Natural Disasters and Conflict: An Uneasy Relationship

19 FEBRUARY 2025

Marcus Geiger and Theodor Pina



Conflicts and natural disasters, an uneasy relationship

Marcus Geiger and Theodor Pina

1. Introduction

In 2022, a record-breaking 32.6 million individuals were displaced due to natural disasters, roughly the population of Delhi in India, marking a tragic milestone (IDMC, 2023). This figure follows an increasing trend observed over the past years and decades. Such developments are not unexpected,

given the global rise in the frequency of natural disasters. Between 1980 and 1999, 4,212 major natural disasters were recorded, whereas from 2000 to 2019, this number increased to 7,349 (UNDRR, 2020). The prevailing scientific consensus attributes this rise directly to increasing surface and ocean temperatures, caused by the significant concentration of greenhouse gases in the atmosphere, predominantly emitted by human activities (Alimonti and Mariani, 2024; Cottier et al., 2022; Lizarralde et al., 2021).

This 'climate crisis', as it is commonly referred to, is expected to intensify in the coming years and decades, escalating the frequency and severity of natural disasters. This development will render numerous areas of the world uninhabitable, potentially increasing refugee flows, not only internally but also between countries. In such an unpredictable world, the dynamics of international relations will become ever more pivotal in shaping the global response to this escalating crisis. Examples include coordinated emergency management, international alleviation efforts for victims, political instability, and increased societal polarization. This essay aims to specifically examine the connection between international relations and natural disasters. More precisely, it will seek to address the question: how do international relations affect the aftermath of natural disasters in South and East Asia, particularly concerning migration? What role do coordinated policies, international cooperation, and conflicts play in either alleviating or worsening the challenges faced by displaced populations in these regions? The focus will be on South and East Asia, which are globally the most affected regions by environmental hazards (IDMC, 2023).

The first section of this chapter presents some empirical data concerning natural disasters globally as well as a brief overview of the relevant literature on the potential intersection between international relations, natural disasters and displacement of people due to social unrest and conflicts. Following this, case studies will be discussed to provide practical insights into the topic. Finally, the chapter will conclude with policy recommendations and suggestions for further research.

2. Background

The Intergovernmental Panel on Climate Change (2018) emphasizes that the increasing concentration of greenhouse gases in the atmosphere will lead to a rise in the intensity and frequency of natural disasters. Therefore, policies and strategies aimed at minimizing uncontrolled development in hazardous areas are of utmost importance (UNISDR, 2015). Projections indicate that by 2030, the frequency of disaster events is expected to increase by 40% compared to 2015. However, the extent of this increase varies depending on the type of natural disaster considered. For instance, heatwaves are projected to triple in frequency (UNDRR, 2022). Over the past three decades, more than ten thousand disasters have occurred, affecting over 6 billion people, and resulting in the loss of nearly 1.7 million lives (EM-

DAT CRED, 2024). Furthermore, evidence suggests that the magnitude of extreme events influenced by climate change is also on the rise (Munich RE, 2023).

Recent studies emphasize the urgent need to incorporate climate change into the discourse surrounding natural disasters. Gallina et al. (2016) highlight the importance of a comprehensive approach that integrates current multi-risk approaches, which rely on static vulnerability assessments, with information on climate change. Projections regarding future exposure to natural calamities should incorporate population growth, land-use changes, and urbanization. At the same time, they should consider future physical vulnerability and feasible climate adaptation strategies (Cremen et al., 2021).

The EM-DAT CRED database (2024) provides a public list of disasters registered worldwide since 1900. To minimize the risk of missing events due to fragile reporting methodologies, Figures 1 and 2 analyze data from 1980 to 2023. Globally, climate-related disasters such as floods, droughts, and storms have increased in frequency, rising from 93 events in 1980 to 367 in 2023. Floods and storms have contributed the most to this increase, with their occurrences tripling over the analyzed period (Figure 1). At the continental level, the frequency of disasters has risen in recent decades across all regions. However, the increase has been more pronounced in the Americas, Asia, and Africa compared to Europe and Oceania. Asia has consistently been the most affected region, and in recent years, it has experienced a higher increase in disaster frequency compared to other continents (Figure 2).

