

# 'WHAT SUITS ONE MAY NOT SUIT THE OTHER'

## A Vulnerability and Impact Analysis on flooding and severe winds caused by tropical cyclones

START Network aims to transform humanitarian action through innovation, fast funding, early action, and localisation, and plans to build a risk financing system in the Philippines. The network believes that the humanitarian sector faces the biggest systemic problems—problems including slow and reactive funding, centralised decision-making, and an aversion to change—means that people affected by crises worldwide do not receive the best help fast enough and needless suffering results. In a short survey conducted with the members of Start Network in the Philippines, the shared experience of the network identifies severe winds and flooding caused by tropical cyclones as having the most impactful hazards that hit the country. Given the likelihood and severity of these hazards, the present study identified the following, first, the geographic and socio-economic extent of impacts of severe winds and flooding due to tropical cyclones in the Philippines; second, the vulnerability factors and cross-sectoral issues related to tropical cyclones, and third, the existing community-based coping mechanisms that the humanitarian sector can leverage on.

### Research Methodology

This research used two tiers to come up with the three components, namely impact, vulnerability, and coping mechanisms. Component one made use of Hazard Characterization and Impact documentation, and Components two and three utilized the case study method using the key informant interview (KII) technique. KIIs were conducted through online platforms and phone interviews.

Case studies were also done in three localities with the following characteristics:



4th to 6th class Municipality



Multi-hazard occurrence and level-flood, storm track, extreme wind



Experience of past disaster events



High population density



Unique geomorphology

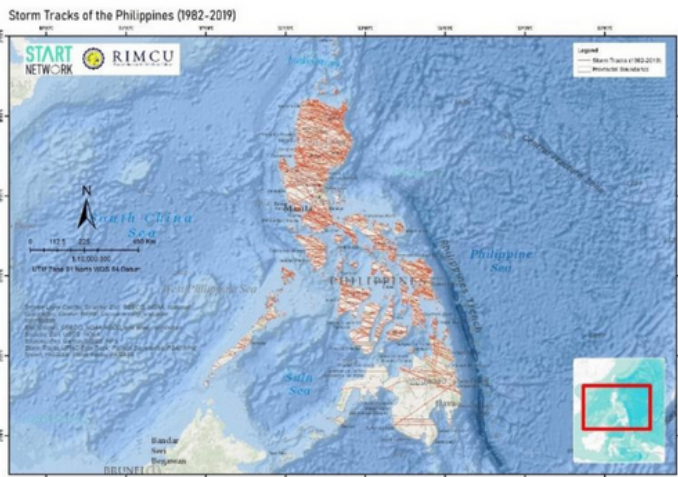


Following these criteria, the study identified Barangay Moning, Municipality of Baras, Catanduanes; Barangay Mabuhay, Municipality of Taft, Eastern Samar; and Barangay Azucena, Municipality of Tagana-an, Surigao del Norte as the case study sites.

## Tropical Cyclone Exposure

The map below show the complex interplay of hazards, exposure, and vulnerability, to understand and estimate or perceive the risk to communities. Tropical cyclones, floods, severe winds, and the combination of these must be characterized in meteorologic, hydrologic, and topographic terms. They also need to be contextualized in terms of geography or the location of their severity and frequency.

Results show that there are 52 provinces in the Philippines that have a very high susceptibility to flooding. When we overlay the frequency of tropical cyclones, this results in 15 provinces, including Catanduanes and Eastern Samar, where two focus study areas are located.

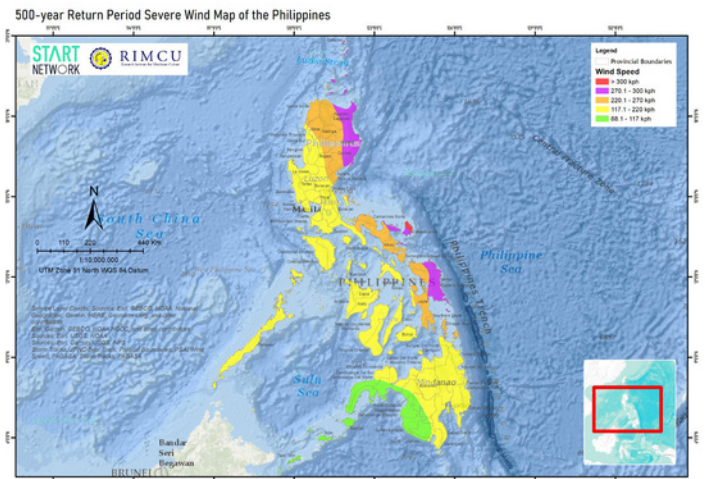


Map 1. Tropical Cyclones in the Philippines (1982-2019)

## Severe Winds Exposure

Catanduanes leads the list in terms of exposure to severe winds. The findings revealed that the province is likely to experience severe winds in 20-, 100-, 200-, and 500-year periods. Notable is that in a 100-year return period for severe winds, Catanduanes is the only province that may experience a maximum wind speed of 270.1 - 300kph. Furthermore, a 500-year return period also shows that only the province of Catanduanes is likely to experience a maximum wind speed of over 300 kph.

Eastern Samar is also among those exposed to severe winds, and it ranks 2nd as the province most frequently visited by tropical cyclones.



