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EPIS REPORT ON CLIMATE POLICY & ENVIRONMENT

GUEST ENTRY BY CHERYL WHITE

Natural Disasters and the Future of Foreign Policy in East Asia

How can theoretical frameworks address the complexities of state responses to climate change? Frameworks like Liberalism, Realism, Constructivism, Public Choice Theory, and Behavioral Economics analyze state behavior, and help us predicts countries' response to climate disasters. Each offer a unique perspective and conclusions.

Disaster Diplomacy

How and why do disaster-related activities succeed or fail in creating peace and reducing conflict? Disaster diplomacy can build bridges through coordinated relief efforts, but pre-existing geopolitical tensions, poorly managed aid, and strategic interests can turn such efforts into sources of conflict. Disaster diplomacy holds potential to improve international cooperation, but its success requires addressing underlying geopolitical tensions and ensuring equitable, strategic relief efforts.

Table of Content

Guest Contribution

Columns

Editorial

Karla Lamesic

Karla Lamesic is pursuing a PhD in Finance at the University of St. Gallen (CH). Her research focuses on climate change, environmental issues, and security challenges. Driven by a commitment to integrating diverse economic and political perspectives, she aims to foster a comprehensive understanding of environmental issues and their broader implications.

EPIS Report Editorial

Dear reader,
For years, climate change has been at the center of global discussions, a storm of concern brewing steadily on the horizon. Yet, one of its most striking manifestations of this storm has only recently received the attention it truly deserves: natural disasters and catastrophes, also shortly called NatCat. Spin a globe, and you'll likely land on a place scarred by a recent disaster—a hurricane here, a wildfire there, floods and earthquakes reshaping the landscape.

These events strike mostly without warning, their impact rippling through communities, shattering lives, infrastructure, and ecosystems. Needless to say, the aftermath is extremely challenging for most affected areas, but what stands out is the sheer complexity of these occurrences. NatCats aren't just geological and climatological formations; they are catalysts for change, influencing everything from global security to politics and diplomacy. They force us to confront the fragility of our systems and the interconnectedness of our world.

Our inaugural report on climate change takes you on a journey into the seemingly unpredictable world of NatCats with a special focus on the vulnerable region of East-Asia. With a fresh perspective on resilience and responsibility, our report team guides you through the most recents Nat Cats events, implications and consequences, and a future outlook.

The report kicks off with an introduction by Marion Cordebart on the ideas of liberalism, realism and constructivism and how they might be used to assess the implications of NatCats. Our authors, Theodor Pina and Marcus Geiger provide insights on the tragic effects of migration via NatCats. Zhala Mammadli provides us with a concise overview of the implications for trade. Avital Z. guides us through the importance of disaster diplomacy and Rebecca Quaranta focusses on a specific case study involving the two Koreas. We proceed on to a more technical essay on Social Network Analysis for disaster resiliency by Niklas Klingel, which is followed by Katharina Schwär's discussion on the controversial use of drones for resiliency measures. We'd like to thank our partners at JAGD and EuroDefense for their warm greetings and valuable contributions. A special shoutout to the entire report team for their incredible work, creative ideas, and collective effort in putting together this diverse and insightful analysis of the security implications of natural disasters in East Asia.

And with that, dear reader, enjoy the storm.

Sincerely,
Karla Lamesic

GREETINGS FROM EURODEFENCE

Brígida Brito

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Over time, and particularly with the advent of the 21st century, climate change has become one of the most important topics in the international context. The acknowledgment that, independently of the region, the climate pattern has changed is no longer considered to be a matter of little consensus, but is now accepted as evidence. The rise in temperature since the industrial revolution, which is so well characterised by the Anthropocene geological era, has now been proven, as well as the increase in extreme weather events, both in terms of regularity and intensity.

Associated with the climate issue are problems that go beyond the purely meteorological scope, which pose risks and challenges because they require urgent regulation and the identification of solutions. The environmental problem is viewed from a global perspective, given the threats to vulnerable ecosystems and endangered species, but which also affect the so-called global commons, posing planetary risks. In many regions of the world, the social problem is reflected in the migratory process, highlighting the category of climate refugees. Examples include the Asian and African continents and the dry corridor of Central America. These are regions where the forced human mobility by environmental causes is clearly portrayed and which pose multiple risks due to the inability to retain or regulate it. The economic issue is embodied in the identification of new and challenging, but uncertain, production and energy models. The political dimension, both internal and external, is framed by the adoption of increasingly innovative strategic models in international relations and decision-making.

Concerns about the risks posed by climate change are evident in the numerous studies produced by the Academy, in the actions promoted by the civil society groups, but also in negotiations and co-operation agreements, both bilateral and multilateral. At this level, the Conferences of the Parties (CoP) on Climate have helped to raise international awareness of the issue, above all as a starting point for the various states to make a commitment to contribute to the construction of high-impact global strategies that facilitate both adaptation and mitigation.

Brígida Brito
EuroDefense - Portugal

September 26, 2024

About the Article

How can theoretical frameworks address the complexities of state responses to climate change? Frameworks like Liberalism, Realism, Constructivism, Public Choice Theory, and Behavioral Economics analyze state behavior, and help us predicts countries' response to climate disasters. Each offer a unique perspective and conclusions.

About the Author

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1. Introduction

To make sense of the world, we study the past and develop theories. These theories serve as intellectual frameworks that not only help us make sense of historical events but also guide us in interpreting the present and forecasting the future. In a world characterized by increasing complexity, such frameworks are essential for navigating uncertainty. By examining patterns from past events and analyzing social, political, and economic dynamics, theoretical frameworks can provide a structure to anticipate possible future outcomes. The social sciences, in particular, make use of predictive theories as analytical tools to understand how states interact, how societies function, and how they respond to global challenges. In this way, a good theory may act as a lens that not only helps us to interpret the past but also to construct plausible scenarios for the future. By creating a structured perspective from which we can examine events, theories enable scholars and policymakers to make informed decisions and predictions about future trends and events. Making decisions based on solid theoretical foundations allows them to pursue more informed and calculated actions. Since social behavior is more complex than simple cause-and-effect patterns, theories help simplify this complexity by emphasizing the relationships and variables that are most critical to understanding the situation at hand.

In areas such as national security and foreign policy, theories play an even more central role. These fields are inherently concerned with managing uncertainty, as threats to security often arise unpredictably and evolve in ways that are difficult to anticipate. Strategic studies, which focus on how states manage security threats, draw heavily on theoretical models to understand how different actors might behave in the face of conflict or instability.

The analytical frameworks of realism, liberalism, and constructivism provide reliable ways to explain and predict state behavior in response to these kinds of security challenges. However, when it comes to the unprecedented and escalating threat of climate disasters, can traditional theories still be relevant? Many of them were developed in contexts where security threats primarily involved direct enemies and military action. Climate change, however, is a much more interconnected phenomenon, impacting not only ecosystems but also economic stability, population movements, and political cohesion. All of which have far-reaching security implications. This is particularly relevant when examining the security and foreign policy implications of climate change in East Asia, a region highly vulnerable to climate-related disasters such as typhoons, rising sea levels, and extreme weather patterns.

First, we will examine the region's current geopolitical position, which is crucial for understanding the stakes when facing climate threats. We will then look into what liberalism, through the lens of Ricardo's theory of comparative advantage, can predict, followed by realism with Wallerstein's dependency theory. Lastly, we will consider insights from constructivism and behavioral economics. Each of these theories offers a distinct perspective on how climate disasters may shape East Asia's international relations and security strategies.

2. Geopolitical situation of South East Asia and the impact of climate disasters:

South East Asia is a diverse region. Composed of an exceptional cultural and linguistic diversity, with about 2'300 languages spoken, the region varies in terms of political approaches and economic variations. The GDP per capita of Singapore is 60 times that of one of Nepal's. Despite these differences, the region constitutes a complementary and interlinked system where they share mutual trade interests. This allowed the region to develop a significant role in the global economy. As the world's trade epicenter, East Asia occupies a unique global position, yet it is increasingly susceptible to face climate-related challenges (McKinsey & Company, 2023).

Economically, East Asia has grown spectacularly over the past decades. Since 1960, Asia, the largest and most populous of the continents, has become richer faster than any other region of the world. East Asia and the Pacific have

emerged as a model of economic development, standing out as a region of remarkable progress within the global economy. This rapid expansion is not just limited to a few nations, the benefits of growth have been broadly distributed across the region. China's growth, for example, is estimated to have boosted developing countries' growth by around 1 percentage point annually during the 1995-2019 period, and by 0.67 percentage points annually during the period 2020-2023 (World Bank, 2024).

East Asia's economic strength, concentration of knowledge, and demographic power not only enable it to shape global politics but also have profound implications for security and foreign policy. (McKinsey & Company, 2023). First, East Asia's large economy and central role in global trade and supply chains gives the area significant leverage in foreign policy. Economic power allows them to project influence through strategic investments, trade agreements, and economic partnerships. This economic advantage can be used as a tool for diplomacy, enabling these nations to foster closer ties with allies, negotiate trade terms, or, in some cases, apply economic pressure on rivals. China's Belt and Road Initiative, for instance, is a perfect example of economic outreach coupled with foreign policy goals, reshaping relationships and infrastructure networks across the world.

Constructivism:
A theory emphasizing ideas, norms, and identities in shaping state actions and global politics.

Second, the region's concentration of knowledge and technological innovation plays a growing role in shaping security policies. East Asia is at the heart of advancements in cyber technology, artificial intelligence and military modernization, all of which are critical for national defense and strategic positioning. The development of cutting-edge technologies not only enhances the military capabilities of countries in the region but also brings competition over control of sensitive technological advancements, cybersecurity concerns, and technological dominance. Demographic forces further influence East Asia's security and foreign policy. The region's large populations, particularly in China, contribute to growing military capacities as nations seek to secure their borders and project influence abroad. At the same time, demographic challenges such as aging populations and shrinking workforces in some nations, impact national security, requiring adjustments in defense strategies, social policies, and diplomatic relations to maintain stability and economic growth. Countries may increasingly look for alliances to secure resources, labor, and economic opportunities, shaping their foreign policy agendas. Climate change will fundamentally change the dynamics of the global economy, security, and foreign policy. As climate-related disruptions intensify, they will challenge economies, resources, and reshape international relations, especially for regions like East Asia. The region faces significant challenges, including external economic headwinds, rising levels of private debt, and the growing impact of extreme weather events. East Asia is one of the most disaster-prone regions in the world, and these climate-driven disasters not only cause immediate devastation but also undermine long-term sustainable development, weakening infrastructure, disrupting supply chains, and slowing economic progress. However, according to the OECD, East Asia's economic growth is projected to remain robust, driven by strong domestic and regional demand, as well as the ongoing recovery of sectors like tourism and services (OECD, May 2024). Climate change will severely impact the region's energy and food supplies, triggering disruptions extending far beyond national borders. These disruptions are likely to displace populations and intensify competition for essential resources like water, arable land, and energy, creating new security threats. This shifting dynamic will require governments to anticipate and incorporate climate risks into their foreign and security policies.