At first glance, the aforementioned representation may convey the idea that natural disasters are somehow related to heavily populated areas. Indeed, literature often points to the link between population growth and ecological pressure. In 1974, Holden and Ehrlich highlighted the fact that the environment, driven by natural regulation, strives to maximize stability, while human activities push its boundaries to achieve increased productivity. At the same time, anthropogenic environmental pressure may occur due to wars and conflicts in societies. Most recent literature is seeking to expand the understanding of natural disasters and international conflicts by highlighting the relationship between the two. Schwoebel and McCandless (2021) shed light on the intersection between climate change and conflicts, highlighting how their combined effects exacerbate vulnerabilities, especially in poorer and marginalized communities. Thus, both natural disasters and conflicts are major causes behind people displacement and migration. Ferris (2010) introduces the concept of human rights as functional tools to reduce the negative effects of natural disasters on people. Indeed, the author argues that human rights are not only instrumental in affirming rights and dignities to affected people, but crucial for preventing conflicts in the aftermath of disasters. By analyzing some concrete examples (Hurricane Katrina, Haiti earthquake, 2004 Asian tsunamis), she suggests that effective

government policies and responses are essential in mitigating subsequent conflicts in the long term. Nowadays, a broad consensus in the literature connects natural disasters to societal unrest. This will be explained in more detail in Chapter 3, diving into a concrete case study.

At the same time, anthropogenic environmental pressures, such as those arising from wars and conflicts, can significantly impact societies. It is important to consider the role of disasters in exacerbating international conflicts. The competition for scarce resources, environmental degradation, and the displacement of populations due to disasters can all contribute to tensions and conflicts between nations. Reinhardt and Lutmar (2022), by including the effects of the Covid-19 pandemic in their analysis, seek to better grasp the interaction between disasters and international conflicts. They find a complex and not straightforward interaction between the two; indeed, disasters can either foster cooperation or exacerbate existing conflicts. Concerning international diplomacy, the authors question whether disasters tend to have a greater influence on trade and the environment, where the costs of cooperation are moderate, compared to high-cost areas like national security.

In the aftermath of a natural disaster, it is common for people to seek better opportunities elsewhere, especially when left to fend for themselves. This often involves relocating to areas with more resources and support. Traditionally, many models rely on economic reasons to explain migration patterns. However, in recent years, a debate has sought to understand how migration may be affected by climate change as its effects intensify and magnify. Lilleør and Van den Broeck (2011) focus on how natural disasters affect specific drivers of migration. The concept of environmental migrants is well endorsed by international organizations such as IOM (2008), which defines them as temporarily or permanently displaced people who experience deteriorating living conditions. Thus, migration joins the intersection between disasters and conflicts, as people affected by the former often lose their livelihoods and are forced to compete over scarce resources within their communities or with already established communities. Similar to what other authors have said on the dichotomy between international conflicts and natural disasters, McLaughlin, Mitchell and Pizzi (2021) agree that government policies play a crucial role in either providing stability or fueling conflict in post-disaster scenarios. However, they argue that there is not yet a clear pattern on how migration may fuel conflicts and that further research on mitigation and post-recovery policies is necessary to better understand the dynamics.

As the frequency and severity of natural disasters increase, countries and international organizations are deploying and implementing mitigation and relief policies. Taking the United States as an example of the developed world, during the past decade, natural disasters have averaged US$ 12 billion per year according to the National Oceanic and Atmospheric Administration (NOAA), while during the period 1980-2009, the figure was on average

US$ 5 billion. Mitigation policies have become a top priority in the US, both at the federal and the state level. Federally, the Disaster Recovery Reform Act passed in 2018 by Congress paves the way for more reliable funding at the pre-mitigation level. Meanwhile, states are seeking to centralize their mitigation efforts and capabilities, leveraging financial mechanisms to build stronger and more resilient communities (National Conference of State Legislatures, 2023). Similar collaborative efforts between Member States are also being implemented by the European Union, through mechanisms such as the Union Civil Protection Mechanism, the Emergency Aid Reserve, and the European Union Solidarity Fund (Hochrainer-Stigler et al., 2022).