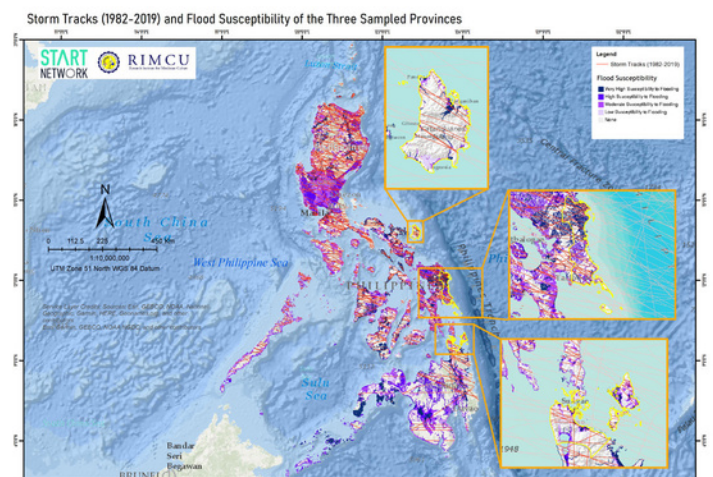
Map 2. Severe Wind Map of the Philippines (500-year Return Period)

## Severe Winds and Tropical Cyclone Combined Exposure

Eastern Samar and Catanduanes are among the provinces included in the country's deadliest and costliest weather-related disasters. When combining exposure to flooding and severe winds and the frequency of tropical cyclones hitting the area, the province of Eastern Samar is the most exposed and most vulnerable among the three study sites.

Mindanao has also increased its prominence relative to experiences of tropical cyclones. Many of its provinces become susceptible to very high floods, and some are exposed to severe winds. Mindanao was severely hit by some notable tropical cyclones that made landfall in the Philippines: Super Typhoon Bopha (Pablo) in 2012 and Tropical Storm Washi (Sendong) in 2011.

The province of Surigao del Norte had experienced the 6th deadliest weather-related disaster in the Philippines from 1970-2019. It is also one of the provinces in the country that is very highly susceptible to flooding, given its geographic feature.



Map 3. Severe Winds and Tropical Cyclones in the Philippines



## Intersection of Vulnerabilities across three (3) case study areas



Across the study areas, study participants identified the elderly as the most vulnerable during disasters. Among the other most affected sectors include persons with disabilities (PWD), children, fisherfolks, and farmers.



Elderly



Persons With Disabilities (PWD)



Children



Fisherfolks



Farmers

**“The elderly have trouble accessing basic needs and health services, such as going to the hospital; the situation is aggravated if elderly couples are on their own. They need to seek the assistance of other people to buy food and medicines.”**

*Municipal Disaster Risk Reduction & Management Office Head  
Municipality of Baras, Catanduanes*

Similarly, PWDs and children share the same challenge of seeking assistance during a disaster, as such, they were among the priority groups that needed evacuation. In the case of PWDs, access to healthcare is a priority concern during and after a disaster.

Although women are not identified by key informants as a vulnerable group during disasters, it surfaced in the interviews that gender-based violence (GBV) happens as an after-effect.

**“GBV [occurs] because of poverty. Wives are physically hurt by their husbands because they have no food to eat. Some husbands become ill-tempered and they do this because they are stressed, tired from work, and their houses are destroyed.”**

*Municipal Disaster Risk Reduction & Management Office Head  
Municipality of Baras, Catanduanes*



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## Intersection of Coping Mechanisms



In the case studies, the researchers looked at two degrees of coping mechanisms and responses at the LGU and household levels. Across these areas, it shows that because of the frequency of their exposure to disasters like flooding and strong winds, the local governments (provincial to barangay) have existing early warning and pre-emptive evacuation systems.

At the household level, a common practice by residents of the areas is the pre-emptive action done by safekeeping their assets (e.g., tying their roofs into some parts of their houses) before evacuating.





## Common potential entry points for anticipatory actions

The study shows that there is a need to harmonize efforts of government agencies, LGUs, and national and international humanitarian initiatives that cover relief, recovery, and development activities. This includes psycho-social components of humanitarian actions that will help survivors debrief and provide immediate assistance to survivors of gender-based violence (GBV) exacerbated by the compounded crisis of the COVID-19 pandemic and disasters.

In the context of a pandemic, the study surfaced concerns on the challenges that the ongoing COVID-19 situation brought to the humanitarian sector. It was raised that anticipatory actions must be responsive and sensitive to the pandemic situation, observing minimum health protocols to avoid the spread of the virus. It was also a concern that was commonplace to the three case study areas that the community-level humanitarian practices drastically changed because of the pandemic.

Lastly, disaster risk financing will play a huge role in anticipatory humanitarian action particularly pre-emptive cash distributions and cash-for-work opportunities to the residents of affected populations. It was a common narrative among key informants that residents seek loans and credits before a disaster takes place to salvage their assets and belongings. Community members that also lost their livelihood because of these disasters often look for part-time jobs to recover from the damages they incurred from a disaster situation.



To access the full report and other inquiries, you may reach out to the Philippines DRF Coordinator Arvin Caro at [arvin.caro@startnetwork.org](mailto:arvin.caro@startnetwork.org) / [arvin.caro@care.org](mailto:arvin.caro@care.org)

