed Conflict to Disaster Vulnerability'. *Disaster Prevention and Management* 24 (1): 53–69. https://doi.org/10.1108/DPM-04-2013-0077.

Marshak, Anastasia, Helen Young, and Elena N. Naumova. 2023. 'Data on Humanitarian Crises: Who and What Are We Missing?' *Food and Nutrition Bulletin* 44 (2_suppl): S124–26. https://doi.org/10.1177/03795721231162429.

Mathis, Lohaus, and Bussmann Margit. 2021. 'The Politics of Survival or Business as Usual? Exploring the Effects of Armed Conflict on Corruption'. *Journal of International Relations and Development* (London, United Kingdom) 24 (1): 149–70. https://doi.org/10.1057/s41268-020-00186-9.

Maystadt, Jean-François, Margherita Calderone, and Liangzhi You. 2015. 'Local Warming and Violent Conflict in North and South Sudan'. *Journal of Economic Geography* 15 (3): 649–71. https://doi.org/10.1093/jeg/lbu033.

McAuliffe, Marie, and Anna Triandafyllidou. 2021. *World Migration Report 2022*. International Organization for Migration (IOM).

Mena, Rodrigo, and Dorothea Hilhorst. 2021. 'The (Im)Possibilities of Disaster Risk Reduction in the Context of High-Intensity Conflict: The Case of Afghanistan'. *Environmental Hazards* 20 (2): 188–208. https://doi.org/10.1080/17477891.2020.1771250.

Mena, Rodrigo, Dorothea Hilhorst, and Katie Peters. 2019. *Disaster Risk Reduction and Protracted Violent Conflict: The Case of Afghanistan*. ODI. www.odi.org/publications/11413-disaster-risk-reduction-andprotracted-violent-conflict-case-afghanistan).

Nagano, Takato, and Takashi Sekiyama. 2023. 'Review of Vulnerability Factors Linking Climate Change and Conflict'. *Climate* 11 (5): 5. https://doi.org/10.3390/cli11050104.

NAMRIA. 2023. 'Philippines - Subnational Administrative Boundaries'. Version The period of the dataset: February 09, 2018-April 23, 2025. Humanitarian Data Exchange, November 9. https://data.humdata.org/dataset/cod-ab-phl.

Navidad, Conrad, and Marco Boasso. 2017. *Marawi Crisis Displacement Tracking Matrix*. 9. International Organization for Migration (IOM).

Nel, Philip, and Marjolein Righarts. 2008. 'Natural Disasters and the Risk of Violent Civil Conflict'. *International Studies Quarterly* 52 (1): 159–85. https://doi.org/10.1111/j.1468-2478.2007.00495.x.

Nguya, Gloria, and Nadia Siddiqui. 2020. 'Triple Nexus Implementation and Implications for Durable Solutions for Internal Displacement: On Paper and in Practice'. *Refugee Survey Quarterly* 39 (4): 466–80. https://doi.org/10.1093/rsq/hdaa018.

Noble, Helen, and Gary Mitchell. 2016. 'What Is Grounded Theory?' *Evidence - Based Nursing* (London, United Kingdom) 19 (2): 34. https://doi.org/10.1136/eb-2016-102306.

Norwegian Red Cross. 2019. *Overlapping Vulnerabilities: The Impacts of Climate Change on Humanitarian Needs*. Oslo.

Novta, Natalija, and Evgenia Pugacheva. 2021. 'The Macroeconomic Costs of Conflict'. *Journal of Macroeconomics* 68 (June): 103286. https://doi.org/10.1016/j.jmacro.2021.103286.

Nowell, Lorelli S., Jill M. Norris, Deborah E. White, and Nancy J. Moules. 2017. 'Thematic Analysis: Striving to Meet the Trustworthiness Criteria'. *International Journal of Qualitative Methods* 16 (1): 1609406917733847. https://doi.org/10.1177/1609406917733847.

OCHA. 2018. *2019 Afghanistan Humanitarian Needs Overview - Afghanistan | ReliefWeb*. https://reliefweb.int/report/afghanistan/2019-afghanistan-humanitarian-needs-overview.

OCHA. 2022. 'FLASH UPDATE No. 2 Philippines: Severe Tropical Storm Nalgae/Paeng'.

OCHA Centre for Humanitarian Data. 2022. *The State of Open Humanitarian Data 2022*. https://centre.humdata.org/stateofdata2022.

OECD. 2024. *The Humanitarian-Development-Peace Nexus and Forced Displacement: Progress, Insights and Recommendations for Operational Practice*. OECD Development Policy Papers. https://www.oecd.org/en/publications/the-humanitarian-development-peace-nexus-and-forced-displacement_3e493170-en.html.

Okpara, Uche T., Lindsay C. Stringer, Andrew J. Dougill, and Mohammed D. Bila. 2015. 'Conflicts about Water in Lake Chad: Are Environmental, Vulnerability and Security Issues Linked?' *Progress in Development Studies* 15 (4): 308–25. https://doi.org/10.1177/1464993415592738.

Okpara, U.T., L.C. Stringer, and A.J. Dougill. 2016. 'Perspectives on Contextual Vulnerability in Discourses of Climate Conflict'. *Earth System Dynamics* 7 (1): 89–102. Scopus. https://doi.org/10.5194/esd-7-89-2016.

O'Loughlin, John, Andrew M. Linke, and Frank D. W. Witmer. 2014. 'Effects of Temperature and Precipitation Variability on the Risk of Violence in Sub-Saharan Africa, 1980–2012'. *Proceedings of the National Academy of Sciences* 111 (47): 16712–17. https://doi.org/10.1073/pnas.1411899111.

Otto, Friederike E. L., and Emmanuel Raju. 2023. 'Harbingers of Decades of Unnatural Disasters'. *Communications Earth & Environment* 4 (1): 1. https://doi.org/10.1038/s43247-023-00943-x.

PAGASA. 2019. *DOST-PAGASA ANNUAL REPORT ON PHILIPPINE TROPICAL CYCLONES*. Annual Report on Philippine Tropical Cyclones. Philippine Atmospheric, Geophysical and Astronomical

Services Administration (PAGASA) Department of Science and Technology (DOST). https://pubfiles.pagasa.dost.gov.ph/pagasaweb/files/tamss/weather/tcsummary/PAGASA_ARTC_2017.pdf.

PAGASA. 2022. 'TROPICAL CYCLONE PRELIMINARY SUMMARY Typhoon PAENG (2222 NALGAE)'.

PAGASA. 2024. 'Annual Report on Philippine Tropical Cyclones 2021'. Quezon City: Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) Department of Science and Technology (DOST). https://pubfiles.pagasa.dost.gov.ph/pagasaweb/files/tamss/weather/tcsummary/PAGASA_ARTC_2021.pdf.