3. Liberalism and Ricardo's comparative advantages:

In order to anticipate the effect of such turns of events, theories provide a framework of analysis. The first theory is Liberalism. It emphasizes the importance of cooperation,

institutions, and the role of individuals and non-state actors in global politics. Rooted in the ideas of human rights, democracy, free markets, and international law, Liberalism proposes that states are not the only relevant actors in international affairs and that war is not inevitable. David Ricardo's theory of comparative advantage explains that countries should specialize in producing goods for which they have a lower opportunity cost relative to other countries, even if they are less efficient overall. By doing so and trading, all countries can benefit by obtaining goods more cheaply than if they tried to produce everything themselves. Liberalism has been especially successful in the past decades (The economist, January 2018) in economics through trade and international supply chains. The amount of Foreign Direct Investment in 2024 totaled $1.3 trillion. Politically, liberalism remains highly influential, with most countries being members of multilateral institutions such as the United Nations and the World Trade organisation (UNCTAD, June 2024). Therefore, liberalism could serve as a valuable framework for analyzing foreign policy in response to climate disasters. How might liberalism anticipate foreign policy consequences of climate disasters? Liberalism highlights how economic interdependence between countries makes cooperation more likely and beneficial. In East Asia, where countries like China, Japan, and South Korea have deep economic ties, climate disasters can disrupt trade, supply chains, and regional economies. This interconnectedness incentivizes countries to work together to ensure that climate disruptions are well-managed. Liberalism argues that by helping other countries recover, economically interdependent states protect their own economic interests and reinforce the stability of the regional trading system. However, as stated before, climate disasters threaten key resources necessary to the autonomy of the country and its security. A country might rightly not want to delegate their production abroad to keep control of them. According to liberalism, this could be fatal. Indeed, even though resources like food and energy are crucial, it is still more efficient for countries to focus on producing goods they are best suited to produce. The international trade system allows countries to obtain essential resources more cost-effectively than producing everything locally. Additionally, while a climate disaster could disrupt a particular region's ability to produce certain (key) resources, Ricardo would highlight the importance of diversification of trade partners. A country can mitigate risk by diversifying resource suppliers, reducing dependence on a single source, and ensuring stability through trade from unaffected regions in case of a disaster (Starvins& Stowe, 2018). Rather than viewing dependency on international resources as a weakness, Ricardo would argue that mutual dependence through trade actually creates incentives for peace and cooperation. If countries rely on each other for essential goods like food and energy, they are less likely to engage in conflict, as doing so would jeopardize their own access to these critical resources. In a liberalist framework, states acknowledge that they face shared vulnerabilities due to climate disasters. This awareness encourages countries to engage in cooperative efforts, such as joint disaster preparedness plans, early warning systems, and climate resilience projects. This approach recognizes that no state can effectively handle the long-term impacts of climate change alone. The establishment of the ASEAN Climate Resilience Network, supported by Japan and other East Asian partners, reflects liberalism's emphasis on cooperation. It aims to improve regional capacities for managing climate risks, fostering knowledge sharing and technological exchange in disaster risk reduction (ASEAN Climate resilience Network, 2021). According to liberals, climate disaster response can be a tool of climate diplomacy and a foreign policy tool. Liberalism suggests that states engage in climate diplomacy as a way to build soft power and improve international relations. East Asian countries often use climate change-related initiatives and disaster relief efforts to enhance their diplomatic influence and foster better relations with their neighbors. By framing climate response as part of their foreign policy, countries demonstrate their commitment to global norms and multilateralism, which in turn can improve their position on the international stage. China's initiative: the Belt and Road International Green Development coalition of 115 countries is a collective effort to promote economic development and inter-regional connectivity focusing on sustainable infras-

tructures. China is investing heavily in renewable energy infrastructure in partner countries, enhancing its reputation as a supporter of sustainable development, and making China a leader in sustainable investments (UNEP, 2020). Liberalism further emphasizes the importance of non-state actors, such as non-governmental organizations, the private sector and civil society, in addressing global challenges. In the context of climate disasters in East Asia, NGOs, humanitarian organizations, and environmental groups play a significant role in disaster relief, recovery, and advocacy for stronger climate action. After major climate disasters, international NGOs such as the Red Cross and Oxfam work alongside governments to provide aid. Liberalism argues that the involvement of these actors highlights the increasing interconnectedness of global governance and the importance of multi-level responses to crises. Since these disasters transcend borders and affect multiple states, liberalism would then argue that countries in East Asia are likely to collaborate through multilateral frameworks to address the threats posed by climate change.

From a liberal perspective, climate disasters are seen as global challenges that require collective action rather than unilateral responses.

4. Realism and World Dependence Theory:

On another hand, Realism anticipates climate disaster's response to foreign policy quite differently. Realism emphasizes the competitive and conflictual nature of international politics. It is rooted in the belief that states are the primary actors in the international system, and they act mainly out of self-interest, focusing on power and security. According to realists, the international system is anarchic, meaning that there is no overarching authority above states, and each state must rely on its own capabilities to ensure its survival. Realism stresses competition over scarce resources. Climate disasters can exacerbate resource scarcity such as water, food, and energy supplies, which can lead to conflict between states. For example, if climate change affects resources both in its general effects and during disaster. Water usage of the Mekong river, passing through multiple East Asian countries clearly demonstrates climate change's disruptive effects (Mekong River Commission, 2024). Additionally, a country facing significant damage from climate disasters may be more vulnerable to both internal tensions and external threats. (OECD) The 2011 Tohoku earthquake is a perfect example of that. The 9.0 magnitude earthquake and tsunami that hit Japan had devastating consequences both humanitarian and concerning energy supply. Not only did it cause huge humanitarian consequences, but it also resulted in a nuclear disaster. Energy infrastructures were shut down due to the damages. From a realist perspective, this catastrophe significantly impacted Japan's ability to maintain stability. The country had to divert massive financial and human resources towards disaster relief and recovery efforts. This further weakened its military and economic capabilities, creating vulnerabilities in terms of both internal and external security (CSIS). Similarly, many key military and economic infrastructures in East Asia (ports, naval bases, and coastal cities) are vulnerable to climate change impacts like rising sea levels and extreme weather events. From a realist perspective, the potential damage to such critical infrastructure poses a serious security risk as it could weaken a state's defense capabilities. States may therefore prioritise the protection and fortification of these assets, diverting resources towards mitigating these risks. Furthermore, realists would highlight the security implications of mass migration due to climate disasters. It could create instability at borders, lead to refugee crises, and strain neighboring states' resources. States might view these population movements as security threats, which could lead to stricter border controls, increased military presence, or tensions with neighboring countries over how to manage these crises. Climate disasters can exacerbate pre-existing territorial disputes, such as those in the South China Sea, where resources are already a key point of contention. Rising sea levels or more intense typhoons may make access to these contested resources even more

critical, driving countries to reinforce their territorial claims (Fleishman, 2022). From a realist perspective, this climate-induced resource shortage is a direct threat to the state's sovereignty and economic security, leading to greater militarization of disputed areas.While realism tends to emphasize competition, states can also cooperate when it serves their national interests. In East Asia, countries may engage in regional cooperation on climate disaster preparedness and response not purely out of humanitarian concerns but to enhance their own security. For instance, China and Japan both participate in ASEAN-led disaster

5. Constructivism

The last theory that can help us make sense of these dynamics is Constructivism.It focuses on the role of ideas, beliefs, identities, and norms in shaping state behavior and international politics (Amineh And Asl, 2015). Unlike Realism or Liberalism, Constructivism argues that international relations are socially constructed and the meanings and interpretations states assign to events (like climate disasters) are crucial in understanding how states respond. In the context of East Asia, countries may interpret climate

Theory	Core Idea	Climate Response	Key Mechanism
Liberalism	Economic interdependence fosters cooperation.	Trade, multilateral agreements, disaster diplomacy.	Ricardo's Comparative Advantage: Trade reduces conflict.
Realism	States act in self-interest, prioritizing survival and security.	Resource competition, military buildup, strict border control.	Dependency Theory (Wallerstein): Climate aid as a power tool.
Constructivism	Perceptions, social norms, and identities shape responses.	Disaster diplomacy, shifts in national identity and cooperation norms.	Behavioral Economics & Public Choice: Cognitive biases in policy decisions.

Figure 1: Summary Table – Source: Own Work

relief mechanisms, recognizing that regional stability is crucial for their own security. Going further, and moving away from the core realist idea, natural disasters could be used by countries to perpetuate unequal economic relationships and form foreign policy goals towards that. Wallerstein explains how global economic structures often exploit poorer countries, reinforcing their dependence on wealthier states. As richer countries are dependent on the resources of poorer countries. They have an incentive for foreign aid, especially for disaster resilience projects. Foreign aid and disaster relief can either perpetuate or challenge these inequalities, as wealthier countries may use aid as a tool to maintain influence or ensure access to resources, while poorer countries might leverage aid to address immediate needs or invest in long-term development that could shift the power dynamics. Ultimately, the way in which aid is delivered and utilized plays a significant role in either reinforcing or transforming the existing economic structures.

disasters differently based on their historical experiences, identities, and the norms they follow. Moreover, global norms surrounding climate change and environmental protection have evolved, affecting how states understand their responsibilities in addressing climate-related disasters. For example, Japan and South Korea have increasingly framed climate disasters as part of a broader human security agenda, viewing them as existential threats not just to the state, but to people and societies (UNDP, 2023). Japan's 2011 earthquake and tsunami shaped a national discourse around vulnerability and the need for resilience and reinforced Japan's identity as a leader in disaster preparedness and response. The social understanding of climate disasters as both a national and global security threat influences Japan's foreign policy engagement with regional and global institutions (Rauhala, 2011). Constructivism suggests that states can shape and reshape norms through their actions and interactions (International Journal of Advanced Multidisciplinary Re-

search and Studies, 2023). As climate-related disasters become more frequent, countries in the region may come to view climate cooperation as an essential aspect of their foreign policy. After the 2004 Indian Ocean tsunami and other subsequent climate-related disasters, East Asian countries (particularly within ASEAN and with partners like Japan, South Korea, and China) have contributed to the development of a „disaster diplomacy" norm (Gong, 2021).

As in constructivism, Public Choice Theory shares the same idea of discourse as a tool: disaster relief can be seen as political capital. Governments may use disaster relief efforts to enhance their political standing, both domestically and internationally. Public Choice Theory suggests that politicians will allocate resources in a way that benefits their political survival, potentially prioritizing high-visibility projects or areas with strong electoral support, rather than focusing purely on the regions most in need. Foreign aid is also a tool for pursuing national interests and fostering diplomatic leverage (J. S. Shaw). For instance, after Typhoon Haiyan in the Philippines in 2013, the government's response faced criticism for uneven distribution of aid (The Guardian, 2015). Public Choice Theory would explain this by suggesting that politicians may have prioritized aid distribution to regions where they had more political supporters, rather than the areas hardest hit by the disaster. Framing of foreign aid, both as an altruistic gesture and a strategic tool, underlines the importance on how decision-making processes are influenced both as a strategy, but also involuntarily. Behavioral economics, particularly the work of Daniel Kahneman, highlights the role of cognitive biases on shaping these decisions. In the context of climate disasters, governments, and international actors may misjudge the scale of impacts or the effectiveness of policies due to psychological factors. The first bias would be the availability bias. It refers to the tendency to overestimate the likelihood of events that you can more easily remember. After a climate disaster, governments and international actors may be influenced by the most recent or highly exposed disasters in the media. They might therefore overestimate the frequency of similar disasters, leading to an over-allocation of resources for earthquake preparedness while potentially underestimating other risks like floods or droughts. A second bias would be risk and loss aversion. Indeed, leaders may opt for policies that appear to minimize short-term risk, even if these policies are less effective in addressing long-term challenges as these tend to have lower upfront costs and face less political opposition.

6. Conclusion:

Theoretical frameworks are indispensable tools for understanding the complexities of the past, present, and future. They provide scholars and policymakers with structured perspectives to navigate uncertainty, anticipate trends, and develop strategies to address emerging challenges. While traditional theories have proven effective in explaining and predicting state behavior in areas like national security and foreign policy, the unprecedented and multifaceted nature of climate change demands an evolution in our analytical approaches. Climate-related threats, call for the integration of new theoretical models that address interconnected social, economic, and ecological dynamics. By adapting and expanding these frameworks, we can better equip ourselves to confront the global challenges of the future and ensure more resilient and sustainable outcomes for both states and societies.Liberalism was the first lens we analyzed the situation with. Its emphasis on economic interdependence, multilateral cooperation, and the role of institutions highlights the importance of collective action in managing shared vulnerabilities. Initiatives like the ASEAN Climate Resilience Network and international agreements such as the Paris Accord exemplify how cooperation can enhance regional resilience. Realism provided a second contrasting perspective, emphasizing competition, self-interest, and power dynamics. States prioritize their survival and sovereignty in the face of these challenges. Finally, Constructivism, focusing on the role of ideas, identities, and norms highlights that state responses are shaped by historical experiences and collective understandings. Public Choice Theory adds that domestic political incentives often shape disaster relief, with

decisions driven by political survival rather than purely humanitarian concerns. Behavioral Economics, through concepts like availability bias and risk aversion, further explains how psychological factors influence decision-making, often prioritizing immediate or highly visible risks over long-term challenges. Together, these frameworks reveal the complexity behind state actions in response to climate disasters.

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About the Article

How do international relations influence the aftermath of natural disasters in South and East Asia, especially migration and conflict? Climate change intensifies natural disasters, leading to displacement and resource competition, which can exacerbate conflicts. Effective international cooperation and human-rights-based policies are essential to mitigate these effects. A holistic approach combining disaster prevention, conflict resolution, and policy reform is critical for resilience.

