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Jannis Figura

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Learning from Experience: Comparing Disaster Management in the Philippines and Europe

by Jannis Figura*

Abstract

The 2021 floods in Western Europe laid bare how European disaster management focused too much on prevention rather than resilience measures. Governmental response plans have sent a false feeling of symbolic preparedness as many European societies expect a perfectly functioning emergency system. Research indicates that the number and severity of natural hazards, such as floods, will increase due to climate change. This puts forth a need to change public risk acceptance and improvement in response measures. Disaster-prone countries like the Philippines made that experience before. As these countries cannot defend themselves against natural hazards, they focus more on reducing the impact of their consequences. This paper compares European and Philippine disaster management. It suggests that EU disaster management should standardise working procedures to simplify cross-border communication and increase flexibility by incorporating regional, national, and international level stakeholders to bridge the need-capability gap. The main obstacle is that national governments are unwilling to surrender their sovereignty over civil protection to the EU. Thus, organisational growth on the EU level in this area is slow.

1. Introduction

Over the past years, discussions on the devastating consequences of climate change gained increasing attention in Europe. Especially after the floods of 2021, the disaster management of European countries was critically assessed. This study posits for Europe what the floods in 2021 represents is identical to what typhoon Haiyan did to the Philippines in 2013 – namely tragic events with so significant consequences that they triggered strategic level re-evaluations of disaster management. This paper examines what the Philippines learned about disaster management after Haiyan, how the European approach to floods in 2021 was evaluated, and what lessons Europe can draw from disaster-prone regions like the Philippines.

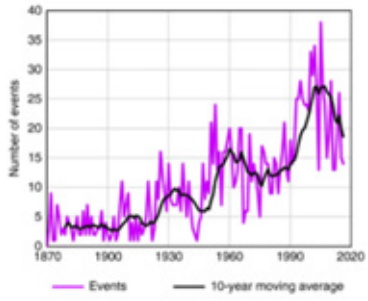

Figure 1 Annual number of floods in Europe. Retrieved from Paprotny et al. (2018).

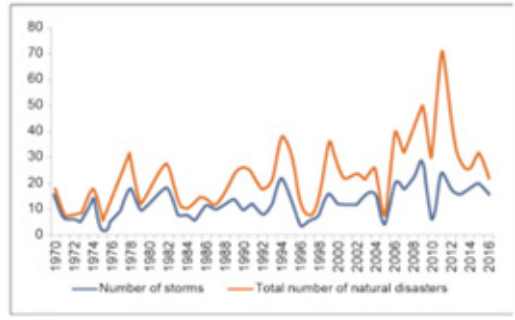

Figure 2 Annual number of natural disasters in the Philippines. Retrieved from Jha et al. (2018).

The UN Intergovernmental Panel on Climate Change (IPCC) calculated that the world's temperature will surpass the 1.5ºC threshold by 2040. It further forecasted the severe impact of 2°C and 3°C global warming levels, together with identifying four key risks for Europe. Firstly, mortality will increase due to heat. Secondly, droughts will cause substantive agricultural losses. Thirdly, there will be water scarcity, and lastly, floods and sea levels will rise (IPCC, 2022). The paper at hand argues european approaches to disaster management, from regional to international levels, should be revisited and existing experience from disaster-prone places like the Philippines should be leveraged to minimise the impact of such dire scenarios on the continent.

* Jannis Figura is a research assistant intern at Beyond the Horizon ISSG. He currently follows a master's program in Crisis and Security Management with a special focus on "Governance of Crisis" at Leiden University.

2. Analysis

a. The European Floods of 2021

The European Floods of 2021 affected several river basins and killed more than 200 people across the European region (UNRIC, 2022). Specifically in Western Europe, many people – from laypersons to scientists – were in disbelief at how such a magnitude of destruction could occur in one of the world's wealthiest and most technologically advanced regions equipped with state-of-the-art early warning systems (Cornwall, 2021). Even in the Netherlands, some flood prevention mechanisms were topped locally, despite the country's centuries of flood experience and lower precipitation than in neighbouring Belgium and Germany on the day of the floods (see Figure 3). The floods of 2021 showed that the Netherlands was traditionally prepared for flooding mainly from the seaside and large rivers. However, flash floods caused by high precipitation were not high on the agenda, and cross-border communication proved complicated too. For example, Belgium did not report to Dutch authorities about how much water would cross the border (Deltares, 2022).

