

# An Attempt to Evaluate Economic and Non-Economic Losses & Damages due to Flooding among the Urban Poor Households in Metro Manila

Justin Charles G. See, Manila Observatory, Philippines

Tropical cyclones frequently hit the Philippines with heavy impacts on infrastructure, agriculture and communities. A mechanism to assess damages and losses is crucial in informing decision-making and policy development. However, existing assessments only focus on infrastructure damages, neglecting the significance of other types of impacts on people, such as those related to physical and mental health, education and social capital. This research is an attempt to evaluate both economic and non-economic losses due to floods at the household level.



An interviewer asks a community member in Marikina City, Metro Manila, about her experience living in the flood-prone area.

## Objectives

The main objective of this research is to understand and deconstruct both the economic and non-economic losses that urban poor households in Metro Manila incur from climate-related disasters. This study attempts to consider several dimensions, including social, economic, psychological, political, and environmental, in order to obtain an integrated and holistic damage estimation.

## Approach

A conceptual framework to measure loss and damage was built and used as a theoretical lens in the development of methodologies for assessing losses and damages. A survey of 300 respondents residing in flood-prone areas in the upstream, midstream, and downstream areas of Metro Manila shed light on economic losses. Three focus group discussions were conducted to collect data on non-economic losses and damages.

## Results Overview

Three components of risk - hazard, exposure, and vulnerability - were significant determinants of flood loss and damage. Gender, income and age were also significant predictors: considerable losses were incurred by households with more female members and lower income.

The average income of the survey's respondents is barely enough to pay for everyday expenses. Following major flooding events, many respondents said that they need to contract loans to recover from losses.

The focus group discussion revealed the non-economic impacts. Even though none of the participants in the focus group lost a family member due to flooding, several of them experienced guilt, remorse, or trauma. The floods also had significant impact on the community's social networks, children's education, and local governance.

The study highlights the complex nature of the interactions between economic and non-economic loss and damage, i.e. how they are not mutually exclusive but are related to one another. This research therefore contributes to the body of knowledge on loss and damage assessment, as it expands the current binary conceptualizations of loss and damage as separate and distinct when actually the relationships are quite fluid and dynamic.

## Conclusion

This research can help support policy development in the field of disaster risk reduction and climate change adaptation. Based on the findings, three recommendations are provided:

1. providing platforms and opportunities for alternative sources of income and livelihood - the majority of respondents were forced to borrow money, which can lead to further marginalization and dependency;
2. encouraging residents' involvement in their community in order to build social capital and social networks;
3. addressing the communities' mental and emotional well-being right after a disaster, to help affected populations cope with traumatic experiences.

## The journey continues...

Justin See, together with his mentor Prof. Emma Porio, have co-authored a journal article that features the results of his PARR fellowship and that is currently being peer-reviewed. He is also working on a paper with PARR fellow Liz Del Castillo. They are attempting to combine both of their research, i.e. to estimate economic and non-economic flood loss and damage utilizing satellite-based information (through GIS) and socio-economic factors.

Justin is currently pursuing a Ph.D. in La Trobe University in Australia, looking at climate change adaptation and its prospects for distributive justice.



Justin Charles G. See is a Ph.D. candidate at the Department of Social Inquiry in La Trobe University, Melbourne, Australia. He is currently doing research on distributive justice in climate change adaptation projects and strategies in Iloilo City, Philippines. From 2012 to 2016, he was a member of the Coastal Cities at Risk Project of the International Research Initiative on Adaptation to Climate Change (IRIACC), investigating climate change vulnerability, adaptation, and resilience in Metro Manila. He also served as research associate at the Manila Observatory, and taught introductory sociology and social statistics at Ateneo de Manila University.



## The Intangibles that Matter: Non-Economic Loss and Damage By Justin Charles G. See

*“The floods swept away everything we had – even our dreams and our future.”*

This was the testimony of Maricel, a resident of Barangay Tumana, Marikina City, at the end of our key informant interview. I was accompanied by my field interviewers in a visit to the communities living under the Tumana bridge, a flood-prone area just beside the Marikina River in the Philippines.

Our team wanted to know more about the experiences of loss and damage from the community members themselves. The questions we prepared were supposedly simple and straightforward – we wanted to know how many pesos they lose/spend every time their particular area gets flooded after a typhoon. But the responses they gave were much more complex. They incurred losses and damages

that they cannot easily quantify in pesos. In climate change literature, these are called non-economic losses and damages, or NELD.

What were these losses that were difficult to quantify?

[Continue reading the blog post on START’s website](#)