About the Authors

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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

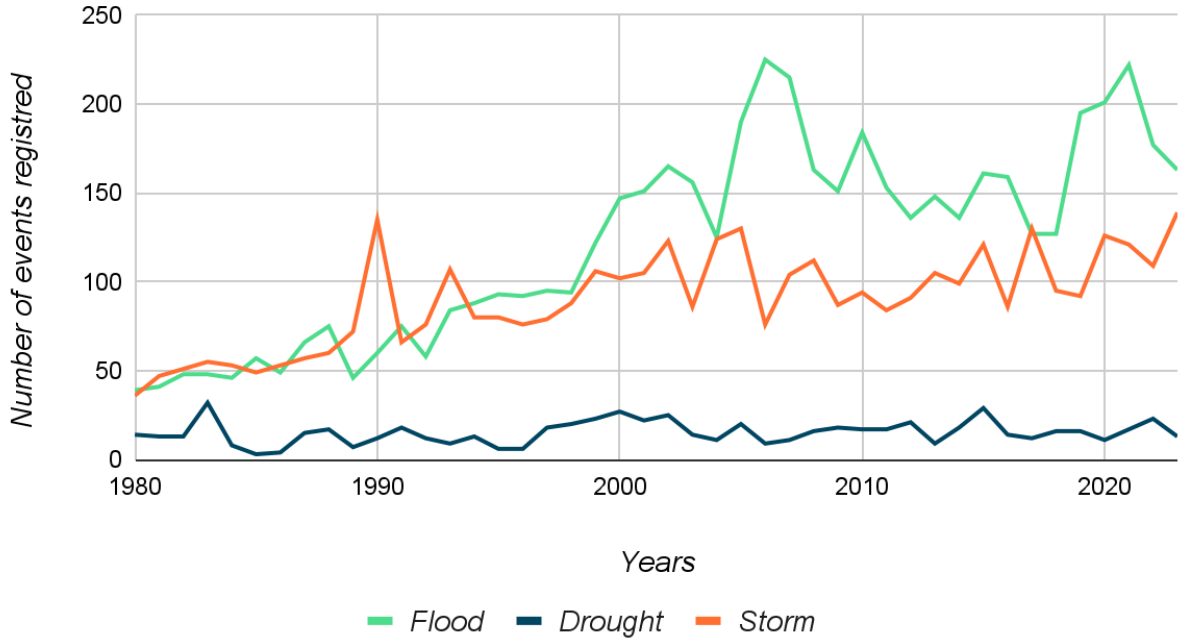

Figure 1: Frequency of natural disasters

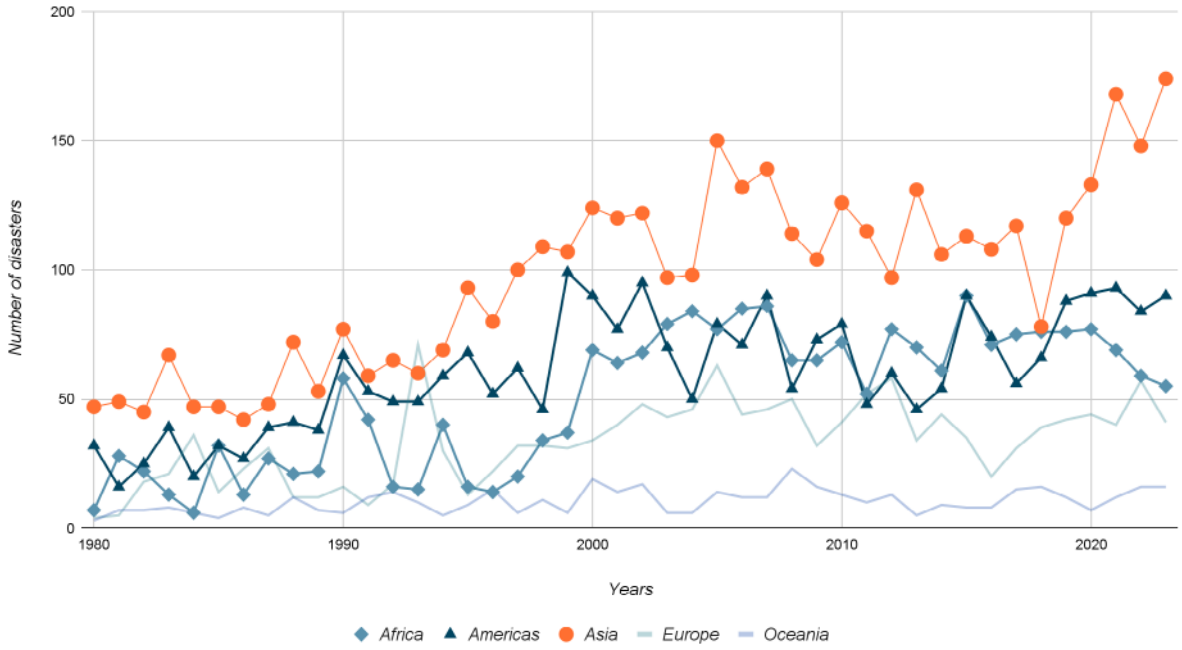

Figure 2: Natural Disasters in World contontents

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 re-

lated 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.

Environmental Migrants:
People forced to migrate due to disasters or bad environmental 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.

Countries are not equipped with adequate warning systems and lack the necessary response tools.

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.

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). 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,

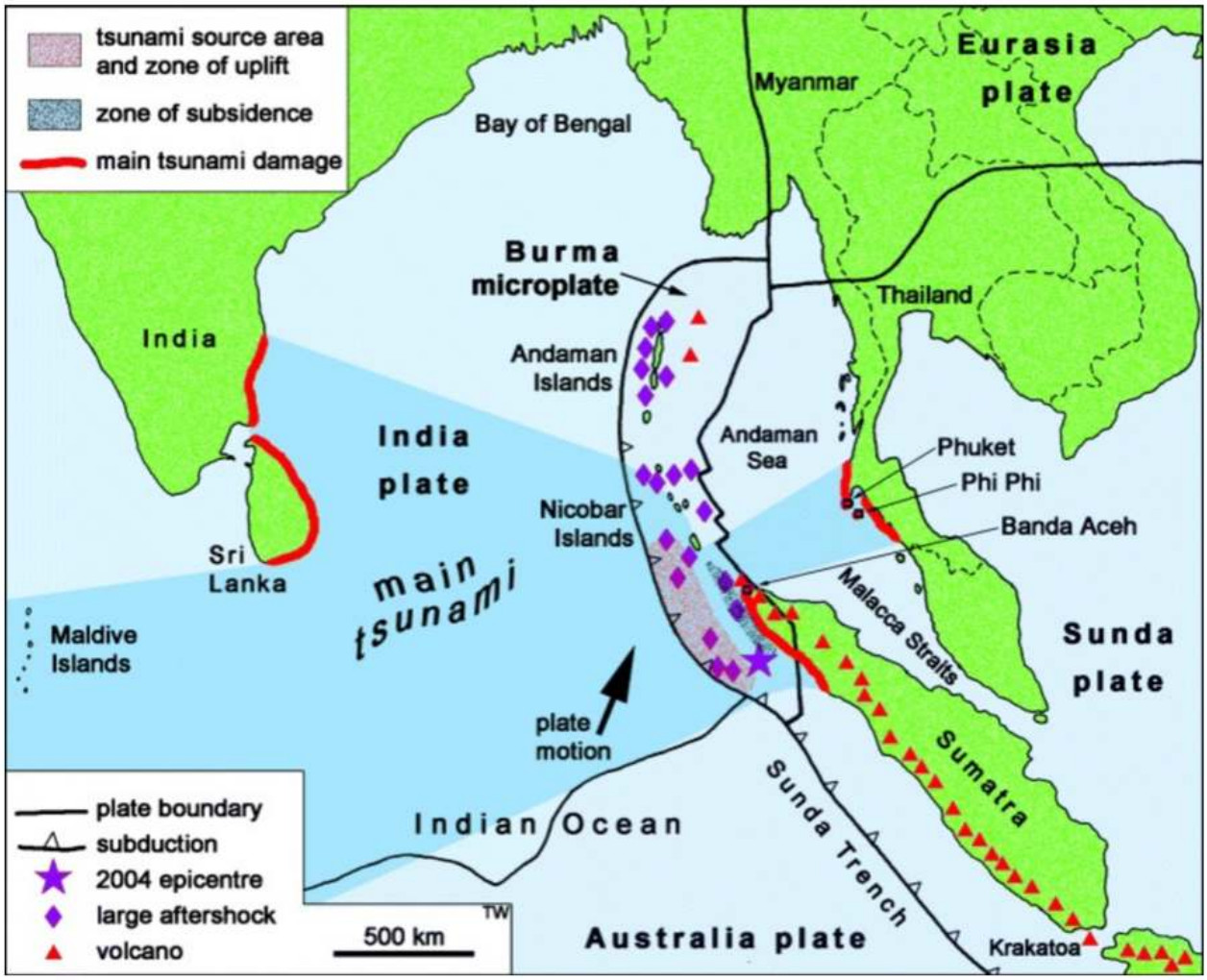

Figure 3: Locations of features of the 2004 earthquake and tsunami (Waltham, 2005)

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).

The examples above illustrate how the same natural disaster can have completely different consequences for

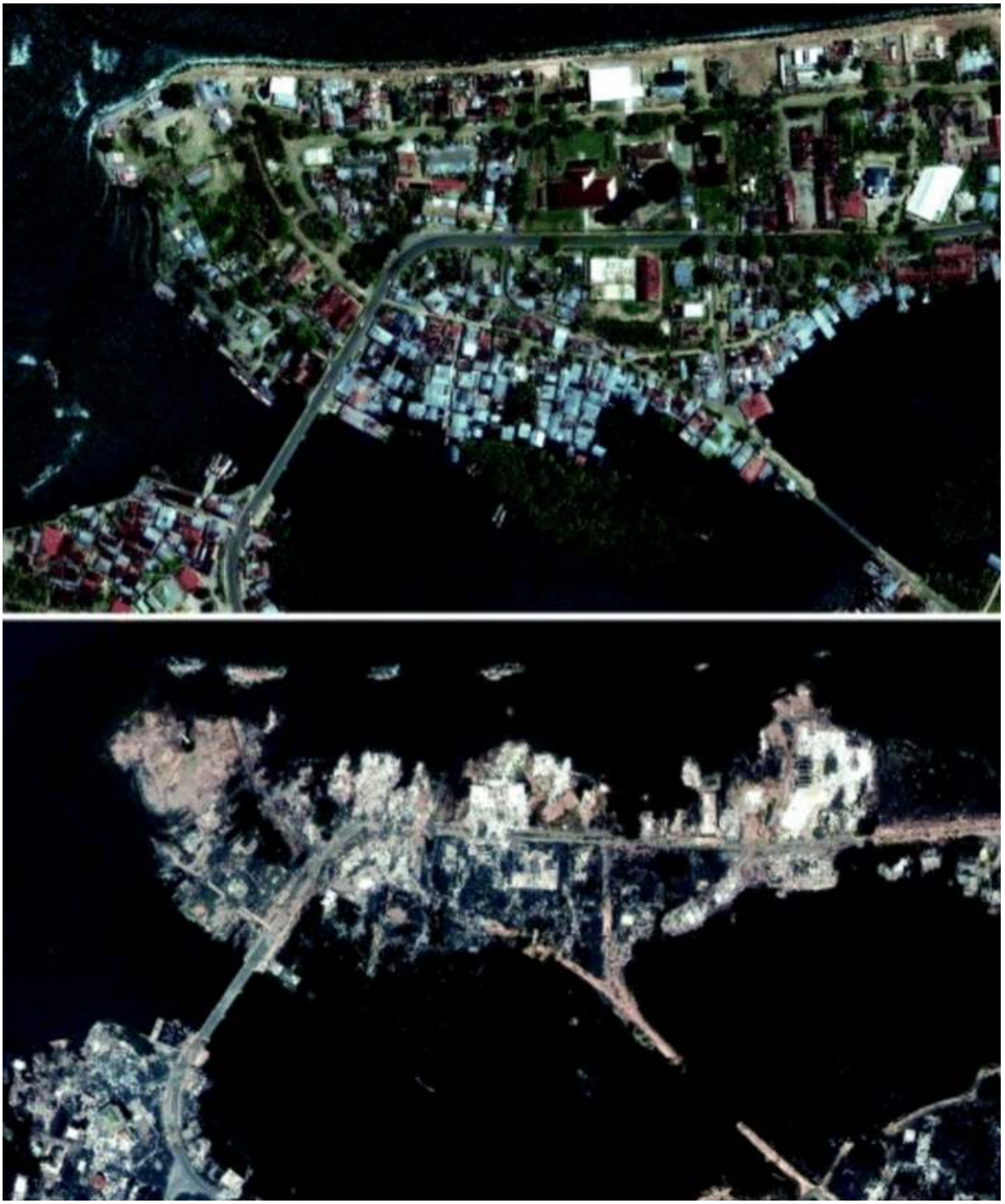

Figure 4: Before and after satellite images of the town centre of Banda Aceh, Indonesia (Waltham, 2005)

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 ocio-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.

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About the Article

How do natural disasters impact Asia's trade, industry, and regional stability? Argument: Disasters disrupt supply chains, manufacturing, and agriculture, affecting economies and international relations. These disruptions expose vulnerabilities, increase dependencies, and reshape power dynamics. Conclusion: Investing in resilient infrastructure and cooperation transforms challenges into opportunities, enhancing stability.