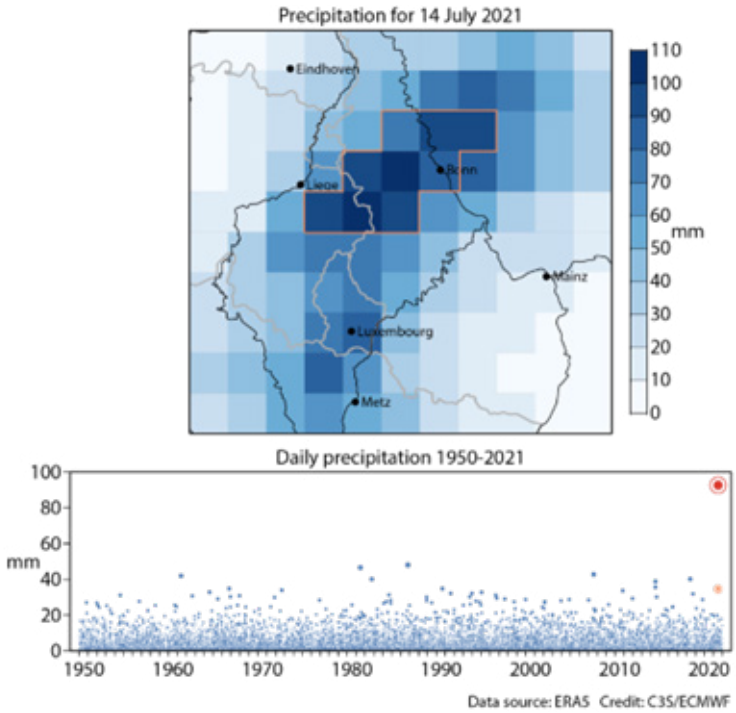

Figure 3 Location and amount of precipitation on the 13th of July 2021 (orange dot) and 14th of July 2021 (red dot). Retrieved from Copernicus (2021).

Compared to the Netherlands, the situation was more troublesome in Belgium and Germany, which have fewer precautionary measures against floods. Furthermore, in Belgium and Germany, many of the rivers went through the Eifel-Ardennes mountains, leaving no room for rising water levels as the flat areas of the Netherlands. Even worse, they served as accelerators for streams and cause flash floods (Lehmkuhl et al., 2022). So far, the EU Floods Directive of 2007 regulates flood management in the EU, however, it focuses more on prevention rather than response. The directive leaves flood management to remain a state responsibility while it is supervised by the EU (European Parliament, 2007, p. 2).

Deltares, one of the leading Dutch research institutes on water management, concluded in its assessment of the 2021 floods that it is impossible to prevent flooding caused by large-scale, extreme precipitation in the future. Thus, governments need to improve their disaster management in case something goes wrong to limit potential casualties (Deltares, 2022). As Mathiesen et al. (2021) stated: "Europe must adapt to a new climate reality" (p.1). This matches with scientific research advocating to stop overemphasising risk avoidance. Instead, disaster occurrence must be accepted as reality to consequently improve resilience, which allows for mitigating casualties (Comfort et al., 2010).

Assessments of the 2021 floods point towards enhancing disaster management on the EU level. The occurrence of high-impact weather extremes must be expected to rise in Europe in the future – and international cooperation needs improvement to avoid chaos when floods occur across borders, as it happened in 2021 (Deltares, 2022; Lehmkuhl et al., 2022). Furthermore, the floods showed that existing risk assessments focused too much on large rivers such as the Maas or Rhine. Several assessments discovered that smaller rivers, like Roer, Geul and Gulp,

causing floods in Limburg in the Netherlands, were neglected in crisis planning (Veiligheidsregio Zuid-Limburg, 2022). The report and then-fire chief of the region Leon Houben stated that the organisation on the ground did not match the anticipated coordination on paper, as reality is often more chaotic. It was also reported that volunteers were crucial in providing support and joining authorities in the disaster response (Erlanger, 2021).

Overall, evaluations of disaster management during the 2021 floods emphasise two principal problems already well-known within academic circles. As McConnel & Drennan (2006) state, contingency planning requires ordering threats to allocate resources for preparations, but this often simplifies risks as they are unpredictable and inherently surrounded by uncertainty. The scale of the 2021 floods was unexpected, as the precipitation levels were never seen before in the region. The disaster planning focused on large rivers rather than creeks, which caused much flooding. Furthermore, planning for crises requires synergy across institutional networks. However, in reality, involved institutions have their own agenda and different operation methods that clash with reality. National emergency plans signal a false feeling of symbolic preparedness that does not necessarily reflect operational realities. Planning must allow enough flexibility to adjust to unexpected events and leave room for improvisation (McConnel & Drennan, 2006). In fact, many involved organisations did not have clear communication channels and did not know what was expected from each other. This was true on regional and national levels but also across national borders. Therefore, many evaluations demand improvements in these areas (Deltares, 2022; Lehmkuhl et al., 2022; Veiligheidsregio Zuid-Limburg, 2022). The above-mentioned criticism does not mean that it was the case everywhere in 2021, but rather a general observation of mismanagement that was avoidable and could have reduced casualties.