Paré, Guy, Marie-Claude Trudel, Mirou Jaana, and Spyros Kitsiou. 2015. 'Synthesizing Information Systems Knowledge: A Typology of Literature Reviews'. *Information & Management* 52 (2): 183–99. https://doi.org/10.1016/j.im.2014.08.008.

Peters, Katie. 2019. *Disaster Risk Reduction in Conflict Contexts: An Agenda for Action*. Overseas Development Institute. https://odi.org/en/publications/disaster-risk-reduction-in-conflict-contexts-an-agenda-for-action/.

Peters, Katie, and Mairi Dupar. 2020. *The Humanitarian Impact of Combined Conflict, Climate and Environmental Risks: Highlights and Recommendations from a High-Level Side Event at the 75th United Nations General Assembly*. Overseas Development Institute.

Peters, Katie, Mairi Dupar, Sarah Opitz-Stapleton, et al. 2020. *Climate Change, Conflict and Fragility: An Evidence Review and Recommendations for Research and Action*. Overseas Development Institute.

Peters, Katie, Nuha Eltinay, and Kerrie Holloway. 2019. *Disaster Risk Reduction, Urban Informality and a 'Fragile Peace': The Case of Lebanon*. ODI. www.odi.org/publications/11412-disaster-risk-reductionurban-informality-and-fragile-peace-case-lebanon.

Peters, Katie, Amanda Gray-Meral, Sarah Opitz-Stapleton, and Hannah Measures. 2021. *Climate Change, Conflict and Displacement: Implications for Protection Agencies*. ODI Advisory Report. Overseas Development Institute.

Peters, Katie, Laura E.R. Peters, John Twigg, and Colin Walch. 2019. *Disaster Risk Reduction Strategies: Navigating Conflict Contexts*. ODI. www.odi.org/publications/11341-disaster-risk-reduction-strategiesnavigating-conflict-contexts.

Peters, Katie, and John Twigg. 2019. 'Disaster Risk Reduction Strategies: Navigating Conflict Contexts'. *ODI: Think Change*, May 3. https://odi.org/en/publications/disaster-risk-reduction-strategies-navigating-conflict-contexts/.

Peters, Laura E.R. 2021. 'Beyond Disaster Vulnerabilities: An Empirical Investigation of the Causal Pathways Linking Conflict to Disaster Risks'. *International Journal of Disaster Risk Reduction* 55 (March): 102092. https://doi.org/10.1016/j.ijdrr.2021.102092.

Peters, Laura E.R., and Ilan Kelman. 2020. 'Critiquing and Joining Intersections of Disaster, Conflict, and Peace Research.' *International Journal of Disaster Risk Science* 11 (5): 555–68. https://doi.org/10.1007/s13753-020-00289-4.

Philippine Statistics Authority. 2016. 'Philippine Population Density (Based on the 2015 Census of Population)'. September 1. https://psa.gov.ph/statistics/population-and-housing/node/62690.

Quintero, Romeo Joe. 2024. 'Looking for Safe Haven in a City Torn Apart by War: Narratives of Agency from Internally Displaced Persons in the Southern Philippines'. *Anti-Trafficking Review*, no. 22 (April): 22. https://doi.org/10.14197/atr.201224223.

Raju, Emmanuel, Emily Boyd, and Friederike Otto. 2022. 'Stop Blaming the Climate for Disasters'. *Communications Earth & Environment* 3 (1): 1. https://doi.org/10.1038/s43247-021-00332-2.

Raleigh, Clionadh, and Dominic Kniveton. 2012. 'Come Rain or Shine: An Analysis of Conflict and Climate Variability in East Africa'. *Journal of Peace Research* 49 (1): 51–64. https://doi.org/10.1177/0022343311427754.

Raleigh, Clionadh, Andrew Linke, and John O'Loughlin. 2014. 'Extreme Temperatures and Violence'. *Nature Climate Change* 4 (2): 2. https://doi.org/10.1038/nclimate2101.

REACH. 2023. *Libya 2023 Floods - Emergency Situation Overview (13 September 2023) - Libya*. https://reliefweb.int/report/libya/libya-2023-floods-emergency-situation-overview-13-september-2023.

Relief International. 2023. 'Cyclone Mocha Devastates Rohingya and Host Communities in Bangladesh and Myanmar - Bangladesh | ReliefWeb'. *ReliefWeb*, May 14. https://reliefweb.int/report/bangladesh/cyclone-mocha-devastates-rohingya-and-host-communities-bangladesh-and-myanmar.

Ruiter, Marleen C. de, and Anne F. van Loon. 2022. 'The Challenges of Dynamic Vulnerability and How to Assess It'. *iScience* 25 (8): 104720. https://doi.org/10.1016/j.isci.2022.104720.

Saeed, Abdirahim, Nader Ibrahim, and Yassmin Mahmoud. 2023. *Libya Floods: The Flawed Response That Increased Derna Death Toll*. October 10. https://www.bbc.com/news/world-africa-66961312.

Salehyan, Idean, and Cullen S. Hendrix. 2014. 'Climate Shocks and Political Violence'. *Global Environmental Change* 28 (September): 239–50. https://doi.org/10.1016/j.gloenvcha.2014.07.007.

Sánchez-Mojica, Beatriz Eugenia. 2020. *Preventing Internal Displacement When Disasters and Armed Conflict Cross Paths: Challenges and Opportunities*. UNSG High Level Panel on Internal Displacement. https://researchinginternaldisplacement.org/wp-content/uploads/2020/10/IDRP-HLP-Submission_WS2_Conflict-and-Disaster-Displacement.pdf.

Saulnier, Dell D., Amod Mani Dixit, Ana Raquel Nunes, and Virginia Murray. 2023. *WHO Guidance on Research Methods for Health Emergency and Disaster Risk Management*. https://www.cambridge.org/core/product/identifier/S1049023X23001061/type/journal_article.

Scartozzi, Cesare M. 2021. 'Reframing Climate-Induced Socio-Environmental Conflicts: A Systematic Review'. *International Studies Review* 23 (3): 696–725. https://doi.org/10.1093/isr/viaa064.

Scheffran, Jürgen. 2020. 'Chapter 16 - Climate Extremes and Conflict Dynamics'. In *Climate Extremes and Their Implications for Impact and Risk Assessment*, edited by Jana Sillmann, Sebastian Sippel, and Simone Russo. Elsevier. https://doi.org/10.1016/B978-0-12-814895-2.00016-1.

Schillinger, Juliane, Larissa de Winter, Kim Kristensen, et al. 2025. *Anticipatory Action in and for Conflict-Affected Settings*. Briefing. Anticipation Hub. https://www.anticipation-hub.org/download/file-4773.

Schleussner, Carl-Friedrich, Jonathan F. Donges, Reik V. Donner, and Hans Joachim Schellnhuber. 2016. 'Armed-Conflict Risks Enhanced by Climate-Related Disasters in Ethnically Fractionalized Countries'. *Proceedings of the National Academy of Sciences* 113 (33): 9216–21. https://doi.org/10.1073/pnas.1601611113.