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1. Introduction

Natural disasters have long been a recurring problem in Asia, causing significant economic disruption. The shocks to industry and trade, which reverberate through regional and global systems, are among their most notable consequences. In addition to putting the resilience of the impacted countries to the test, these economic disruptions have a significant impact on international relations and security, which in turn shapes the dynamics of the region. The report focuses exclusively on how natural disasters affect trade and industry, as well as how they affect international relations and security. This report aims to address a crucial question: How do natural disasters affect Asia's trade and industry, and what are the wider ramifications for international relations and regional stability?

2. Regional Trade and Economic Dependence

Due to their heavy reliance on regional supply chains and trade, Asia's interconnected economies are especially susceptible to natural disasters (Asian Development Bank, 2021). Events like tsunamis and monsoons stop production and block important shipping lanes, which has a domino effect on trade routes and economic interdependence (Chua et al., 2024). For example, the 2011 tsunami in Japan caused delays and shortages all over the world by upsetting global supply chains in the automotive and technology sectors in addition to destroying local industries (Collins, 2011). During this time, global automobile exports decreased by about 20%, and production in some industries was delayed by up to six months (Collins, 2011). Even though it wasn't a natural disaster in the conventional sense, the COVID-19 pandemic brought attention to weaknesses in global supply chains, and its effects are still being felt in 2023 (Harapko, 2023). Shipments were delayed by an average of three to four weeks as a result of the pandemic-induced disruptions to shipping and logistics, which exacerbated the effects of natural disasters like the 2020 Typhoon Goni in the Philippines, which stopped trade and severely damaged ports (OCHA, 2020).

Ripple Effect:
The cascading impact of an event, triggering broad economic and geopolitical shifts.

Geopolitical repercussions are frequently the result of these disruptions. Strong trade ties may lead to more opportunities for cooperation but may also heighten tensions between nations. As an illustration, regional stability has been enhanced and trade shocks have been lessened thanks to collaborative recovery initiatives, such as ASEAN's logistics sharing frameworks (ASEAN, 2024). On the other hand, when resource allocation becomes a controversial topic, disparate recovery capacities can worsen dependencies and strain alliances (ASEAN, 2024). Disaster-related disruptions compelled a reassessment of trade agreements to guarantee increased resilience and mutual security, as demonstrated by the aftermath of the 2004 Indian Ocean tsunami (ASEAN, 2024).

3. Industry-Specific Case Studies

Because of their geographic concentration and reliance on international markets, certain trade-related industries are more severely impacted by natural disasters. For instance, agriculture is especially vulnerable to flooding and other severe weather conditions. Frequent floods in Bangladesh harm export crops, which lowers farmer incomes and strains trade ties with partner countries that depend on agricultural imports (Paul, 2024). In 2022, flooding caused Bangladesh's rice exports to drop by 35%, affecting regional food security and resulting in losses of about $1.5 billion (Paul, 2024). Likewise, manufacturing centers in South Korea and Japan encounter major production difficulties following typhoons or earthquakes, which cause delays in products like cars and electronics that are essential to global supply chains (Gray & Shigemitsu,

Figure 1: People wade through floodwaters in Feni, among the worst-hit areas in Bangladesh, on August 23 [Munir Uz Zaman/AFP] Al Jazeera news, 2024

2021). The 2021 floods in China's Henan province caused significant disruptions to logistics and manufacturing, stopping production in one of the nation's most important industrial areas and causing a six- to eight-week delay in the export of goods (Global Times, 2021).

Logistics and shipping are another significant weakness. Typhoons and tsunamis frequently disrupt major ports in disaster-prone areas like Indonesia and the Philippines. Trade flows throughout the Asia-Pacific region were delayed by the temporary closure of ports during Typhoon Haiyan in 2013, which highlighted the strategic importance of protecting vital trade infrastructure (Kuhla et al. 2013). Similar to this, Typhoon Rai in 2021 severely damaged Cebu's international port, a vital trading hub in the Philippines, causing weeks-long delays in the movement of goods and a 25% decline in regional shipping volumes (Kuhla et al., 2013). Strong international assistance and trade alliances are frequently essential for recovery from these shocks. For example, Japan's current bilateral trade agreements and quick assistance from nearby countries sped up its recovery from the 2011 tsunami (Kodama, 2021).

4. Implications for International Relations and Security

Natural disaster-induced trade disruptions have a direct impact on international relations and regional security. Economic vulnerabilities in countries that are prone to disasters, may result in a greater dependence on outside assistance, generating dependencies that change the geopolitical landscape (Embassy of Japan in the Philippines, 2021). As demonstrated by Japan's $500 million aid commitment to the Philippines after Typhoon Haiyan, aid-giving nations can increase their influence(Embassy of Japan in the Philippines, 2021). In the wake of the 2022 economic crisis that was made worse by flooding, China's Belt and Road Initiative has more recently expanded its reach by making post-disaster recovery investments in nations like Sri Lanka (Chatnam House, 2020).

Furthermore, differences in recovery capacities frequently point to underlying differences in regional stability. Reduced competitiveness may result from disaster-affected countries' difficulties rebuilding their trade infrastructure, which could cause dplomatic tensions over trade

imbalances (Guo &Quayyum, 2020). However, natural disasters also present chances for strategic alliances. Initiatives for bilateral and multilateral aid, like cooperative investments in resilient infrastructure, can serve as measures to boost confidence, strengthen partnerships, and reduce future risks(DRRRF, 2018).

Because they destabilize areas, natural disasters also increase security concerns.

Natural disasters disrupt trade and reshape regional alliances in Asia.

Trade and industrial disruptions can make resource scarcity worse, which can result in rivalry or disputes over essential supplies (Jadhav, 2024). For instance, countries may prioritize domestic needs when supply chains for necessities like food or energy are disrupted, leading to disagreements over trade policies or export restrictions (Jadhav, 2024). In severe situations, protracted economic instability can fuel social unrest, pressures from migration, or even insurgency (Rocha et al. 2022). One example of how disasters can exacerbate pre-existing social tensions is the aftermath of Typhoon Odette (Rai) in 2021, which caused localized conflicts over resource distribution in parts of the Philippines (Rocha et al. 2022).

5. Conclusion

Focusing on trade and industry demonstrates how natural disasters alter international relations in Asia and upend economic stability. Not only do disruptions to trade routes, manufacturing, and agriculture put countries to the test, but they also reshape regional power dynamics and alliances. Investments in disaster-resilient infrastructure and collaborative recovery initiatives provide avenues to improve diplomatic relations and economic security. The ramifications for international relations and security are enormous.

However, countries can transform the difficulties posed by natural disasters into chances and promote regional stability and redefine security frameworks by tackling trade vulnerabilities in an equitable and cooperative manner.

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About the Article

How and why do disaster-related activities succeed or fail to foster peace and reduce conflict? China's disaster diplomacy can build bridges through relief efforts, but pre-existing tensions, poorly managed aid, and strategic interests may turn such activities into sources of conflict. While China's disaster diplomacy holds potential for cooperation, its success depends on addressing geopolitical tensions, ensuring equitable aid, and balancing strategic and humanitarian goals.

About the Author

Avital Z. holds certifications in multiple research specialties. She is currently pursing a B.A. in Diplomacy and Security studies.

1. Introduction

In an era of increasing global interconnectedness and climate change, natural disasters have emerged as a significant factor in shaping international relations. This phenomenon, known in some literature as „disaster diplomacy," explores how disaster-related activities influence diplomatic relations between countries, and conversely, how diplomatic ties affect disaster management efforts.

Disaster diplomacy examines how disaster response and disaster risk reduction can influence global diplomacy. As defined by Kelman (2012), the core question of disaster diplomacy is: „How and why disaster-related activities do and do not create peace and reduce conflict," or alternatively, „how and why disaster-related activities do and do not induce cooperation amongst enemies." The concept encompasses a wide range of activities, including prevention, mitigation, response, and recovery, and can serve as a tool for improving international relations or achieving diplomatic goals. Success in disaster diplomacy could mean that disaster-related activities have catalyzed diplomacy, leading to positive diplomatic outcomes such as peace deals, augmented diplomatic connections, or further talks. Additionally, positive outcomes for disaster-related activities themselves, such as improved disaster response or increased disaster risk reduction efforts, could also be considered successes. However, it should be noted that disaster diplomacy is not automatically successful. Typically, pre-existing interests supporting diplomacy are needed, as disaster-related activities alone are unlikely to create diplomatic breakthroughs.

Disaster Diplomacy:
The study of how disaster-related activities influence diplomatic relations.

China, with its vast and diverse territory, stands as a prime example of a nation grappling with the complex interplay between natural disasters and diplomacy. The country faces an extraordinary range of natural hazards, including earthquakes, typhoons, floods, droughts, sandstorms, landslides, and forest fires. While the impact of natural disasters varies across China's provinces, nearly two-thirds of the country's land area is at risk of flooding. The country's diverse climate, stretching from tropical regions in the south to subarctic zones in the north, contributes to the occurrence of over 100 types of natural hazards across its territory. The toll of natural disasters on China has been severe. Between 1989 and 2018, these events resulted in 195,820 deaths and direct economic losses of approximately US$1,698 billion (World Bank, 2020).

Climate change is further exacerbating China's vulnerability to natural disasters. At both the global and regional level, climate change has increased and will continue to intensify the frequency and severity of disasters in China. Specifically, the likelihood of super typhoons and intense rainfall is rising, increasing the risk of riverine and flash floods. Droughts and heat waves are projected to become more frequent and severe. Geological disasters triggered by climate extremes, such as landslides and debris flows, are expected to occur more frequently. These climate-related risks are compounded by other factors, including rapid population growth, continued economic development, accelerating urbanization, and increasing interregional trade integration. As a result, China is facing even higher disaster risks in the future. The potential for cascading global impacts of increasing severity underscores the importance of disaster diplomacy in managing these risks.

Given China's vulnerability to natural disasters and its growing global influence, disaster diplomacy presents both challenges and opportunities for the country. As noted by experts in the field, soft power diplomacy is reliant on good relations and essential for bilateral ventures. For China, engaging in disaster diplomacy could strengthen international cooperation in disaster risk reduction and response, enhance its soft power and global image through humanitarian assistance. In turn, extending a helping hand could improve relations with neighboring countries that face similar disaster risks, facilitating knowledge and technology exchange in disaster management, and

potentially easing tensions in other areas of international relations through cooperation on disaster-related issues. A notable example of the negative outcome of poorly managed disaster diplomacy can be found in China's response to Typhoon Haiyan in the Philippines in 2013. Initially, China's modest donation drew widespread international criticism and was reported to have been influenced by territorial disputes involving the Philippines in the South China Sea. This is particularly relevant given China's active engagement with ASEAN and its member states on disaster management issues (Gong, 2021b). However, the success of these efforts will depend on various factors, including pre-existing diplomatic relationships, the specific context of each disaster situation, and the willingness of all parties to engage in meaningful cooperation.

By examining China's experience with natural disasters and its engagement in disaster diplomacy, we can gain valuable insights into the broader implications of using disaster-related activities as a means of building diplomatic ties, easing international tensions, and fostering global cooperation in the face of shared environmental challenges. This analysis can contribute to our understanding of how nations can leverage disaster management to not only reduce risks and save lives but also to build bridges and promote peace in an increasingly interconnected world.