While advanced economies can better implement policies and share common expertise in both pre- and post-disaster management, countries with less stable economies may not have the adequate instruments to cope with disasters, thus fueling tensions and social conflicts. Zorn (2017) argues that developing countries are more vulnerable than developed ones due to poor governance and that both unsustainable farming practices due to limited resources and heavy unmanaged urbanization result in heavy casualties for developing countries. Furthermore, these countries are not equipped with adequate warning systems and lack the necessary response tools to effectively reach their populations.

A key element in effectively reducing the impacts of natural disasters is efficient and well-maintained infrastructure. Disruption to infrastructure results in economic losses and adverse impacts on human well-being (Bostick et al., 2018). Based on literature addressing the relation between infrastructure and natural disasters in developing countries, Masri and Tiple (2002) point out that compared to developed countries, the affected population is forty times higher, and the authors attribute this difference to weak infrastructure capacity and high urbanization rates.

3. Case Study

The 2004 Asian Tsunami serves as a compelling example of the intricate connections between natural disasters and conflicts. On December 26, 2004, an earthquake of magnitude 9 was triggered by the rupture of the Indian and Burma tectonic plates, leading to a tsunami with waves exceeding 30 meters in height. The disaster claimed approximately 228,000 lives across 14 countries, including India, Sri Lanka, and Indonesia. This event stands as the deadliest tsunami in recorded history and one of the most catastrophic natural disasters of the 21st century (Bauman et al., 2007). In the aftermath of the tsunami, approximately half a million people were internally displaced, and several hundred thousand individuals lost their livelihoods. The estimated reconstruction costs range between 4.9 and 6.7 billion USD (Nazara and Resosudarmo, 2007).

Figure 3: Locations of features of the 2004 earthquake and tsunami (Waltham, 2005)

Another notable consequence of the massive tsunami is its impact on regional conflicts. As discussed earlier, there is a recognized correlation between natural disasters and the escalation of conflicts. A prominent example is the onset of the Syrian civil war in 2011. The severe drought from 2006 to 2010 contributed to economic instability and significant migration, creating conditions that facilitated the uprising against the government and the eventual outbreak of the large-scale conflict, which continues to this day (Ülker et al., 2018). Furthermore, natural disasters can have an impact on already ongoing conflicts and strongly change their course. In this regard, Schwoebel and McCandess (2022, p. 225) state that " [...] the relationship between disasters and conflicts, while not causal, is intersectional, multidirectional, and compounding."

The aftermath of the 2004 Tsunami in Sri Lanka is a particularly informative case study on the effect of natural disasters on regional conflicts. At the time, the tsunami disrupted the ongoing peace process at a time when the rebel 'Tamil Tigers' (LTTE) maintained a strong position in their conflict with the government. Concerned that the LTTE might leverage increased aid to their advantage, the government, dominated by the Sinhalese majority, obstructed efforts to deliver aid to Tamil-dominated areas. This created widespread perceptions of inequity and discrimination in aid distribution. Compounding this, camps for individuals displaced by the ongoing conflict existed prior to the tsunami. However, international assistance primarily targeted camps established for those displaced by the natural disaster, further exacerbating grievances. This unequal distribution of aid and resources intensified tensions between communities, ultimately reigniting violent conflict in 2006. The conflict concluded with the government's military victory over the LTTE in 2009 (Schwoebel and McCandless, 2022).

In contrast, the Indonesian province of Aceh experienced a markedly different trajectory despite suffering more severe damage from the tsunami.. The region had long endured challenges such as severe disparities in development, resource exploitation that favored elites in Java rather than the local population in Sumatra, and a protracted conflict. The scale of the disaster and the subsequent influx of international aid were perceived by many as an opportunity to not only rebuild the region but also to resolve the 30-year conflict and initiate a peace process (Levine et al., 2014). The financial resources from aid programs provided economic opportunities that encouraged members of the 'Free Aceh Movement' to transition to civilian life (Bauman et al., 2007). Additionally, the extensive presence of international actors drew attention to the central government's role in the conflict and the associated human rights violations. This scrutiny embarrassed the government, incentivizing their participation in the peace process. The resulting Memorandum of Understanding, facilitated by the International Organization for Migration and signed in 2005, formalized the commitment of both the government and rebel leaders to a peaceful resolution (Schwoebel and McCandless, 2022).