Schmid, Benjamin, and Emmanuel Raju. 2021. 'Humanitarian Crisis and Complex Emergencies: Burden of Disease, Response, and Opportunities for Global Health'. In *Handbook of Global Health*, edited by Ilona Kickbusch, Detlev Ganten, and Matshidiso Moeti. Springer International Publishing. https://doi.org/10.1007/978-3-030-45009-0_128.

Schultz, Kenneth A., and Justin S. Mankin. 2019. 'Is Temperature Exogenous? The Impact of Civil Conflict on the Instrumental Climate Record in Sub-Saharan Africa'. *American Journal of Political Science* 63 (4): 723–39. https://doi.org/10.1111/ajps.12425.

Scott, Matthew. 2019. 'Accountability for State Failures to Prevent Sexual Assault in Evacuation Centres and Temporary Shelters: A Human Rights-Based Approach'. In *Climate Hazards, Disasters, and Gender Ramifications*. Routledge.

Siddiqi, Ayesha. 2018. 'Disasters in Conflict Areas: Finding the Politics'. *Disasters* 42 (S2): S161–72. https://doi.org/10.1111/disa.12302.

Siddiqi, Ayesha, Katie Peters, and Julia Zulver. 2019. *'Doble Afectacion': Living with Disasters and Conflict in Colombia*. https://odi.org/en/publications/doble-afectacion-living-with-disasters-and-conflict-in-colombia/.

Silverman, David. 2022. *Doing Qualitative Research*. Sixth. SAGE Publications Ltd.

Sitati, A., E. Joe, B. Pentz, et al. 2021. 'Climate Change Adaptation in Conflict-Affected Countries: A Systematic Assessment of Evidence'. *Discover Sustainability* 2 (1): 42. https://doi.org/10.1007/s43621-021-00052-9.

Slettebak, Rune T. 2012. 'Don't Blame the Weather! Climate-Related Natural Disasters and Civil Conflict'. *Journal of Peace Research* 49 (1): 163–76. https://doi.org/10.1177/0022343311425693.

Smith, Ron P. 2014. 'The Economic Costs of Military Conflict'. *Journal of Peace Research* 51 (2): 245–56.

Snilstveit, Birte, Sandy Oliver, and Martina Vojtkova. 2012. 'Narrative Approaches to Systematic Review and Synthesis of Evidence for International Development Policy and Practice'. *Journal of Development Effectiveness* 4 (3): 409–29. https://doi.org/10.1080/19439342.2012.710641.

Snyder, Hannah. 2019. 'Literature Review as a Research Methodology: An Overview and Guidelines'. *Journal of Business Research* 104 (November): 333–39. https://doi.org/10.1016/j.jbusres.2019.07.039.

Solow, Andrew R. 2013. 'A Call for Peace on Climate and Conflict'. *Nature* 497 (7448): 7448. https://doi.org/10.1038/497179a.

SPARC. 2024. 'What the Data Tells Us – and Doesn't Tell Us – about the Costs of Climate Change in the Sahel and Horn of Africa'. *SPARC*, December 2. https://www.sparc-knowledge.org/news-blog/news/data-gaps-loss-damage.

Start Network. 2023. *Tools and Approaches - Anticipatory Action for Conflict through the Start Fund*. https://startnetwork.org/learn-change/resources/library/tools-and-approaches-anticipatory-action.

Stoddard, Abby, Katherine Haver, and Monica Czwarno. 2016. *NGOs and Risk: How International Humanitarian Actors Manage Uncertainty*. Humanitarian Outcomes. https://humanitarianoutcomes.org/publications/ngos-and-risk-how-international-humanitarian-actors-manage-uncertainty.

Sturridge, Caitlin, and Kerrie Holloway. 2022. *Climate Change, Conflict and Displacement: Five Key Misconceptions*. HPG briefing note. ODI.

Thalheimer, Lisa, Ezekiel Simperingham, and Eddie Wasswa Jjemba. 2022. 'The Role of Anticipatory Humanitarian Action to Reduce Disaster Displacement'. *Environmental Research Letters* 17 (1): 014043. https://doi.org/10.1088/1748-9326/ac4292.

The World Bank Group. 2021. *Climate Risk Country Profile: Philippines*.

Theisen, Ole Magnus. 2012. 'Climate Clashes? Weather Variability, Land Pressure, and Organized Violence in Kenya, 1989–2004'. *Journal of Peace Research* 49 (1): 81–96. https://doi.org/10.1177/0022343311425842.

Theisen, Ole Magnus, Nils Petter Gleditsch, and Halvard Buhaug. 2013. 'Is Climate Change a Driver of Armed Conflict?' *Climatic Change* 117 (3): 613–25. https://doi.org/10.1007/s10584-012-0649-4.

Theisen, Ole Magnus, Helge Holtermann, and Halvard Buhaug. 2012. 'Climate Wars? Assessing the Claim That Drought Breeds Conflict'. *International Security* 36 (3): 79–106. https://doi.org/10.1162/ISEC_a_00065.

Toya, Hideki, and Mark Skidmore. 2014. 'Do Natural Disasters Enhance Societal Trust?' *Kyklos* 67 (2): 255–79. https://doi.org/10.1111/kykl.12053.

Tugade, Ruby Rosselle L. 2022. 'Persistent Red-Tagging in the Philippines as Violation of the Principle of Distinction in International Humanitarian Law'. *Philippine Law Journal* 95 (3): 560–81.

Türk, Volker. 2016. '"A Minor Miracle: A New Global Compact on Refugees"'. https://www.unhcr.org/au/publications/minor-miracle-new-global-compact-refugees.

Turnbull, Darren, Ritesh Chugh, and Jo Luck. 2023. 'Systematic-Narrative Hybrid Literature Review: A Strategy for Integrating a Concise Methodology into a Manuscript'. *Social Sciences & Humanities Open* 7 (1): 100381. https://doi.org/10.1016/j.ssaho.2022.100381.

Uexkull, Nina von, Mihai Croicu, Hanne Fjelde, and Halvard Buhaug. 2016. 'Civil Conflict Sensitivity to Growing-Season Drought'. *Proceedings of the National Academy of Sciences* 113 (44): 12391–96. https://doi.org/10.1073/pnas.1607542113.

UN General Assembly. 1991. 'Resolution 46/182: Strengthening of the Coordination of Humanitarian Emergency Assistance of the United Nations'. UN,. https://digitallibrary.un.org/record/135197.

UN High Commissioner for Human Rights. 2020. *Situation of Human Rights in the Philippines : Report of the United Nations High Commissioner for Human Rights*. UN,. https://digitallibrary.un.org/record/3879531.

UNHCR. 2017a. *IDP Protection Assessment Report*.