2. China's Military Response to Natural Disasters

China's military response to natural disasters has become integral to its disaster management approach, reflecting the country's growing emphasis on leveraging its armed forces for humanitarian assistance and disaster relief (HADR) operations. This strategy aligns with global trends of increased military involvement in disaster response since the 1990s, driven by the growing capacity gaps in global humanitarian networks and insufficient resources for UN-led HADR missions (Gong, 2021a). This is partly due to the emergence of increased human population

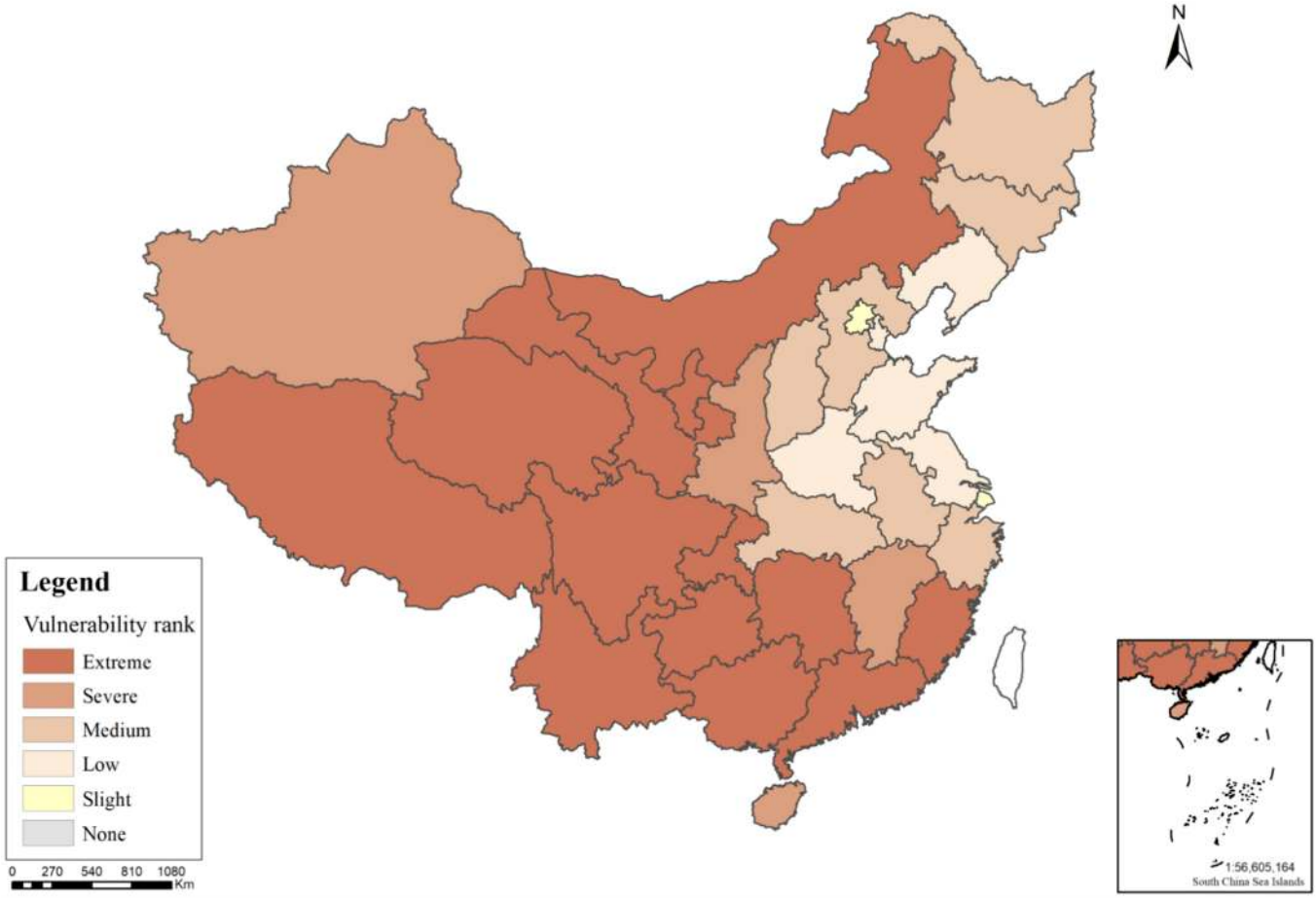

Figure 1: Regional vulnerability to natural disasters in China, assessed using the DEA model.
Note: Reprinted from Wu, L., Ma, D., & Li, J. (2023). Assessment of the regional vulnerability to natural disasters in China based on DEA model. Sustainability, 15(14), 10936. https://doi.org/10.3390/su151410936.

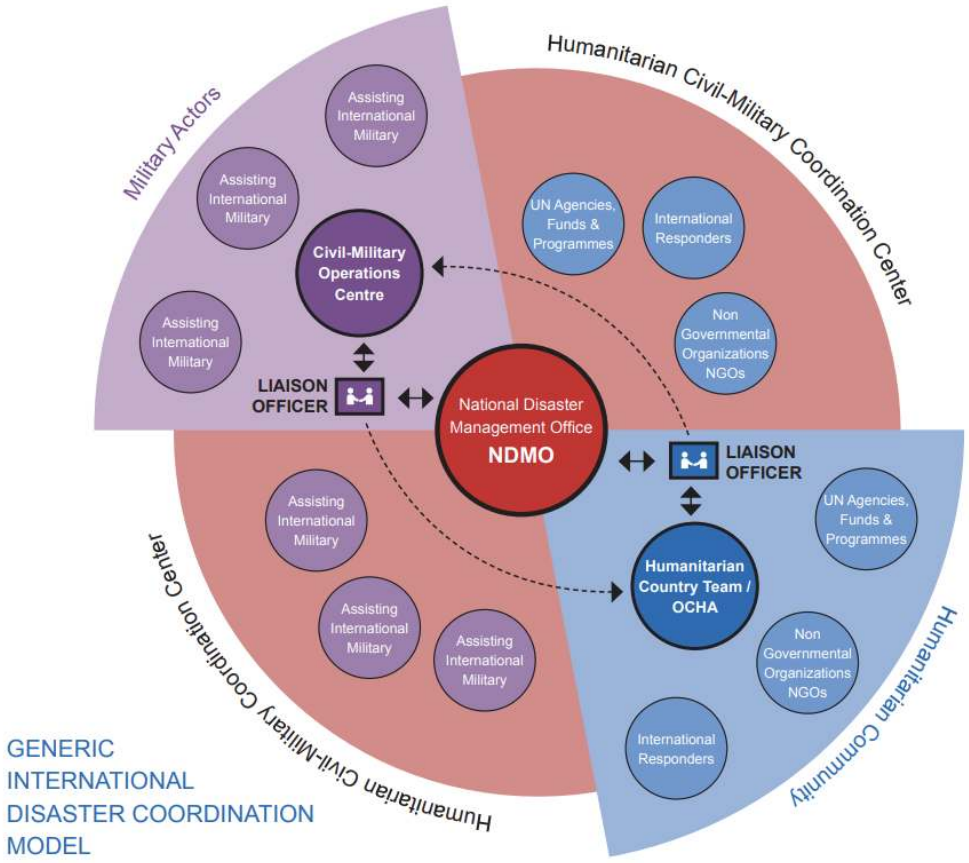

Figure 2: Generic International Disaster Coordination Model
Note: Reprinted from Asia-Pacific Disaster Law Guidelines, by the International Federation of Red Cross and Red Crescent Societies (IFRC), 2021. Retrieved – https://disasterlaw.ifrc.org/sites/default/files/media/disaster_law/2021-03/Asia%20Pacific%20Guidelines_0.pdf

densities and heightened pressure on governments to provide for vulnerable people. The scale of China's military mobilization, specifically for disaster relief, is substantial, owing to several factors. Among these is an overall increase in disaster risk. China faces heightened threats from natural disasters intensified by climate change, population growth, rapid urbanization, and economic development (World Bank, 2020) .

Moreover, the use of military mobilization for aid has proved itself useful in causes of natural disasters and public health crises alike. In the case of the Indo-Asia-Pacific, military management of disasters has been a longstanding domestic model against which, historically, little critique has been wielded (Canyon, Ryan, & Burkle, 2019). As part of the implementation of this form of assistance, a guideline was developed. The outline of Asia-Pacific regional use of foreign military in natural disaster response was drafted, most directly, to convey the principle and use of foreign military assets as a complementary tool to existing relief mechanisms. Essential in the outline is the notion that deployment should be considered under core conditions, including the need to meet urgent humanitarian requirements that civilian resources cannot adequately address (OCHA, 2014).

The People's Liberation Army (PLA) possesses significant logistical capabilities, manpower, and equipment suitable for rapid deployment in disaster scenarios. Disaster relief operations serve as a means for China to enhance its soft power and international image through humanitarian assistance. Notably, China's approach to military deployment for disaster relief reflects a broader strategy of integrating civil and military resources for comprehensive disaster management. This approach addresses immediate humanitarian needs and serves diplomatic and strategic objectives by showcasing China's capabilities and willingness to contribute to global disaster response efforts.

The PLA's involvement in disaster management encompasses a wide range of activities. The military is crucial in building and reinforcing flood defenses, particularly along significant rivers prone to flooding. PLA units are often among the first responders in disaster-stricken areas,

conducting search and rescue missions as well as evacuating affected populations. The military provides essential supplies, sets up temporary shelters and offers medical assistance to disaster victims. PLA assets, including aircraft and vehicles, transport relief materials and personnel to affected areas. Military engineering units assist in restoring critical infrastructure damaged by disasters (Gong, 2021a)The PLA's involvement in disaster relief has increased over time, with the 2008 Sichuan earthquake response marking a significant deployment of military resources for domestic disaster relief. In the Sichuan earthquake in 2008, China struggled with its disaster management. It lacked training for military divisions mobilized to respond, in addition to uncoordinated social engagement . A significant event and a pivotal case study for the disaster diplomacy mechanism implemented by China, is the instance of the Typhoon Haiyan. China's initial response to the 2013 disaster in the Philippines was minimal and delayed. Reflecting ongoing geopolitical rivalries in the South China Sea pledged a significantly lower contribution than other countries. Despite contentious relations between the nations, the contribution amount was met with local public critique. China later extended its navy hospital ship as an additional act of disaster relief support. This example highlights the balance between geopolitical interests of disaster response and security within the Indo-Asia-Pacific region (Southerland, 2019).

Success in disaster diplomacy can lead to strengthened or broadened diplomatic ties.

3. International Diplomatic Consequences of Disaster Aid

Disaster diplomacy investigates the impact of disaster-related activities on diplomatic efforts, peace-building, and conflict reduction. It explores how disaster response and risk reduction initiatives influence cooperation between adversaries and shape international relations, underscoring the significant role of disaster response in shaping the international relations landscape. Some research indicates that the coupling of the advancement of disaster-related capabilities and enhanced diplomatic relations increases the risk of failure across both domains. A more nuanced approach suggests that policymakers might achieve better outcomes by maintaining separate strategic tracks for disaster management initiatives and diplomatic endeavors, allowing each to develop according to their own metrics (Kelman, 2016). Disaster diplomacy, particularly when military assets are involved in humanitarian assistance and disaster relief (HADR), serves strategic purposes that extend beyond immediate aid delivery. It can foster goodwill towards the military and facilitate the formation of non-humanitarian alliances and interventions. Moreover, disaster diplomacy can play a pivotal role in establishing positive relations that are crucial for both bilateral and multilateral endeavors, underscoring its strategic importance in shaping international relations (Canyon, Ryan, & Burkle, 2019).

The increasing frequency and severity of climate-related disasters have created a common vulnerability among nations, regardless of their political, economic, or social differences. This commonality occurs as hazards or phenomena with the potential to cause harm, in this case, those of natural climate threats, are coupled with vulnerability, or rather, the characteristics contributing to the potential to be harmed. Vulnerability is an outcome of extended broad social impetuses. A shared vulnerability and hazard emerging from climate risks presents challenges and opportunities for diplomatic engagement, even between traditionally adversarial states. Geographic proximity often necessitates coordinated disaster response planning, encouraging nations within a region to develop formal and informal mechanisms for cooperation. The need to pool resources and expertise for disaster preparedness and response can lead to formal agreements between nations, creating institutional frameworks for ongoing collaboration (Kelman, 2016).

4. US-China Military and Security Implications:

A regional analysis of China's military exercises reveals distinct patterns in their thematic focus across different partner nations. With Southeast and South Asian partners, exercises primarily emphasize maritime security, counterterrorism, and humanitarian assistance/disaster relief operations, reflecting these regions' shared security challenges. Exercises with Russia and Central Asian states take a different approach, focusing on joint defense operations, strategic deterrence, and border security - priorities that align with China's strategy of strengthening defense capabilities along its continental periphery. China's military engagement with partners in the Middle East concentrates on naval operations, counterterrorism, and special forces training, demonstrating China's growing interest in shaping regional security dynamics. These varying exercise themes highlight how China tailors its military-diplomatic initiatives to align with the strategic concerns and security requirements of different regional partners (Gao & Allen, 2024). The United States and China increasingly view disaster response capabilities as integral to national security. This shift in military priorities and capabilities has significant implications for US strategic assessments of China. China has been expanding its military's role in humanitarian assistance and disaster relief operations domestically and internationally. This expansion reflects China's broader strategy to enhance its global influence and soft power projection, including developing specialized HADR capabilities. This is in addition to integrating HADR missions into China's broader diplomacy efforts and concern for international perception (Southerland, 2019). The United States views China's expanding HADR capabilities through a strategic lens, considering both potential cooperation and competition: The U.S.-China Disaster Management Exchange remains one of the few areas of ongoing military-to-military cooperation (National Guard, 2013). China's HADR efforts are seen as part of its strategy to enhance regional influence, potentially challenging US primacy. HADR capabilities contribute to China's overall military modernization and power projection abilities. China's HADR engagements with neighboring countries are closely monitored for their impact on regional security architecture. Accordingly, the implications for US-China Relations are limited. While HADR remains an area of potential cooperation, broader military-to-military engagements have been restricted since 2017 (Campbell, 2021). The US will likely continue viewing China's HADR capabilities as part of the broader context of strategic competition in the Indo-Pacific region. As China continues to develop its military HADR capabilities, the US must balance opportunities for cooperation with strategic considerations in its overall approach to China's evolving military role.