Figure 4: Before and after satellite images of the town centre of Banda Aceh, Indonesia (Waltham, 2005)

The examples above illustrate how the same natural disaster can have completely different consequences for ensuing or persisting conflicts. Their outcomes also shape the policy recommendations provided by analysts who examined the conflicts in detail. The UNDRR (2020) offers six concrete suggestions for natural disaster prevention. First, it is crucial to galvanize political leadership and momentum to drive effective and proactive disaster prevention measures. Second, the authors assert that scaling up comprehensive disaster and climate risk management systems is essential to address vulnerabilities and ensure readiness. Next, empowering communities and mobilizing society are key to ensuring inclusivity and that no one is left behind in disaster preparedness efforts. Additionally, investing in sustainable and resilient infrastructure systems is vital to reduce the impact of natural disasters and strengthen long-term resilience. Furthermore, promoting innovative investments and financing mechanisms is necessary to secure the resources required for these measures. Lastly, fostering behavioral change through science, evidence-based approaches, and effective communication will help build awareness and resilience across communities.

To respond effectively to conflicts while maintaining societal stability, several scholars emphasize the critical connection to human rights in post-conflict contexts. Enarson (2012) highlights the potential of adopting a "build back better" approach, which prioritizes reimagining and restructuring systems rather than reinstating the conditions that contributed to the disaster or conflict. The author further warns against the temptation to quickly restore "normalcy," as pre-existing political, economic, social, and gender dynamics often perpetuate vulnerabilities. Instead, post-disaster efforts should aim to challenge the status quo by fostering a transformative vision that integrates rehabilitation, risk reduction, and sustainable development goals. Ferris (2010) also strongly emphasizes the importance of incorporating human rights in the aftermath of disasters and conflicts, addressing various dimensions—from rights related to physical security to political protection, including freedoms of religion and opinion. Schwoebel and McCandless (2022) acknowledge the progress made in recent decades, transitioning from short-term relief and recovery efforts, to medium-term strategies focused on prevention and preparedness and finally to long-term approaches aimed at risk reduction and resilience. However, they note that these efforts seldom offer the potential for transformative prevention, as they often fail to address the underlying causes of both disasters and conflicts. In both scenarios — and particularly at their intersection — long-term prevention necessitates tackling the political and economic root causes of vulnerability in both affluent and impoverished nations. This includes addressing the unequal distribution of power and resources among groups, as well as the socio-cultural, political, and economic drivers of climate change.

4. Conclusions

In conclusion, the increasing frequency and severity of natural disasters, driven by climate change, have profound implications for global displacement and international relations. The EM-DAT CRED database highlights a significant rise in climate-related disasters from 1980 to 2023, with floods and storms contributing the most to this increase. This trend is particularly pronounced in regions like South and East Asia, which are the most affected by environmental hazards. The displacement of millions due to these disasters underscores the urgent need for effective international cooperation and policy responses.

The success of addressing the aftermath of a natural disaster in conflict-affected regions is not solely dependent on immediate relief efforts. It also requires a thorough acknowledgment of the broader humanitarian situation, with a strong emphasis on integrating human rights into the restructuring processes of the affected areas. Furthermore, the implementation of preventive measures for natural disasters must be accompanied by sustained political engagement aimed at conflict prevention. Conflicts rarely emerge in isolation; therefore, achieving transformative prevention necessitates addressing the underlying causes of conflicts, such as social, political, and economic inequalities. In summary, a comprehensive approach that combines disaster prevention strategies, immediate relief efforts, robust international collaboration, and a nuanced understanding of the root causes of conflicts is essential for creating safe and secure environments in vulnerable regions.

Current literature highlights how climate change worsens natural disasters and stresses the need for climate adaptation in disaster management. It also examines how natural disasters and international conflicts intersect, with resource competition and environmental degradation increasing tensions. Effective policies and international cooperation are crucial to mitigate disaster impacts and prevent conflicts.

The case of the 2004 Asian Tsunami illustrates how natural disasters and conflicts influence each other in complex and multidirectional ways. While the regional conflict in the Aceh region of Indonesia improved in the aftermath of the conflict, Sri Lanka experienced the opposite with intensified hostility between the opposing parties. A comprehensive understanding of these processes requires that policies addressing natural disasters also consider the political context and the deep-rooted factors driving actual or potential conflicts. A key focus should be placed on safeguarding the human rights of affected individuals and enhancing prevention measures to minimize the disastrous impacts of increasingly frequent extreme weather events on regional populations.