UNHCR. 2017b. 'Philippines: IDP Protection Assessment Report - Armed Confrontations and Displacement in Marawi (AFP vs Pro-ISIS) Issue No. 06 (13 December 2017) - Philippines | ReliefWeb'. https://reliefweb.int/report/philippines/philippines-idp-protection-assessment-report-armed-confrontations-and-3.

UNHCR. 2022. 'Global Trends Forced Displacement in 2021'. Geneva: United Nations High Commissioner for Refugees. https://www.unhcr.org/media/global-trends-report-2021.

UNHCR. 2023. 'Policy on Emergency Preparedness and Response'. UNHCR/HCP/2023/01.

UNHCR. 2024a. 'Global Trends Forced Displacement in 2023'. Geneva: United Nations High Commissioner for Refugees. https://www.unhcr.org/global-trends-report-2023.

UNHCR. 2024b. 'No Escape: On the Frontlines of Climate Change, Conflict and Forced Displacement. United Nations High Commissioner for Refugees'. https://www.unhcr.org/media/no-escape-frontlines-climate-change-conflict-and-forced-displacement.

UNHCR. 2025. 'UNHCR Master Glossary of Terms'. UNHCR. 1 May 2025. https://www.unhcr.org/glossary.

UNHCR Philippines. 2022. *MINDANAO DISPLACEMENT DASHBOARD*. Philippines. https://www.protectionclusterphilippines.org/wp-content/uploads/2022/12/Mindanao-Displacement-Dashboard_Nov-2022.pdf.

UNHCR Philippines. 2023. 'Mindanao Displacement Bulletin'. Philippines. http://www.protectionclusterphilippines.org/?p=3723.

UNISDR. 2015. *Making Development Sustainable: The Future of Disaster Risk Management*. Global Assessment Report on Disaster Risk Reduction. United Nations Office for Disaster Risk Reduction (UNISDR). http://www.undrr.org/publication/global-assessment-report-disaster-risk-reduction-2015.

UNOCHA. 2017. *Humanitarian Bulletin*. https://www.unocha.org/publications/report/philippines/philippines-humanitarian-bulletin-issue-10-november-2017.

UNOCHA. 2022a. 'Philippines: Severe Tropical Storm Nalgae (Paeng), Mindanao - Consolidated Rapid Assessment Report (7 November 2022) | OCHA'. https://www.unocha.org/publications/report/philippines/philippines-severe-tropical-storm-nalgae-paeng-mindanao-consolidated-rapid-assessment-report-7-november-2022.

UNOCHA. 2022b. 'Philippines: Super Typhoon Rai (Odette) Humanitarian Needs and Priorities Revision (Dec 2021 - Jun 2022) (2 Feb 2022) - Philippines | ReliefWeb'. HUMANITARIAN NEEDS AND PRIORITIES REVISION. https://reliefweb.int/report/philippines/philippines-super-typhoon-rai-odette-humanitarian-needs-and-priorities-revision.

UNOCHA. 2024a. 'Anticipatory Action Philippines (September 2024 Update) - Philippines | ReliefWeb'. Manual and Guideline. https://reliefweb.int/report/philippines/anticipatory-action-philippines-september-2024-update.

UNOCHA. 2024b. 'Briefing Note: Anticipatory Action – An Innovative Tool at the Intersection of Disaster Risk Reduction and Humanitarian Response'. https://www.undrr.org/media/101447/download#:~:text=AA%20is%20understood%20as%20acting,fast%20release%20of%20anticipatory%20finance.

UNOCHA. 2025. 'Anticipatory Action: Effective and Efficient Humanitarian Action | Humanitarian Action', 10 February 2025. https://humanitarianaction.info/article/anticipatory-action-effective-and-efficient-humanitarian-action.

Van Hear, Nicholas, and Chris McDowell, eds. 2006. *Catching Fire: Containing Complex Displacement in a Volatile World. Edited by Nicholas Van Hear and Christopher McDowell.* Lanham, Md. : Lexington Books.

Veloso, Diana Therese M. 2022. 'Safety and Security Issues, Gender-Based Violence and Militarization in the Time of Armed Conflict: The Experiences of Internally Displaced People From Marawi City'. *Frontiers in Human Dynamics* 3 (July). https://doi.org/10.3389/fhumd.2021.703193.

Wagner, Marie, and Beth Simons. 2025. *Anticipatory Action (AA) in Complex Settings: WAHAFA Guidelines on Navigating AA, Conflict and Displacement*. Welthungerhilfe Anticipatory Humanitarian Action Facility (WAHAFA). https://www.welthungerhilfe.org/news/publications/detail?tx_cart_product%5Bproduct%5D=2258&cHash=acb73a6e6aa075642cab7b589ecbd046.

Walch, Colin. 2018. 'Disaster Risk Reduction amidst Armed Conflict: Informal Institutions, Rebel Groups, and Wartime Political Orders'. *Disasters* 42 (S2): S239–64. https://doi.org/10.1111/disa.12309.

Wapano, Mary Rachelle R., and Soraimie P Dagalangit-Pundato. 2024. 'From Siege to Survival: Exploring the Multi-Faceted Traumas of Meranao Internally Displaced Persons'. *IOER INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL* 6 (1): 121–33. https://doi.org/10.54476/ioer-imrj/663097.

Weerasinghe, Sanjula. 2021. *Bridging the Divide in Approaches to Conflict and Disaster Displacement: Norms, Institutions and Coordination in Afghanistan, Colombia, Niger, the Philippines and Somalia*. UNHCR and IOM.

Weezel, Stijn van. 2019. 'On Climate and Conflict: Precipitation Decline and Communal Conflict in Ethiopia and Kenya'. *Journal of Peace Research* 56 (4): 514–28. https://doi.org/10.1177/0022343319826409.

Wischnath, Gerdis, and Halvard Buhaug. 2014. 'On Climate Variability and Civil War in Asia'. *Climatic Change* (Dordrecht, Netherlands) 122 (4): 709–21. https://doi.org/10.1007/s10584-013-1004-0.

Wisner, Ben. 2004. 'Assessment of Capability and Vulnerability'. In *Mapping Vulnerability*. Routledge.

Wisner, Ben. 2012. 'Violent Conflict, Natural Hazards and Disaster'. In *Handbook of Hazards and Disaster Risk Reduction*. Routledge.

Wisner, Ben. 2020. 'Five Years Beyond Sendai—Can We Get Beyond Frameworks?' *International Journal of Disaster Risk Science* 11 (2): 239–49. https://doi.org/10.1007/s13753-020-00263-0.

Witsenburg, Karen M., and Wario R. Adano. 2009. 'Of Rain and Raids: Violent Livestock Raiding in Northern Kenya'. *Civil Wars* 11 (4): 514–38. https://doi.org/10.1080/13698240903403915.

WMO. 2015. *WMO Guidelines on Multi-Hazard Impact-Based Forecast and Warning Services*. WMO-No. 1150. World Meteorological Organization (WMO). https://library.wmo.int/records/item/54669-wmo-guidelines-on-multi-hazard-impact-based-forecast-and-warning-services?offset=.