5. Conclusion

China's increased military involvement in disaster management has significant implications for its international relations. As China-US relations become more competitive, HADR operations may increasingly be viewed through a geopolitical lens. However, there may be opportunities for diplomatic engagement through regional HADR coordination mechanisms. Collaborative efforts in HADR training and capacity building for civilian organizations could serve as areas for diplomatic engagement. Future diplomatic efforts may need to balance operational disaster aid considerations with political realities, seeking compromises that allow for effective humanitarian response while addressing geopolitical concerns. Engaging China in established multilateral HADR frameworks could help integrate its efforts more effectively with international norms and practices.

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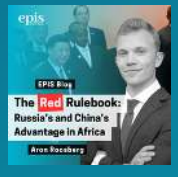

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About the Article

Does the increase in natural disasters pose a military or security threat, especially in regions with delicate political climates? I write about the case of North and South Korea, examining how increasing weather events are affecting their respective political and military strategies. In my opinion, the increase in extreme weather events poses an interesting, albeit often overlooked, area of policy and research, as it can be tied to civil unrest and security threats in politically volatile regions.

About the Author

Rebecca Quaranta is pursuing an M.A. in Resource Economics and Sustainable Development at the University of Bologna (IT). Her research focuses on the intersection of the tourism industry with sociological, anthropological, and environmental factors.

1. Introduction

Over the past few years, whether anecdotal, empirical or statistical, we have all felt the effects of rising temperatures. Hotter, wetter summers and warmer winters have become the norm, but what is most concerning is the increased risk of extreme weather events linked to climate change.

Some scholars, such as Huber & Gulledge (2011), argue that attributing these events solely to human activity and global warming, oversimplifies the issue, as climate is a long-term pattern, not just a result of individual weather events. However, it is reasonable to say that global warming increases the likelihood of such extreme events occurring more frequently. Given that these events cause major economic and social disruptions, their connection to weakened national defenses is not to be taken lightly. In the Korean peninsula, the political balance is so delicate that considering how climate change-driven natural disasters impact the greater socio-political structure and the country's security is no longer an issue of academic curiosity, but one of national security. This piece seeks to make said link apparent as well as demonstrate the high levels of risk involved when such a link is not properly considered.

Extreme weather events:
Rare, high-impact occurrences causing immense socio-economic damages.

2. Natural Disasters & National Security

Mata-Lima and colleagues (2013) found that a country's or region's resiliency after a natural disaster is influenced by its level of social capital. Higher social capital - such as education, training, strong community networks, effective government strategies, and transnational agreements - help a country respond more quickly and effectively, reducing both the immediate and long-term negative impacts.

When a natural disaster or extreme weather event occurs, a region and its country enter a state of emergency, becoming more vulnerable, much like during armed conflict. This increased vulnerability can be exploited by non-state actors to advance their own agendas. Berrebi & Oswald (2011) explored the link between natural disasters and an increase in terrorist attacks or political tensions. They found that extreme weather events worsen existing socio-political tensions by diverting resources from other departments towards disaster response, weakening government security and control.

The chaos following a disaster can turn „hard" targets into „soft" ones, eroding state legitimacy. In countries with medium to low GDP, they observed a significant correlation between natural disasters and a rise in terrorist or paraterrorist activities, both immediately after the event and in the years that follow.

The World Bank Group, in 2023, ranked the Republic of Korea (South Korea) n.14 in terms of GDP while the Democratic People's Republic of Korea (North Korea) was ranked last on the list, perhaps also due to the lack of available information. Although these two countries might not be exactly in the bracket of GDP mentioned earlier showing correlation between increased terrorist attacks and a natural disaster; extreme weather events pose a compelling challenge to national and supra-national security frameworks, particularly in regions with a legacy of conflict and instability. The Koreas present a unique situation involving high international risk of conflict as well as a region subject to increasingly damaging weather events, both in frequency and in magnitude. This makes them an ideal ground to study the political and conflict implications of increasingly risky climates around the world. Omelicheva (2011) finds that rapid-onset disasters, such as floods, are statistically likely to trigger political instability, especially where pre-existing tensions exist. Full autocracies and democracies are more robust to this effect, as in the first case the state squashes any symptom of rebellion, and in the second, adequate avenues of communication exist. Authors Philip and Righarts (2008),

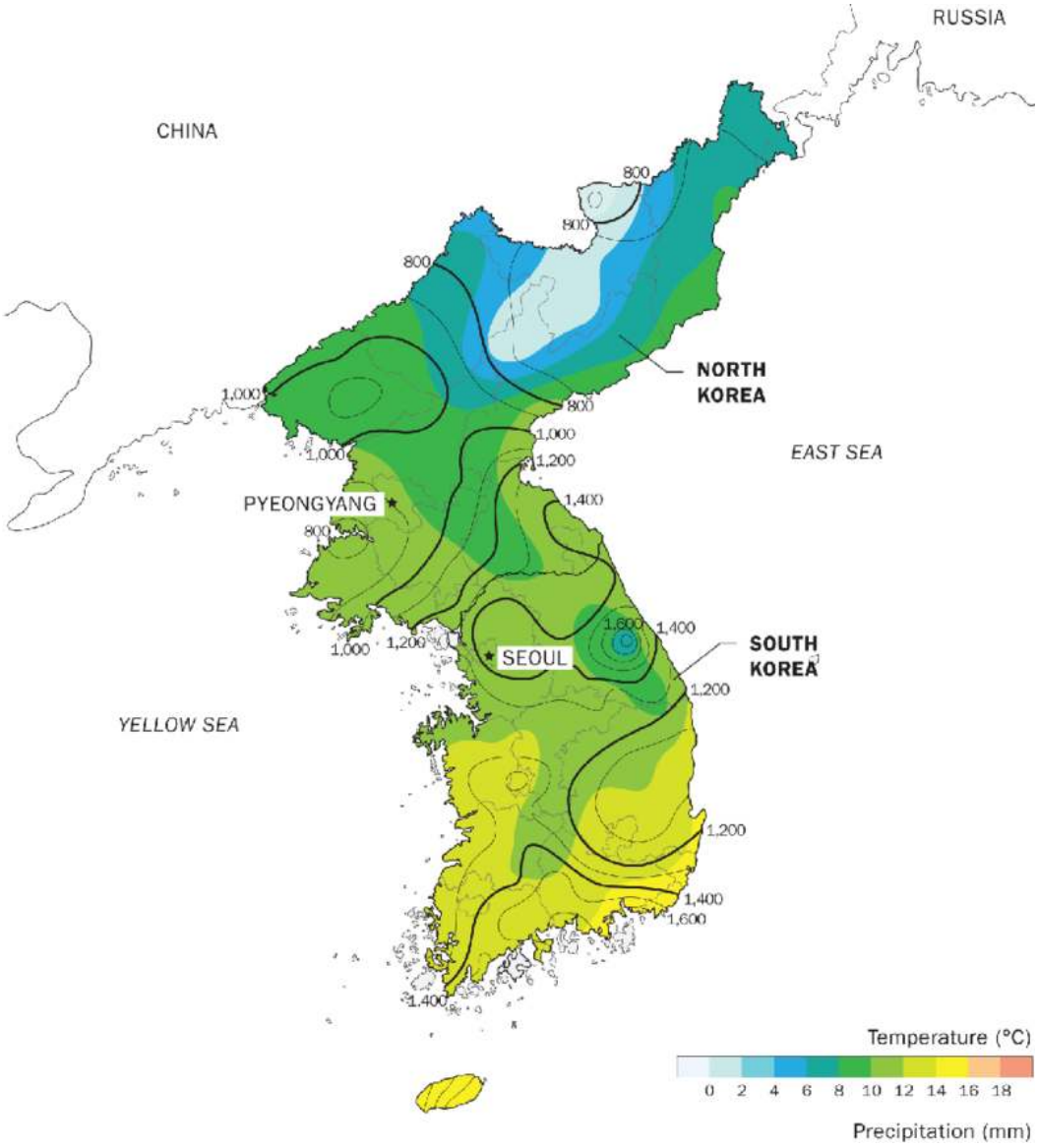

Figure 1: Annual mean air temperature and precipitation on the Korean peninsula. Image by Leah Nichols and Marc Los Huertos (2023)

investigate the relationship between natural disasters and the risk of violent civil conflict. They come to similar conclusions regarding the government type and the impact of rapid-onset disasters as being significant. If we consider the Korean situation as a tense armistice, the findings of the previously mentioned scholars suggest that the heightened frequency and intensity of floods and typhoons could serve as triggers for further escalation of political tensions.The authors call for improved warning systems and conflict management/mitigation strategies as well as greater military involvement not only in terms of rescue resources but also in terms of bolstering national security systems.

3. North & South Korea

The Korean peninsula is located in East Asia, it borders China and Russia to the north and extends about 1100 km southwards into the Pacific Ocean.This provides the peninsula with a climate having four distinct seasons: winters are cold given the Siberian influence and summers are hot and wet due to the Pacific Ocean. North Korea, which shares a direct border with Russia, experiences a much longer and harsher winter compared to its Southern Neighbour with short, humid summers influenced by the monsoon cycle, winds and droughts are recurring challenges for the region (see map). South Korea, on the other hand, has a shorter and milder winter in comparison and a longer and wetter summer. The southern half of the peninsula is more subject to typhoons than North Korea, albeit less so than other east Asian countries such as Japan and Taiwan. In recent years however, the annual number of typhoons has increased, as has the amount of rainfall, which has caused

major floods with serious impacts. In fact, in 2022, South Korea experienced its heaviest flood of the last 100 years as well as a super typhoon resulting in the death of ten people and an estimated KRW 1.7 trillion in damages (Korean Re, 2023).

4. Recent Disasters & Political-Economic Implications

In recent years, the political and military tensions between these two states have increased significantly. The conflict in Ukraine has radicalized their positions, with North Korea drawing closer to China and Russia and South Korea to the United States. Indeed the original Korean conflict has been considered as a proxy for the cold war with true armed battle being fought on this asian soil. The likelihood of open war is low (the economic & political cost would be too high) yet North Korea's official withdrawal of the goal of unification and the shift in South Korea's military strategy towards becoming more offensive, increased threats and nuisance style attacks can be expected especially in proximity of the border (i.e. rubbish balloons, South Korean border propaganda etc.).

In terms of disaster relief plans, South Korea's main piece of legislation is the Framework Act on the Management of Disasters and Safety, Republic of Korea (consolidated version 2020). This framework provides a comprehensive plan for disaster management and preservation both at governmental and local level. It makes provisions for both natural disasters and social accidents and plans for recovery, it includes a section on education and training as well as civilian responsibilities during times of crisis. However, mentions of the military are limited to extreme rescue acts or as secondary support. There is no specific provision for military action should issues of civil unrest arise, or boosting of border patrol. A recent study has shown that transnational agreements such as ASEAN, which South Korea is not a part of, have made strides in risk reduction. Although recently the trend has stalled due to lack of connection with and implementation at the local level, it nonetheless provides an excellent arena for cooperation and the creation of important partnerships and alliances between countries in the Asia-Pacific, boosting national security.

One of the most devastating summers to hit the peninsula was this past summer 2023 with record rain, landslides and typhoons causing enormous damages and displacement of people in both North and South Korea.

Give2Asia estimated 47 deaths, the evacuation of over 10 500 individuals and the loss of 579000 heads of li-

Figure 2: "This photo shows the Arch of Reunification, a monument to symbolize the hope for eventual reunification of the two Koreas, in Pyongyang North Korea, on Sept. 11, 2018. (AP Photo/Kin Cheung, File) [This monument was destroyed in January 2024]" (Dier, 2024)

vestock in South Korea. President Yoon spoke out against the failure of local authorities in following disaster response procedures as well as calling for action against the climate crisis. In North Korea, albeit having very little information on actual numbers and on their disaster relief procedures, we do know that a state of emergency was declared by President Kim Jong Un, with many farming villages along the Chinese border completely flooded and over 4200 residents evacuated via airlift. It is very difficult to verify these claims and the actual numbers may be much higher than stated, in one of the poorest countries in the world, a flood of this severity robs residents of arable land compounding the already dire food shortages and poverty of civilians. Notwithstanding this tragedy, the North Korean dictator lost no time in continuing his military threats against his southern neighbors. Missile launches reportedly able to reach the southern capital, Seoul, have been placed along the border and roads and railways previously linking the two countries (a bygone symbol of peace) have been destroyed by the North.

The chaos following a disaster can turn „hard" targets into „soft" ones, eroding state legitimacy.

Threats of drone warfare have increased and Russia's economic help as well as sharing of modern war and artillery tactics are of great concern to South Korea and its allies. Kim Jong Un, perhaps emboldened by his recent military alliance with Russia (North Korea-Russia Comprehensive Strategic Partnership), might be seeking to consolidate his position of power, both within the country and to outside eyes, especially after the disastrous floods of July/August. The greater implications of this alliance might affect Europe as well. With North Korea sending military troops and armaments to Russia and South Korea strengthening its alliance with Canada and the U.S. which might result in the deployment of southern troops and armaments to Ukraine, implying that the Russo-Ukrainian conflict would develop into a proxy war between North and South Korea thus increasing the international aspect of this conflict.