Key takeaways from 2021 flood management:

- Flood management is a state responsibility under EU supervision
- The development of events in 2021 was not anticipated in preparation planning
- Small rivers rather than large rivers caused much of the devastating impacts
- Organisational management did not work as expectations did not meet reality
- National & international communication was problematic
- Improvements in emergency planning are needed in case flood prevention measures fail

b. The current European disaster management framework

Next to the EU Floods Directive, flood management in Europe is also the subject of the EU Civil Protection Mechanism (UCPM). It was established in 2001 to improve European cooperation in disaster management. "Historically, European cooperation in the field of civil protection has been slow because of national sovereignty concerns" (Blavoukos & Politis-Lamprou, 2021, p.2). The UCPM's Emergency Response Coordination Centre (ERCC) organises the support mission by providing civil protection teams, specialised equipment, and expertise (European Commission, 2022a). Countries can request assistance from the UCPM if national response capabilities are overwhelmed and emergency support is needed (European Commission, 2022b). In the UCPM framework, member states are also tasked to provide the European Commission with summaries of their National Risk Assessments (NRAs). However, the Commission reported that many governments only provided limited information or assessments were not finalised. The data shows that risk management structures and methods vary greatly across Europe. So, the UCPM is not standardised as it seems to be at a first glance. Furthermore, the NRAs tend to exclude regional initiatives on risk management planning. Thus, they often focus only on the national level, lacking detailed regional planning. Therefore, the NRAs cannot reveal all potential administrative or operational problems that only become apparent once disasters occur and it is too late (European Commission, 2017). Another shortcoming of the UCPM was the absence of reserve resources. For instance, the UCPM could not provide sufficient support during the 2017 forest fires in Europe, where multiple member states were affected by the same problem simultaneously. So, they were unable to send each other help as they needed their resources themselves (Parker et al., 2018).

As a response, the rescEU platform was established in 2019 under the UCPM to create an extra layer of reserve capacities and improve civil protection measures on the EU level. Member states can provide valuable resources to rescEU, such as firefighting planes, helicopters, medical evacuation planes, medical items and field hospitals (European Commission, 2022c). However, it is questionable whether the amount is sufficient to deal with the rising occurrence of natural disasters in Europe.

Scholars such as Blavoukos and Politis-Lamprou (2021) argue that rescEU should have been granted a stronger mandate to simplify the acquisition of new resources. The problem with the European disaster management

framework is that national governments are redundant to partially surrender their sovereignty over civil protection to the EU yet. Consequently, structures such as rescEU only grow slowly, which might prove troublesome if the frequency and magnitude of natural disasters in Europe exceed this development. The platform must wait for member states to provide new resources, such as planes or trucks, as it is prohibited to acquire these assets on its own. Among others, Finland, Germany, the Netherlands, and Sweden stated that civil protection remains individual state competence and EU institutions should follow the principle of subsidiarity in this regard (Blavoukos & Politis-Lamprou, 2021). Considering that limitations of the rescEU's resources were already shown during the wildfires in 2022, it should be seriously re-evaluated whether to transform rescEU into a lead institution with increased management capacities and resources (Tidey, 2022). This might be a necessary step to deal with the increasing amounts of natural disasters in Europe in the future.