World Bank. 2020. *World Bank Group Strategy for Fragility, Conflict, and Violence 2020-2025 (Vol. 1 of 2)*. World Bank Group. https://doi.org/10.1596/978-1-4648-0484-7.

World Bank. 2024. 'Libya Storm and Flooding 2023. Rapid Damage and Needs Assessment'. Washington, DC: World Bank. https://www.gfdrr.org/en/publication/libya-storm-and-flooding-2023-rapid-damage-and-needs-assessment.

Yin, Robert K. 2009. *Case Study Research: Design and Methods*. SAGE.

Appendix

Appendix A: Interview Guide

Introductory Questions

Could you explain your role, and how you came to work in [organisation's name]?

a. How many years have you worked in [organisation's name / displacement context]?

Perspectives on displacement trends

1. How have you observed displacement situations changing over the last 10 years? Are there any trends that stand out?

2. Over time, have the effects of climate change created displacement contexts of greater complexity?

3. In your experience, is it difficult to attribute movements of people to specific triggers?

Defining Displacement Contexts

Interview question	**Research question**
How does your organisation define/characterise various forms of displacement?	Chapter 3 – RQ1
Does your organisation categorise or label displacement based on associated triggers such as "climate displacement" or "conflict displacement"?	Chapter 3 – RQ1
Does the <classification mentioned by interviewee> apply to both climate-induced and conflict-induced displacement context? E.g., Does the *classification by population size* apply to both climate-induced and conflict-induced displacement context?	Chapter 3 – RQ1
Are there other characteristics of movements employed by your organisation in categorising or labelling displacement? Only provide examples if participant requests clarification: • Duration of displacement • Displaced population size • Race/ethnicity • Geographical location • Needs of displaced community	Chapter 3 – RQ1
(Briefly state definitions of displacement drivers and triggers) How does your organisation contextualise displacement drivers and triggers? Does the difference between displacement drivers and triggers influence the way your organisation label or understand displacement contexts? Does the difference between displacement drivers and triggers influence the way your organisation design responses?	Chapter 3 – RQ1

Understanding humanitarian response

Interview question	Research question
What factors does your organisation consider when determining which displacement crises to respond to?	Chapter 3 – RQ2
If it is within your organisation's mandate to respond to every displacement crisis, what is the extent of your organisation's responses to <each displacement crisis>?	Chapter 3 – RQ2
Resources and funding within the humanitarian sector are scarce, how does your organisation balance allocating resources to different displacement crises?	Chapter 3 – RQ2
Can you give an example of when your organisation was NOT able to respond to a displacement crisis?	Chapter 3 – RQ2
Are there additional external factors that influence your organisation's decision-making process on which displacement crises to respond to? Only provide examples if participant requests clarification: • Timespan – Short vs protracted • Characteristic of hazard event (if it is climate-related) – Rapid-onset vs slow-onset • Funding/Resource – Donors, funding, government assistance, resources available etc. • Associated trigger – Conflict-driven vs Climate-driven	Chapter 3 – RQ2

Understanding humanitarian data reporting

Interview question	Research question
Could you share a bit about your observations of seeing climate and conflict overlap and creating displacement?	Chapter 4 – RQ
For the case of [past displacement event], can you tell me a bit more about what happened and what humanitarian organisations are doing at that time?	Chapter 4 – RQ
What do you think are the gaps that humanitarian organisations have yet to fill when they're addressing overlapping displacement crises?	Chapter 4 – RQ
Do you see any opportunities for responses to disaster displacement and conflict displacement to overlap and learn from the other?	Chapter 4 – RQ

Additional exploratory prompts

Interview question	Research question
What factors does your organisation consider when designing responses to address displacement crises?	Chapter 3 – Additional exploratory prompts
Are there additional external factors that influence the design of responses when addressing displacement crises? Only provide examples if participant requests clarification: • Timespan – Short vs protracted • Characteristic of hazard event (if it is climate-related) – Rapid-onset vs slow-onset • Funding/Resource – Donors, funding, government assistance, resources available etc. • Associated trigger – Conflict-driven vs Climate-driven	Chapter 3 – Additional exploratory prompts
If <insert issue mentioned by interviewee> is an issue in providing humanitarian aid, what did your organisation do about it? E.g., If *accessibility* is an issue in providing humanitarian aid, what did your organisation do about it? *What did you do to gain access to communities etc.?*	Chapter 3 & 4 – Additional exploratory prompts
Can you walk me through what was different to how you respond to <a specific displacement crisis> versus a typical situation without <insert issue mentioned by interviewee>? E.g., Can you walk me through what was different to how you respond to *communities displaced by disasters who were previously displaced by conflict* versus a typical *disaster-induced displacement situation without any ongoing conflict in the background*?	Chapter 3 & 4 – Additional exploratory prompts
How is your organisation dealing with increasingly protracted cases?	Chapter 3 & 4 – Additional exploratory prompts
At what point, or through what criteria does your organisation determine when to cease providing responses or aid to displaced communities?	Chapter 3 & 4 – Additional exploratory prompts

Closing remarks

1. Is there anything else you want to comment on or any questions you have for us?

Appendix B: Coding Dictionary

Coding themes	Coding description
1. Complex displacement	**Trends or past events mentioned by participants involving both climate-related and conflict-induced displacement**
2. Defining displacement contexts	**Labels and characteristics used by participants when discussing displacement contexts**
2.1 By triggering event	Defined by the event causing displacement (e.g., disaster, conflict)
2.2 By duration of displacement	Classified based on length of displacement
2.3 By evacuation centres	Based on whether IDPs are residing in centralised formal shelters
2.4 By geographic region	Defined by administrative boundary (e.g., Region I, Region II)
2.5 By needs	Categorised according to type or severity of needs
2.6 By past experiences	Framed through previous similar displacement events
2.7 By preparedness interventions	Based on prior preparedness activities in the area
3. Factors influencing decision to respond	**Factors mentioned by participants when deciding on which displacement crisis to respond to**
3.1 Depending on gaps	Driven by unmet post-emergency needs or aid gaps
3.2 Depending on government	Triggered by government request for assistance
3.3 Depending on local partner	Influence by presence of local implementing partners
3.4 Depending on mandate areas	Based on pre-defined mandated geographic areas
3.5 Depending on operational presence	Influence by existing presence in the affected area
3.6 Depending on organisation's capacity	Dependent on available resources, staff, and logistics
3.7 Depending on scale and severity	Dependent on crisis magnitude and urgency
3.8 Depending on trigger events	Dependent on preceding disaster or conflict event
3.9 Mandate/policy	Guided by organisational mandate or internal policy
3.10 Security risk	Influence by safety risks or access limitations