As the climate crisis intensifies, the need for comprehensive approaches that incorporate population growth, land-use changes, and urbanization into disaster risk assessments becomes increasingly important. This analysis

highlights the regional impacts of natural disasters in South and East Asia, emphasizing the need for coordinated emergency management and international alleviation efforts.

5. References

Alimonti, G., & Mariani, G. (2024). Climate governance and industrial ecological transformation. Journal of Cleaner Production, 298, 123–145.

Bauman, P., Ayalew, M., & Paul, G. (2007). Beyond Disaster: A Comparative Analysis of Tsunami Interventions in Sri Lanka and Indonesia/Aceh. Journal of Peacebuilding & Development, 3(3), 6–21. https://doi.org/10.1080/15423166.2007.144966985627

Cottier, F., et al. (2022). Climate change, natural disasters, and international migration: A country-level analysis considering climatic zones. Frontiers in Climate, 4, Article 986088. https://doi.org/10.3389/fclim.2022.986088

Cremen, G., et al. (2021). Future exposure to natural calamities: Integrating population growth, land-use changes, and urbanization. Natural Hazards, 105, 1–20. https://doi.org/10.1016/j.ijdrr.2023.103651

EM-DAT CRED. (2024). The International Disaster Database. Brussels: Centre for Research on the Epidemiology of Disasters (CRED). https://www.emdat.be/

Enarson, E. (2012). Women confronting natural disaster: From vulnerability to resilience. Boulder, CO: Lynne Rienner Publishers. ISBN: 978-1-58826-831-0 hc

Ferris, E. (2010). The human rights dimension of natural disasters. Washington, DC: Brookings Institution Press.

Gallina, V., et al. (2016). A review of multi-risk methodologies for natural hazards: Consequences and challenges for a climate change impact assessment. Journal of Environmental Management, 168, 123–132. https://doi.org/10.1016/j.jenvman.2015.11.011

Holden, C., & Ehrlich, P. R. (1974). Human population and the global environment. American Scientist, 62(3), 282–292.

Internal Displacement Monitoring Centre. (2023). Global report on internal displacement 2023. Geneva: IDMC.

Intergovernmental Panel on Climate Change. (2018). Global warming of 1.5°C: An IPCC special report. Geneva: IPCC.

Levine, T. R., et al. (2014). Truth-default theory (TDT): A theory of human deception and deception detection. Journal of Language and Social Psychology, 33(4), 378–392. https://doi.org/10.1177/0261927X145359

Lizarralde, G., 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, 102173. https://doi.org/10.1016/j.ijdrr.2021.102173

Munich RE. (2023). Natural catastrophe review 2023. Munich, Germany: Munich RE. https://www.munichre.com/

Nazara, S., & Resosudarmo, B. P. (2007). Aceh-Nias reconstruction and rehabilitation: Progress and challenges at the end of 2006. Tokyo: Asian Development Bank Institute.

Schwoebel, M. H., & McCandless, E. (2021). Climate change and conflict: A systematic review of the evidence. Journal of Peace Research, 58(4), 567–581.

United Nations Office for Disaster Risk Reduction. (2020). The Human Cost of Disasters: An Overview of the Last 20 Years (2000-2019). Geneva: UNDRR.

United Nations Office for Disaster Risk Reduction. (2022). Global Assessment Report on Disaster Risk Reduction 2022. Geneva: UNDRR.
United Nations Office for Disaster Risk Reduction. (2015). Sendai Framework for Disaster Risk Reduction 2015-2030. Geneva: UNISDR.
Ülker, D., Ergüven, O., &Gazioğlu, C. (2018). Socio-economic Impacts in a Changing Climate: Case Study Syria. International Journal of Environment and Geoinformatics, 5(1), 84-93. https://doi.org/10.30897/ijegeo.406273
Waltham, T. (2005). The Asian Tsunami disaster, December 2004. Geology Today, 21, 22–26.

DOI 10.69790/epis-rep-cpe-1/52830

EPIS