Another promising option is the implementation of no-regret options on regional and local levels. In relation to disaster management, no-regret options are actions and investments in disaster resilience, which are justifiable no matter if the anticipated event occurs or not. So, they provide a net benefit to society either way (Siegel & Jorgensen, 2011). However, so-called no-regret actions can actually also have negative consequences as they can increase vulnerability in unanticipated ways. Dilling et al. (2015) analysed over 150 climate change-related no-regret adaptions and discovered that many of them have secondary effects and create new forms of vulnerabilities. Thus, they call for more critical assessments of no-regret strategies to minimise unanticipated events. There needs to be more research on what these measures should specifically look like and their projected effectiveness for EU disaster management. Potentially they can have a hugely positive effect on EU disaster resilience.

c. Philippines disaster management

Unlike Europe, the Philippines is already a historically disaster-prone country in general. The Philippines is located between major tectonic plates, the Pacific Ring of Fire, and a typhoon belt. Consequently, the country regularly experiences natural hazards, such as floods, typhoons, or earthquakes (Bollettino et al., 2018). According to the World Risk Index 2022, the Philippines has the highest disaster risk worldwide (Bündnis Entwicklung Hilft, 2022). Therefore, the Philippines often serves as an example of disaster management, and perhaps even European countries can learn from it. However, it is noteworthy that its management is far from perfect, and implications for Europe should be analysed carefully. Nonetheless, the country's frequent exposure to hazards makes it an informative research case, and it is possible to learn both from its successes and failures.

One of the most catastrophic events that Philippine disaster management had to deal with was typhoon Haiyan. The typhoon made landfall in the Philippines on the 8th of November 2013 as one of the strongest typhoons ever recorded. The storm surges accounted for at least 6300 deaths and had a long-lasting impact on the country's development as millions of people were displaced and infrastructure was destroyed (Lagamy et al., 2014). Haiyan triggered a Level 3 emergency, which is the highest level of response to natural disasters by the UN and authorises the use of significant additional UN resources to support national crisis management efforts (Dy & Stephens, 2016).

The typhoon was the first test for the then-young National Disaster Risk Reduction and Management Council (NDRRMC), which organises Philippine disaster management. It was established by the Republic Act No. 10121 of 2010 (Congress of the Philippines, 2010). This act was supposed to strengthen institutional crisis response capabilities as the country lacked a comprising disaster management framework previously. Regional NGOs were traditionally the most important groups for humanitarian aid during crises due to their close connection with local communities. However, when Haiyan made landfall, many regional authorities and NGOs were not used to working with the NDRRMC. This dramatically changed the gover-

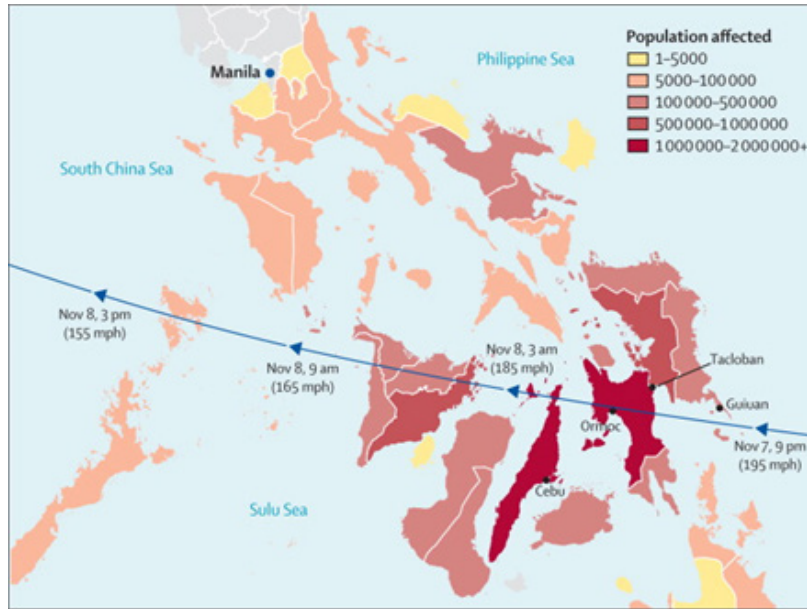

Figure 4 Path of typhoon Haiyan and the population affected. Retrieved from Chiu (2013).

nance structure and blurred accountability as it was unclear for many officials whether the government presides or regional authorities are in charge. The NDRRMC approach was still a new concept by then and officials had to get accustomed to it (Featherstone & Antequisa, 2014).

During Haiyan, it took time until the government managed to assume control and provide aid. The typhoon overwhelmed the crisis management as its magnitude was unseen before, and many poor areas of the country are hardly defendable against typhoons (Urban Land Institute, 2014). The provincial authorities provided the initial disaster support, but their resources were depleted soon, as they were also severely hit by the storm (WHO, 2015). It is worth mentioning that the Philippines is generally known for the government's limited reach to certain provinces (Breen, 2019). This is partially due to the challenging geographical structure of the 7.000 islands archipelago, which also causes trouble during disaster responses in hard-to-reach areas (Fair Tech Institute, 2022).