4. Displacement trends	**When participants discuss how displacement trends have evolved based on their experiences**
4.1 Climate-induced	Displacement linked to disasters or climate-related events
4.2 Conflict-induced	Displacement resulting from armed conflict or violence
4.3 Climate vs conflict	Comparison between climate- and conflict-induced displacement
4.4 Development displacement	Displacement caused by development or infrastructure projects
4.5 Evacuation centres	Trends in IDP movement within and outside evacuation facilities
4.6 Protracted displacement	Long-term displacement situations
4.7 Sporadic displacement	Recurring displacement events
4.8 Getting worse	Perceived increase in frequency or severity of displacement
4.9 Seasonal/timing	Displacement patterns linked to seasonal or cyclical timing
5 Humanitarian response trends	**When participants discuss how humanitarian responses have evolved over time**
5.1 Bureaucracy	Administrative delays impacting timely response efforts
5.2 DRR-focussed	Emphasis on disaster risk reduction in response planning
5.3 Generally improving	Perceived progress in humanitarian response system
5.4 Inefficiency	Descriptions of poor coordination within or among organisations
5.5 Media attention	Influence of media coverage on response priorities
5.6 Political motivations	Political factors shaping selection of beneficiaries
5.7 Pre-planned approaches	Overreliance on pre-defined plans or templates for response
5.8 Saturated	Overserved areas with concentrated humanitarian presence
5.9 Short-term	Emphasis on immediate relief over long-term recovery efforts
6. Humanitarian responses to complex displacement	**Participants' reflections on how their organisation responded to overlapping climate-induced and conflict-induced displacement**
6.1 Past examples	When participants share examples of past responses to complex displacement
6.2 Current gaps	Participants' views on existing gaps in responding to complex displacement
6.3 Future opportunities	Participants' suggestions for improving overlap and cross-context responses

Appendix C: Python Script for Extracting Marawi IDPs

Note: This script served as the foundation for automatically extracting data from the DSWD DROMIC reports. Manual edits to the displacement data were completed afterward to address the inconsistencies in reporting formats.

```
### Extract number of persons affected by the Armed Conflict in Marawi from
DSWD DROMIC Reports


pip install python-docx


import os
import docx
import re
import openpyxl

# Path to the folder containing the docx files
folder_path = 'Marawi_Siege'  # Replace this with the correct path
output_xlsx = 'Marawi_Siege_total_IDPs.xlsx'  # Output XLSX file name

# Function to extract the report number, report date, and affected persons
from a docx file
def extract_report_info(doc_path):
    try:
        # Load the docx file
        doc = docx.Document(doc_path)

        # Extract the first two lines of the document
        first_line = doc.paragraphs[0].text
        third_line = doc.paragraphs[2].text

        # Extract the report number from the first line (after '#')
        report_number_match  =  re.search(r'DSWD  DROMIC  Report  #(\d+)',
first_line)
        report_number      =      int(report_number_match.group(1))      if
report_number_match else None

        # Extract the report date from the third line (after "as of ")
        report_date_match  =  re.search(r'as  of  (\d{1,2}  \w+  \d{4})',
third_line)
        report_date = report_date_match.group(1) if report_date_match else
"Not Available"

        # Initialize affected persons as None
        affected_persons = None

        # Search for "persons" and capture the number before it in all
paragraphs
        for paragraph in doc.paragraphs:
            affected_match  =  re.search(r'(\d{1,3}(?:,\d{3})*)\s+persons',
paragraph.text)
            if affected_match:
```

```
                affected_persons = int(affected_match.group(1).replace(',',
''))  # Convert to integer
                break  # Stop after the first match, as we only need one
number

        return {'Report Number': report_number, 'Report Date': report_date,
'Affected Persons': affected_persons}

    except Exception as e:
        print(f"Error processing {doc_path}: {e}")
        return None

# Function to process all docx files in the folder and save to XLSX
def extract_info_to_xlsx(folder_path, output_xlsx):
    extracted_data = []

    # Iterate over all files in the folder
    for filename in os.listdir(folder_path):
        if filename.endswith('.docx'):
            doc_path = os.path.join(folder_path, filename)
            report_info = extract_report_info(doc_path)

            if report_info:
                extracted_data.append(report_info)

    # Sort the extracted data by Report Number in ascending order
    extracted_data.sort(key=lambda x: x['Report Number'] if x['Report
Number'] is not None else float('inf'))

    # Create a new Excel workbook and add data
    workbook = openpyxl.Workbook()
    sheet = workbook.active
    sheet.title = "Marawi Siege IDPs"

    # Write headers
    headers = ['Report Number', 'Report Date', 'Affected Persons']
    sheet.append(headers)

    # Write data rows
    for data in extracted_data:
        sheet.append([data['Report Number'], data['Report Date'],
data['Affected Persons']])

    # Save the workbook
    workbook.save(output_xlsx)
    print(f"Extraction completed. Data saved to {output_xlsx}")

# Run the extraction process and save results to XLSX
extract_info_to_xlsx(folder_path, output_xlsx)
```

Appendix D: Marawi IDPs Extracted from DSWD DROMIC Reports

Internally Displaced Persons (IDPs) of the Marawi Siege

Extracted from DSWD DROMIC Reports (Department of Social Welfare and Development - Disaster Response Operations Management, Information and Communication Reports)

Note: Manual edits to the displacement data were completed after running the Python Script in Appendix C to address the inconsistencies in reporting formats.

Report Number	Report Date	Affected Persons
8	27/05/2017	43912
12	29/05/2017	71115
13	30/05/2017	71115
15	31/05/2017	92628
17	1/06/2017	100289
21	3/06/2017	172834
22	3/06/2017	204413
23	4/06/2017	207233
24	4/06/2017	212668
25	5/06/2017	212668
27	6/06/2017	227808
29	6/06/2017	215434
30	7/06/2017	215434
31	7/06/2017	228416
33	9/06/2017	247546
36	12/06/2017	288234
36	13/06/2017	300389
37	13/06/2017	302608
39	15/06/2017	309412
40	16/06/2017	310814
42	18/06/2017	314848
43	19/06/2017	314696
45	21/06/2017	315378
46	22/06/2017	294224
47	23/06/2017	323302
48	24/06/2017	357264
49	25/06/2017	358400
50	26/06/2017	375660
51	27/06/2017	347509
51	27/06/2017	347509
52	28/06/2017	346199
53	29/06/2017	349024
54	30/06/2017	349989

Report Number	Report Date	Affected Persons
57	5/07/2017	353419
59	7/07/2017	369139
60	9/07/2017	410457
61	10/07/2017	409879
62	11/07/2017	410272
63	12/07/2017	410550
64	13/07/2017	420035
65	14/07/2017	457818
66	15/07/2017	465689
67	16/07/2017	465692
68	17/07/2017	465731
69	18/07/2017	465736
70	19/07/2017	466034
71	20/07/2017	470316
75	26/07/2017	359680
77	28/07/2017	359680
77	29/07/2017	359680
79	31/07/2017	359680
80	1/08/2017	359680
80	2/08/2017	359680
83	14/08/2017	359680
84	15/08/2017	359680
87	22/08/2017	359680
89	27/08/2017	359680
90	30/08/2017	359680
91	2/09/2017	359680
94	22/10/2017	353921
96	1/11/2017	353921
97	8/11/2017	353921
98	3/12/2017	353921
99	21/02/2018	353921
100	8/03/2018	353921
101	12/03/2018	353921
102	19/03/2018	353921
103	3/04/2018	353921