5. Conclusions

As discussed previously, natural disasters constitute a serious threat to national and intranational security. Internal terrorism, civil issues such as looting, economic devastation, lack of resources and lives lost could be enough to topple governments in weak enough countries, in more resilient ones, actions perceived as improper or inefficient by the local population have been linked to increasing unrest and political tensions resulting in loss of legitimacy (Mata-Lima, Alvino-Borba, Pinheiro, Mata-Lima, & Almeida, 2013). The Korean peninsula presents a unique situation in which pre-existing political tensions, coupled with evermore intense weather events is resulting, in my opinion, in increased animosity, national security risks and perhaps even a proxy war, to be fought on European soil. National governments, especially in conflict prone areas, might want to explicitly consider military strategies, both in terms of relief efforts and in terms of protection in their disaster relief policies. The role of NGOs and transnational agreements should also be considered and further research should be undertaken to ensure for the most comprehensive and efficient country specific disaster relief plans.

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About the Article

How do social networks enhance disaster response and resilience? Social networks facilitate rapid communication, resource sharing, and coordination between communities and institutions. Social Network Analysis (SNA) identifies key actors and optimizes disaster management. Addressing misinformation, the digital divide, and trust issues is vital to fully leveraging social networks for resilient and equitable communities.

About the Author

Niklas Klingel is pursuing an M.Sc. in Politics and Technology at the Technical University of Munich (DE). Currently, he has built a solid foundation through positions at firms such as SAP Fioneer, State Street, and Société Générale.

1. Introduction: Social Networks as Disaster Lifelines

Disasters reveal structural weaknesses in social, economic, and political systems, often overwhelming conventional emergency services and institutional responses. In these circumstances, social networks - comprising personal relationships and digital platforms - act as vital conduits for information sharing, resource coordination, and emotional support (Aldrich, 2012). Social networks are uniquely positioned to combine horizontal communication (peer-to-peer exchanges) with vertical coordination (links between institutions and communities). This capacity allows for rapid, grassroots mobilization while complementing official disaster responses. Understanding the structure and dynamics of these networks, especially through Social Network Analysis (SNA), provides valuable insights into how to strengthen them for future crises.

2. Historical Foundations: The Evolution of Social Networks in Crises

2.1 Pre-Digital Networks: Community Resilience Through Social Capital

Before the digital era, informal social networks were central to disaster survival and recovery. For instance, during the Dust Bowl of the 1930s, displaced families relied on kinship ties to migrate together and pool resources (Putnam, 2000). Similarly, during the 1995 Kobe earthquake in Japan, neighbors collaborated on rescue operations and supported one another while waiting for institutional aid (Aldrich, 2012). These networks operated on reciprocity and trust, fundamental components of social capital.Social capital is particularly effective in low-resource settings, as demonstrated by mutual aid societies in early 20th-century urban communities that provided disaster insurance and support. Such networks illustrate the enduring power of localized human connections in crises (Granovetter, 1973).

Social Network Analysis:
A method which systematically examines connections and information flow within social networks.

2.2 The Digital Revolution: Expanding the Reach of Networks

The digital age has transformed social networks, enabling instantaneous communication and collaboration on an unprecedented scale. Platforms such as Twitter, WhatsApp, and Facebook have redefined disaster response by providing real-time information and facilitating large-scale coordination (Reuter & Kaufhold, 2018). During the 2010 Haiti earthquake, for example, the Ushahidi platform combined SMS and social media to create live crisis maps, helping responders allocate resources effectively (Meier, 2015). Similarly, in the 2011 Arab Spring, activists used social media to organize protests and disseminate updates, demonstrating the capacity of digital networks to empower communities under pressure (Starbird & Palen, 2012).

3. Social Network Analysis: A Theoretical and Practical Tool

Social Network Analysis (SNA) provides a framework to study the connections and flow of information within social networks. By examining nodes (individuals or organizations), ties (relationships), and metrics like centrality, SNA reveals patterns of influence, resource flow, and vulnerabilities in communication systems (Wasserman & Faust, 1994).

For instance, during Hurricane Sandy in 2012, researchers used SNA to map Twitter activity and found that a few key accounts, including those of government agencies and NGOs, played a disproportionate role in disseminating critical updates (Hughes & Palen, 2012). Such insights can inform future disaster planning and response strategies.

4. Real-World Impacts of Social Networks in Disasters

Degree Centrality	Measures the number of direct connections a node has, indicating its influence.
Betweenness Centrality	Measures the number of direct connections a node has, indicating its influence.
Closeness Centrality	Shows how quickly a node can access information within the network.

Figure 1: Key Concepts in SNA – Source: Own work

4.1 Information Dissemination: Speed and Reach

Social networks excel in rapidly disseminating life-saving information. During the 2011 Tōhoku earthquake and tsunami, Twitter became a key platform for real-time updates, enabling affected populations to make informed decisions about evacuation and safety (Palen et al., 2007). Similarly, during the 2004 Indian Ocean tsunami, SMS alerts reached remote communities, though infrastructural limitations posed significant challenges (Haddow et al., 2017). Many cell phone towers were overwhelmed by the surge in communication, resulting in network congestion and delayed message delivery. Despite these setbacks, the use of SMS and emerging mobile technologies demonstrated the potential for reaching even isolated populations in disaster scenarios.

Social networks, both traditional and digital, are indispensable in disaster response.

4.2 Community Mobilization: Filling Institutional Gaps

Social networks empower communities to self-organize and take action when official responses are delayed or inadequate. Following the 2017 Mexico City earthquake, residents used Facebook and WhatsApp to coordinate rescue operations, distribute supplies, and offer temporary housing to those in need (Kietzmann et al., 2011). These grassroots efforts often complement institutional responses, showcasing the synergy between formal and informal systems.

4.3 Bridging Local and Global Responses

Digital platforms connect local actors with global audiences, amplifying their voices and mobilizing resources. During the 2015 Nepal earthquake, the #PrayForNepal campaign on Twitter and Instagram attracted international attention, facilitating fundraising and volunteer mobilization (Reuter & Kaufhold, 2018). This highlights the potential of social networks to bridge local needs with global capacities.

5. Challenges and Limitations of Social Networks in Crises

5.1 Misinformation: Navigating the Risks

The rapid flow of information in social networks can also spread false or misleading content. During the COVID-19 pandemic, misinformation about vaccines and treatments proliferated on platforms like WhatsApp, undermining public trust in health measures (Vosoughi et al., 2018). Addressing this requires stronger content moderation, fact-checking initiatives, and digital literacy campaigns.

5.2 The Digital Divide: Unequal Access to Networks

Not all populations have equal access to digital tools, exacerbating vulnerabilities during disasters. Rural communities, low-income households, and older adults are often left out of critical communication loops (Nor-

ris, 2001). Bridging this digital divide demands investments in infrastructure, affordable technology, and inclusive policies.

5.3 Trust and Legitimacy: Establishing Credible Sources

In crises, trust in information sources is crucial. Social networks often feature a mix of verified and unverified actors, making it difficult to discern reliable information. Research shows that people are more likely to trust local, familiar sources, emphasizing the importance of empowering community-based communication channels (Starbird & Palen, 2012).

6. Conclusion: Strengthening Networks for Resilient Futures

Social networks, whether offline or online, are indispensable tools in disaster response. They facilitate information sharing, enable resource coordination, and enhance community resilience. By using Social Network Analysis, we can identify key actors, address vulnerabilities, and optimize these networks for future crises.

However, challenges such as misinformation, the digital divide, and trust deficits must be addressed to unlock the full potential of social networks. Investments in digital infrastructure, public education, and the promotion of trusted communication channels are critical steps toward building equitable and resilient systems. As disasters increase in frequency and complexity, leveraging the power of social networks is no longer optional—it is essential. By fostering stronger connections and empowering communities, we can create a future where collective resilience becomes our greatest strength.

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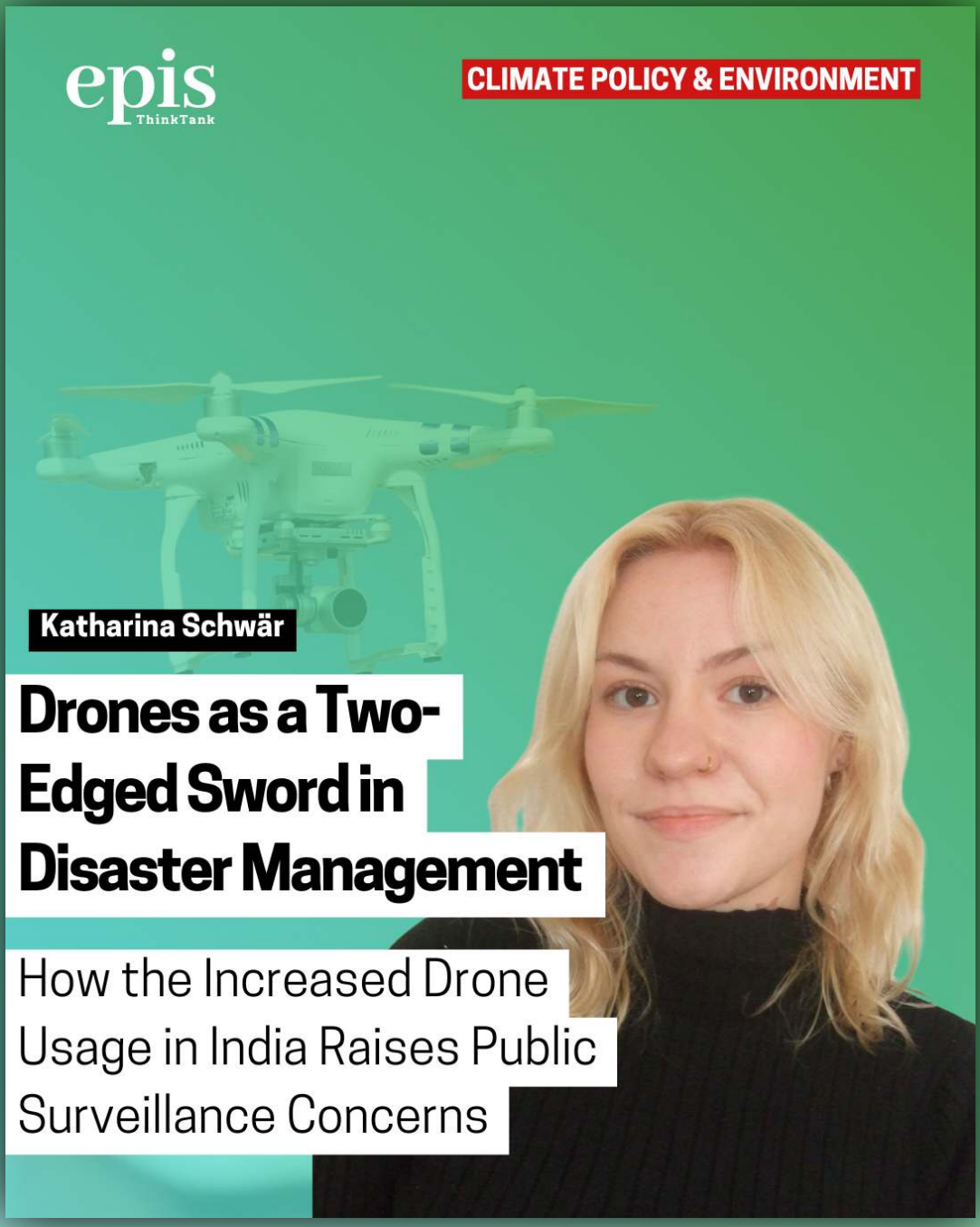

About the Article

What role do Drones play in India's Disaster Management and why could this be considered problematic? The same data-gathering capabilities that make drones such an effective tool in disaster management also pose significant privacy and security risks. The challenge lies not in rejecting new technologies but in learning to use them responsibly.

About the Author

Katharina Schwär is pursuing a B.A. in Political Science and Public Administration at the University of Konstanz (DE). Her research focuses on environmental issues in the context of international politics.

In recent years, India, as one of the most disaster-prone countries in the world, has witnessed an alarming rise in natural disasters, largely driven by climate change. Floods, cyclones, and droughts threaten to severely damage the country's infrastructure, economy, and population (Hunt & Menon, 2020; Mohanty et al., 2020). For reference, approximately 60% of India's territory is susceptible to earthquakes of varying magnitudes, while about 68% of India's cropped areas experience droughts annually and 40 million hectares are at risk of flooding (Chordia et al., 2022). As the importance of effective disaster management intensifies, India has turned to new technologies, particularly drones, to improve response times, assess damage, and assist in search-and-rescue operations. The Indian government aims to position India as a global hub for unmanned aerial vehicles (UAVs) by the year 2030, and has enacted a series of reforms to foster the industry's growth and expansion (Madan, 2022). But this enthusiasm risks overshadowing critical concerns about the ethical implications of widespread drone use. The sudden growth of drone technology also raises concerns about privacy and data misuse, challenging the current, sensitive balance between public safety and individual rights.