Throughout its history, the limited provision of services by the Philippine government resulted in the emergence of a large number of NGOs and Civil Society Organisations (CSOs), which offer alternative services next to the government. Therefore, the Philippines were also described as the "NGO Capital of the World" (Jimenez-David, 2012, para. 1). These organisations provide essential aspects of public functioning and people centre-development. They drive investments in infrastructure, public utilities, and industrial development in the country. Some of the largest are key providers of disaster risk reduction services, such as the Disaster Risk Reduction Network Philippines. Government initiatives in the risk reduction field are often based on these networks' experience (UNDRR, 2019).

Assessments of the Philippine crisis management during Haiyan emphasised two main areas of improvement. Firstly, the national government was sceptical of international support, for instance, through international NGOs, and tried to pursue its own agenda through the NDRRMC instead. This lack of cooperation resulted in inefficient crisis management as meaningful resources from the international community were not distributed quickly (Dy & Stephens, 2016). Secondly, the traditionally important regional organisations and representatives, as mentioned in the previous paragraph, were often overlooked when the national government or international NGOs were present. Consequently, their valuable knowledge of local circumstances was not used. Locals' initiative was only requested in hard-to-reach areas, where quick governmental support seemed unlikely. The government asked the population to practice Bayanihan. It refers to the long history of Philippine communities helping each other, especially during natural disasters (Su & Mangada, 2016).

After Haiyan, the Philippines reformed the disaster management system through the Department of Disaster Resilience Act of 2018. It serves as the foundation of a Department of Disaster Resilience (DDR), which is supposed to have a stronger mandate than the NDRRMC, which has a supporting role. The government seeks to enhance its management capabilities, while at the same time improving cooperation with NGOs/CSOs in the disaster risk reduction process (UNDRR, 2019). Haiyan showed that relying too heavily on governmental structures results in inflexible crisis management, as it is more difficult to react to unanticipated events. The DDR is not established yet, but it will improve disaster management by creating permanent coordination centres on local, regional, and national levels. These centres will serve as contact points for international NGOs and local/regional NGOs and CSOs. It enables mixing the former's resources with the latter's knowledge (CFE-DMHA, 2021). Most reviews on the response to typhoon Haiyan acknowledge that the missing conjuncture between international and local organisations was the main weakness during the typhoon crisis management (Blanco, 2015). Furthermore, the coordination hubs simplify the process of incorporating emergent networks, which refer to those people who volunteer and create ad hoc groups to help during crises. These people can provide valuable manpower and resources (Sauer et al., 2014).

Key takeaways from Philippine crisis management:

- Philippine communities are accustomed to risks and have valuable local knowledge
- Strong emphasis on disaster resilience and adaption, rather than avoidance
- National and international actors have the resources that regional NGOs/CSOs need. Thus, they must be able to connect in coordination centres
- There needs to be a balance between institutionalised disaster management and flexibility to react to local circumstances
- International support has a long history in Philippine disaster response and its new disaster management simplifies the coordination process with regional/international actors

3. Conclusion and Policy Recommendations

The number of natural disasters in Europe is likely to increase due to climate change in the future. There are indicators that the occurrence and severity of natural hazards will exceed the development of sufficient resilience measures. Thus, this paper advises improving disaster management on the EU level with increased management capabilities and resources. It means that EU member states must partially surrender their sovereignty over civil protection mechanisms to the EU. However, the positive effects are (1) a fairer approach to disaster management, as some European countries are more prone to hazards than others due to their natural vulnerability and (2) a quicker response mechanism once disasters occur due to standardised working procedures.

Furthermore, European crisis management must move away from risk avoidance through prevention to risk acceptance and better emergency planning. In comparison, the Philippines has proven more successful after Haiyan in connecting with international and national NGOs/CSOs as well as accessing additional resources. Its disaster management approach has shown the importance of finding a balance between institutionalised disaster management and flexibility to react to local circumstances. The EU should consider following this example. NGOs and CSOs are usually left out of European disaster response plans as they mostly focus on governmental structures and institutions. However, the 2021 floods showed that these can fail too. NGOs and CSOs can fill these gaps that government response plans did not anticipate by providing extra resources, expertise, and manpower. Thus, this paper calls for a more inclusive and flexible approach to the management of natural hazards in Europe. A potential solution is the no-regret approach, but more research is needed to assess the actual benefits and connected costs. Lastly, national governments should improve their National Risk Assessments (NRAs) and include more regional response plans as the majority of them tend to overemphasise the national level and generalise approaches.

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