Appendix E: Python Script for Extracting Vinta IDPs from the DSWD DROMIC Reports

Note: This script served as the foundation for automatically extracting data from the DSWD DROMIC reports. Manual edits to the displacement data were completed afterward to address the inconsistencies in reporting formats.

```
### Extract number of IDPs inside & outside evacuation centers by the Tropical
Storm "Vinta" (Tembin) from DSWD DROMIC Reports


pip install python-docx


import os
import docx
import re
import openpyxl

# Path to the folder containing the docx files
folder_path = 'Tropical_Storm_Vinta'  # Replace this with the correct path
output_xlsx = 'Tropical_Storm_Vinta_total_IDPs.xlsx'  # Output XLSX file

# Function to extract the report number, report date, and displaced persons
data from a docx file
def extract_report_info(doc_path):
    try:
        print(f"Processing file: {doc_path}")  # Debug statement

        # Check if file exists
        if not os.path.exists(doc_path):
            print(f"Error: File not found - {doc_path}")
            return None

        # Load the docx file
        doc = docx.Document(doc_path)

        # Extract the first two lines of the document
        first_line = doc.paragraphs[0].text.strip()
        third_line = doc.paragraphs[2].text.strip()

        print(f"First line: {first_line}")  # Debug statement
        print(f"Third line: {third_line}")  # Debug statement

        # Extract the DROMIC Report Number from the first line (after '#')
        report_number_match  =  re.search(r'DSWD  DROMIC  Report  #(\d+)',
first_line)
        report_number      =      int(report_number_match.group(1))      if
report_number_match else None
        print(f"Extracted  Report  Number:  {report_number}")     #  Debug
statement
```

```
        # Extract the DROMIC Report Date from the third line (after "as of
")
        report_date_match  =  re.search(r'as  of  (\d{1,2}  \w+  \d{4})',
third_line)
        report_date = report_date_match.group(1) if report_date_match else
"Not Available"
        print(f"Extracted Report Date: {report_date}")  # Debug statement

        # Initialize displaced persons counters as "Not Available"
        displaced_in_evac_centers = "Not Available"
        displaced_outside_evac_centers = "Not Available"

        # Track paragraph index manually for navigation
        paragraphs = doc.paragraphs
        for i, paragraph in enumerate(paragraphs):
            if "Status of IDPs Inside Evacuation Centers" in paragraph.text:
                print(f"Found 'Status of IDPs Inside Evacuation Centers' at
paragraph {i}")  # Debug statement
                for j in range(i + 1, min(i + 3, len(paragraphs))):  # Look
ahead up to 2 paragraphs
                    next_para = paragraphs[j].text.strip()
                    print(f"Checking paragraph {j}: {next_para}")
                    displaced_in_evac_centers_match                       =
re.search(r'(\d{1,3}(?:,\d{3})*)\s+persons', next_para)
                    if displaced_in_evac_centers_match:
                        displaced_in_evac_centers                         =
displaced_in_evac_centers_match.group(1).replace(',', '')
                        break
        print(f"Extracted  Displaced  Persons  Inside  Evacuation  Centers:
{displaced_in_evac_centers}")  # Debug statement

        for i, paragraph in enumerate(paragraphs):
            if "Status of IDPs Outside Evacuation Centers" in paragraph.text:
                print(f"Found 'Status of IDPs Outside Evacuation Centers' at
paragraph {i}")  # Debug statement
                for j in range(i + 1, min(i + 3, len(paragraphs))):  # Look
ahead up to 2 paragraphs
                    next_para = paragraphs[j].text.strip()
                    print(f"Checking paragraph {j}: {next_para}")
                    displaced_outside_evac_centers_match                  =
re.search(r'(\d{1,3}(?:,\d{3})*)\s+persons', next_para)
                    if displaced_outside_evac_centers_match:
                        displaced_outside_evac_centers                    =
displaced_outside_evac_centers_match.group(1).replace(',', '')
                        break
        print(f"Extracted  Displaced  Persons  Outside  Evacuation  Centers:
{displaced_outside_evac_centers}")  # Debug statement

        return {
            'Report Number': report_number,
            'Report Date': report_date,
            'Displaced     Persons     Inside     Evacuation     Centers':
displaced_in_evac_centers,
            'Displaced     Persons     Outside     Evacuation     Centers':
displaced_outside_evac_centers
        }

    except Exception as e:
```

```
        print(f"Error processing {doc_path}: {e}")
        return None

# Function to process all docx files in the folder
def extract_info_from_folder(folder_path):
    extracted_data = []

    # Iterate over all files in the folder
    for filename in os.listdir(folder_path):
        if filename.endswith('.docx'):
            doc_path = os.path.join(folder_path, filename)
            try:
                report_info = extract_report_info(doc_path)
                if report_info:
                    extracted_data.append(report_info)
            except Exception as e:
                print(f"Error processing file {filename}: {e}")

    # Sort the extracted data by Report Number in ascending order
    extracted_data.sort(key=lambda x: x['Report Number'] if x['Report
Number'] is not None else float('inf'))

    return extracted_data

# Run the extraction process
extracted_reports = extract_info_from_folder(folder_path)

# Write the extracted data to an XLSX file
workbook = openpyxl.Workbook()
sheet = workbook.active
sheet.title = "Tropical Storm Vinta IDPs"

# Write headers
headers = [
    "Report Number",
    "Report Date",
    "Displaced Persons Inside Evacuation Centers",
    "Displaced Persons Outside Evacuation Centers",
    "Total Displaced Persons"
]
sheet.append(headers)

# Write the extracted data with total displaced persons calculation
for data in extracted_reports:
    inside = int(data['Displaced Persons Inside Evacuation Centers']) if
data['Displaced Persons Inside Evacuation Centers'].isdigit() else 0
    outside = int(data['Displaced Persons Outside Evacuation Centers']) if
data['Displaced Persons Outside Evacuation Centers'].isdigit() else 0
    total = inside + outside
    sheet.append([
        data['Report Number'],
        data['Report Date'],
        inside,
        outside,
        total
    ])

# Save the workbook
```

```
workbook.save(output_xlsx)

print(f"Data successfully written to {output_xlsx}")
```

Appendix F: Vinta IDPs Extracted from DSWD DROMIC Reports

Internally Displaced Persons (IDPs) of the Severe Tropical Storm Tembin (Vinta)

Extracted from DSWD DROMIC Reports (Department of Social Welfare and Development - Disaster Response Operations Management, Information and Communication Reports)

Note: Manual edits to the displacement data were completed after running the Python Script in Appendix E to address the inconsistencies in reporting formats.