UAV's
Unmanned Aerial Vehicles

One of the key benefits of using drones in disaster management is the ability to provide real-time data over vast, hard-to-reach areas (Pathak et al., 2015). For instance, during the 2018 Kerala floods, drones played a crucial role in identifying flood-affected zones, delivering food supplies, and guiding rescue teams to stranded populations (Garud Survey, 2024). Using high-resolution cameras and sensors, drones can assess damage faster and more accurately than traditional methods, allowing authorities to prioritize rescue efforts and allocate resources more efficiently. In addition, drones can collect data that, when combined with artificial intelligence (AI) and big data analytics, can help predict future disasters, potentially preventing greater cost to life and property. These technological advances will certainly transform India's disaster response, saving countless lives and reducing the time and cost of reconstruction (Economic Times, 2024).

Yet, this promising technology comes with a downside. The same data-gathering capabilities that make drones such an effective tool in disaster management also pose significant privacy and security risks. India has a troubled history of data surveillance, especially after the controversial introduction of the Central Monitoring System (CMS) in 2013. CMS, a government initiative, was designed to monitor phone calls and internet activity across the country, but it came under heavy criticism for potentially violating citizens' privacy rights. Given this, the increasing use of drones sparked concerns that such technologies could be repurposed for further state surveillance. These reservations are fuelled by the lack of comprehensive data protection laws, leaving the public vulnerable to potential abuse of their personal information. More recently, the proposed data protection law in 2022 received backlash for providing exceptions to the government and creating an environment favourable to state surveillance (Human Rights Watch, 2022). Drones could easily become tools of surveillance, eroding trust between citizens and the state.

The risks extend beyond concerns of privacy. Resorting to drones in disaster management raises questions of accountability, especially in the context of India, where regulatory frameworks remain underdeveloped. Without the necessary laws and governance in place, citizens have no resources to protect themselves against invasions of their privacy. Who can be held accountable when their privacy is violated? The prospect of drone data being used for surveillance is particularly worrying in a democracy as large and complex as India. It stands in sharp contrast to other Asian countries, such as China, where

The sudden growth of drone technology also raises concerns about privacy and data misuse.

surveillance has already become commonplace. India, which prides itself on its democratic principles, should reflect these values in their deployment of drones.

In conclusion, the increasing use of drones in disaster management illustrates the dual nature of technological progress. While drones offer major benefits in limiting the impact of natural disasters, their data-mining capabilities pose significant privacy risks if left unregulated. In the future, it will be crucial for India to develop clear and transparent regulations for the use of such technologies, and for the government to ensure that the use of these technologies is in line with international standards. By maintaining a balance between innovation and privacy, India may utilize the power of drones without compromising the democratic rights of its citizens. The challenge lies not in rejecting new technologies but in learning to use them responsibly.

Figure 1: Symbolic image – Source: Chat GPT

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About the Article

This article emphasizes the duality of China's position—as both an economic partner and a potential disruptor to the status quo—while addressing the underlying uncertainties about its long-term intentions in the Arctic.

About the Author

Cheryl White has lived in China for 16 years and has a background in international relations, as well as environmental and sustainability policy. She currently works as a research assistant on energy policy in the German parliament.

The Arctic, long the domain of ice and isolation, is transforming into a stage for geopolitical posturing (Badina & Pankratov, 2022). Warming nearly four times faster than the global average, the melting Arctic has unlocked new trade routes, untapped energy reserves, and fresh geopolitical tensions. As the ice thaws, the waters heat up—politically and economically: the Arctic region, if available to international shipping routes, could realize the connectivity of maritime trade routes between Asia, Europe and North America. (Wang et al., 2018) At the forefront of this evolving drama is China, a self-styled „near-Arctic state," . As one of the 13 non-arctic states participating as an observer on the arctic council since 2013, China's position here reflects the communicated interests of the Arctic Council itself, which aims to "enhanced cooperation in the circumpolar North...and promote cooperation, coordination and interaction among the Arctic States" (International Cooperation in the Arctic, n.d.) leveraging its Polar Silk Road strategy to position itself as an indispensable player in this high-stakes region.China's 2018 „Polar Silk Road" strategy, an extension of its Belt and Road Initiative (later termed Global Development Initiative (Wu, 2023) , is not quite a trade blueprint. It's a carefully crafted narrative of cooperative ambition, with promises of sustainable development and scientific research. By pledging to "participate in the protection and utilization of the Antarctic," China has secured its observer status on the Arctic Council since 2013, emphasizing collaboration and support for global governance and international rule of law. Similar to the Global Develompment Initiative, however, the offer of development and collaboration is used to to capitalize on a region's vast potential for natural resources. The Arctic region has .

Make no mistake—this isn't purely altruistic. For Beijing, the Arctic represents connectivity. The prospect of slashing trade route times between Asia, Europe, and North America by as much as 50% isn't just a logistical win; it's a strategic coup. Reduced costs for Chinese exports could reshape global trade, elevating China's maritime dominance and diminishing reliance on volatile chokepoints like the Strait of Malacca. So far, China's ambitions in the region remain mostly non-aggressive. The narrative around China's position in the arctic seems to be "'framed as a potential alternative governance framework to the regional status quo centered around the Arctic Council" (Eiterjord, 2023). China projects a narrative that it should take an active role in the Arctic to "coordinate conflicts ", "explore the Arctic climate governance model" and invest in research to "strive to be at the forefront of climate governance" (Chen, 2023). China's narrative positions itself as a cooperative partner while subtly challenging the Arctic Council's governance (Eiterjord, 2023). By framing its role as one of a global climate custodian and scientific leader, China sidesteps territorial claims while carving out influence. This narrative allows Beijing to hedge against legal scrutiny, portraying itself as a benefactor of Arctic stability rather than a competitor for dominance. Critics, however, remain unconvinced. Cassotte el al. and Stünkel argue that China' "assertive behaviour towards the Arctic environmental ocean" is non-congruent with the reality of trade and investor realities, meaning that China should not be considered as a significant threat to for Arctic security (Cassotta et al., 2015). China's recent trade battles with Norway and the slow advance with investments into critical port infrastructure (Braw, 2025) suggest that the strategy is long term and the quest for resources and trade superiority will not bow to international rule of law. In other words, China's bark in the Arctic may be louder than its bite—for now. But that doesn't mean the risks are nonexistent. History shows that regions with burgeoning trade routes and resource wealth rarely remain free of conflict. As thawing ice uncovers oil reserves and valuable underwater minerals, disputes over sovereignty and governance will intensify. The Arctic Council's cooperative framework, while robust, is not immune to fragmentation if national interests clash. So, is China a friend or a foe in the Arctic? The answer, as with most geopolitical quandaries, is both. Beijing's Polar Silk Road offers immense opportunities for economic and scientific collaboration, but it also serves as a calculated move to reshape Arctic governance in its favor. As the ice retreats,

the world must decide whether China's growing presence in the Arctic is a stabilizing force or the first ripples of a deeper geopolitical storm. The Arctic is no longer a frozen frontier—it's a global crossroads. While tensions between most actors remain low, the potential remains high for intensified geographic disputes as climate change frees the Arctic trading routes. And in this new race for influence, China is moving steadily, strategically, and, perhaps, unstoppably forward.

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Conclusion

Karla Lamesic

Karla Lamesic is pursuing a PhD in Finance at the University of St. Gallen (CH). Her research focuses on climate change, environmental issues, and security challenges. Driven by a commitment to integrating diverse economic and political perspectives, she aims to foster a comprehensive understanding of environmental issues and their broader implications.

EPIS Report Conclusion

The intersection of natural disasters, climate change and international relations in South-East Asia presents a rapidly evolving challenge that grows more urgent with each passing day. This report shows how complex and diverse the challenges surrounding Natural Catastrophes (NatCats) can be. There is no off-the-shelf solution for these issues, as each case is highly specific to the countries and circumstances involved. When it comes to disaster management, it is important to not only think about the quantifiable damages, like destroyed infrastructure, but also all other implications that follow from it.

So the questions we need to answer are: how can we assure security after a NatCat? How can we inform societies in the event of a NatCat? How do we stand together in a catastrophe with our neighbouring countries and build our connection, or how do we engage in amicable disaster management despite our differences?
One overarching lesson from this report is that natural disasters embody a dual nature, where they are both disruptors and potential catalysts for cooperation. In politically volatile regions like the Korean Peninsula, disasters intensify existing tensions but also highlight the need for effective conflict management strategies. Similarly, trade disruptions caused by disasters reveal the fragility of global supply chains while emphasizing the value of multilateral frameworks, such as ASEAN, in strengthening resilience.

Another lesson we take away is that disaster diplomacy can be a meaningful tool for navigating the natural disaster related aftermath. However, the capacity for nations to use disaster relief and recovery efforts to build trust and strengthen alliances depends on pre-existing relationships and shared priorities. Human and digital social networks intensify these efforts by allowing for real-time communication and grassroots mobilisation. Still, the issues of misinformation and unequal access must be addressed in order to take full advantage of these networks' resilience.
Another takeaway from this paper is the revolutionary role of technology, such as drones and data analytics, in disaster management. These tools improve efficiency and response times, as seen in India, but they also raise ethical concerns about privacy. Robust governance is required to ensure that these technologies benefit the public while upholding democratic norms.

Ultimately, addressing the challenges posed by natural disasters requires collective resolve, innovative solutions, and a commitment to building bridges, not barriers. By turning crises into opportunities for collaboration, we can create a future that is not only more resilient but also more united.

EPIS BASICS:

GREEN THEORY IN INTERNATIONAL RELATIONS

In EPIS Basics, our authors explain basic knowledge of international foreign affairs and security policies. This encompasses basic theories, organisations and events This series is presented in depth here in the magazine. You can also find other smaller contributions on our Instagram page

Giulia Convertini

Giulia Convertini is pursuing a M.A. in International Relations with a focus on International Politics and Regional Dynamics at the Università degli Studi di Milano (IT). Her research focuses on EU affairs and digital/tech policies, as well as regional dynamics in Asia and the Middle East, with a particular focus on the US's role in global affairs.

The Green Theory in International Relations (IR) is a relatively recent approach focusing on the intersection of environmental issues and global politics. Trump's renewed exit from the Paris Climate Accords has triggered new debates on the potential consequences of climate change. Against this background, green theory offers a perspective on how climate change and security are interconnected. Green theorists argue that environmental issues are not just side concerns but are central to international security. Resource scarcity and environmental degradation can lead to conflicts and destabilisation. For example, water shortages in one country could lead to tensions with neighbouring states.

The Importance of Multilateral Cooperation

Green Theory emphasises how environmental concerns, such as climate change, biodiversity loss, and resource depletion, shape the behaviour of all actors in the global system. It also considers how global environmental issues often transcend national borders, making cooperation necessary for solving problems like pollution and resource scarcity. Green theorists explore how international organisations, like the United Nations and the World Trade Organization, address global environmental challenges. They analyse existing treaties and agreements, such as the Paris Agreement on climate change, and advocate for stronger, more effective global cooperation.

Environmental Security vs. Neoliberalism

Green Theory connects sustainability with the notion of development. It calls for incorporating environmental protection into economic growth policies, arguing that long-term development cannot occur without considering ecological limits. As environmental issues can lead to conflicts over resources, these conflicts may be exacerbated by climate change and environmental stress, thus raising the issue of environmental security. This is why proponents of Green Theory criticise neoliberal economic policies for prioritising profit over environmental sustainability. They argue that the global capitalist system often exacerbates ecological harm and creates inequality in access to environmental goods. Ultimately, the Green Theory of IR also reflects on the concepts of ecocentrism versus anthropocentrism, with ecocentrism stressing that nature and the environment have intrinsic value, regardless of their utility to humans. Anthropocentrism, which is linked to neoliberalism, focuses on human needs and interests when addressing environmental concerns.

Sustainability and Security

Green Theorists like Andrew Hurrell and Robyn Eckersley have been calling for the inclusion of environmental concerns in global governance. In particular, Hurrell focused on how environmental degradation impacts international security and the broader structure of global governance. He has long criticised traditional IR theories for neglecting the environment, yet environmental issues are strictly related to international security.

An Evolving Area of Inquiry

Overall, the Green Theory of IR calls for a paradigm shift in how we approach global politics, prioritising the planet's health and long-term ecological sustainability over short-term national interests or economic growth at any cost. Its goal is to expand the scope of international relations to incorporate environmental concerns, emphasising the interdependence of human societies and the natural world. Green Theory is interdisciplinary, drawing from political science, environmental studies, philosophy, and sociology, which makes it a dynamic and evolving area of inquiry.


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