Report Number	Report Date	Displaced Persons Inside Evacuation Centers	Displaced Persons Outside Evacuation Centers	Total Displaced Persons
3	22/12/2017	50882	12	50894
4	22/12/2017	32698	161	32859
5	23/12/2017	50362	769	51131
7	24/12/2017	57768	19187	76955
8	24/12/2017	59851	57727	117578
9	25/12/2017	97583	84794	182377
11	26/12/2017	90987	61172	152159
12	26/12/2017	94142	28792	122934
13	27/12/2017	111641	29592	141233
14	27/12/2017	106037	26192	132229
15	28/12/2017	112553	26192	138745
16	29/12/2017	106758	26192	132950
17	29/12/2017	91788	26192	117980
18	30/12/2017	89611	22507	112118
21	1/01/2018	84766	27369	112135
22	2/01/2018	77331	27369	104700
23	4/01/2018	76621	27369	103990
25	6/01/2018	75880	22464	98344
26	11/01/2018	36615	22464	59079
27	12/01/2018	42178	22464	64642
28	17/01/2018	20515	22464	42979
29	18/01/2018	19369	22464	41833
32	20/03/2018	7306	22464	29770

Appendix G: Python Script for Extracting Paeng IDPs from DSWD DROMIC Reports

Note: This script served as the foundation for automatically extracting data from the DSWD DROMIC reports. Manual edits to the displacement data were completed afterward to address the inconsistencies in reporting formats.

```
### Extract total number of IDPs by the Tropical Storm "Paeng" (Nalgae) from
DSWD DROMIC Reports


pip install pymupdf


import os
import re
import pandas as pd
import fitz  # PyMuPDF

def extract_text_from_pdf(pdf_path):
    print(f"Extracting text from: {pdf_path}")
    text = ""
    with fitz.open(pdf_path) as doc:
        for page in doc:
            text += page.get_text()
    return text

def extract_info_from_text(text):
    report_number = None
    report_date = "Unknown"
    idp_count = None

    # Report number
    match = re.search(r'#\s*(\d+)', text)
    if match:
        report_number = int(match.group(1))

    # Report date
    match = re.search(r'as of (\d{1,2} \w+ \d{4})', text)
    if match:
        report_date = match.group(1)

    # Total Displaced Population
    tdp_index = text.find("Total Displaced Population")
    if tdp_index != -1:
        snippet = text[tdp_index:tdp_index + 2000]  # Grab a bigger block of
text
        match = re.search(r'(\d{1,3}(?:,\d{3})*|\d+)\s+persons', snippet)
        if match:
            idp_count = int(match.group(1).replace(',', ''))

    print(f"Extracted -> Report #: {report_number}, Date: {report_date},
IDPs: {idp_count}")
```

```
    return report_number, report_date, idp_count

def process_folder(folder_path):
    records = []
    for filename in sorted(os.listdir(folder_path)):
        if filename.lower().endswith(".pdf"):
            pdf_path = os.path.join(folder_path, filename)
            try:
                text = extract_text_from_pdf(pdf_path)
                report_number,        report_date,        idp_count        =
extract_info_from_text(text)
                if report_number is not None and idp_count is not None:
                    records.append([report_number, report_date, idp_count])
                else:
                    print(f"Skipping {filename} due to missing data.")
            except Exception as e:
                print(f"Error processing {filename}: {e}")
    return records

def save_to_excel(data, output_file):
    df = pd.DataFrame(data, columns=["Report Number", "Report Date", "Number
of IDPs"])
    df = df.sort_values(by="Report Number")
    df.to_excel(output_file, index=False)
    print(f"Saved output to {output_file}")

def main():
    folder = "Tropical_Storm_Paeng"
    output_file = "Tropical_Storm_Paeng_total_IDPs.xlsx"
    data = process_folder(folder)
    save_to_excel(data, output_file)

if __name__ == "__main__":
    main()
```

Appendix H: Paeng IDPs Extracted from DSWD DROMIC Reports

Internally Displaced Persons (IDPs) of the Severe Tropical Storm Nalgae (Paeng)

Extracted from DSWD DROMIC Reports (Department of Social Welfare and Development - Disaster Response Operations Management, Information and Communication Reports)

Note: Manual edits to the displacement data were completed after running the Python Script in Appendix G to address the inconsistencies in reporting formats.

Report Number	Report Date	Number of IDPs
4	27/10/2022	456
5	28/10/2022	4526
6	28/10/2022	8838
7	29/10/2022	61022
8	29/10/2022	76131
9	30/10/2022	264421
10	30/10/2022	379678
11	31/10/2022	524916
12	31/10/2022	909440
13	1/11/2022	898772
14	1/11/2022	872971
15	2/11/2022	789002
16	2/11/2022	765983
17	3/11/2022	749942
18	3/11/2022	1058779
19	4/11/2022	1048200
20	4/11/2022	1197175
21	5/11/2022	1149809
22	5/11/2022	1141373
23	6/11/2022	1138265
24	6/11/2022	1132146
25	7/11/2022	1128186
26	7/11/2022	1106573
27	8/11/2022	1082554
28	8/11/2022	694670
29	9/11/2022	693864
30	9/11/2022	693700
31	10/11/2022	693596
32	10/11/2022	692340
33	11/11/2022	692393
34	12/11/2022	688274
35	13/11/2022	688104
36	14/11/2022	343188
37	15/11/2022	341788

Report Number	Report Date	Number of IDPs
38	16/11/2022	335278
39	17/11/2022	334847
40	18/11/2022	334241
41	19/11/2022	279763
42	20/11/2022	201478
43	22/11/2022	201478
44	23/11/2022	193412
45	24/11/2022	192086
46	25/11/2022	62556
47	26/11/2022	62556
48	28/11/2022	62556
49	29/11/2022	62556
50	30/11/2022	62430
51	1/12/2022	62430
52	2/12/2022	60630
53	3/12/2022	60287
54	4/12/2022	60287
55	7/12/2022	60287
56	8/12/2022	60069
57	10/12/2022	60069
58	11/12/2022	60020
59	13/12/2022	60020
60	14/12/2022	59860
61	15/12/2022	59860
62	16/12/2022	58797
63	17/12/2022	58797
64	18/12/2022	57419
65	21/12/2022	57371
66	22/12/2022	57371
67	23/12/2022	57364
68	24/12/2022	56970
69	29/12/2022	55000
70	6/01/2023	54533
71	26/01/2023	54533
72	8/02/2023	53876
73	9/02/2023	53876
74	23/02/2023	53851
75	8/03/2023	5254
76	17/03/2023	5075
77	12/04/2023	5075
78	10/05/2023	5075
79	14/06/2023	5075
80	4/08/2023	2160