

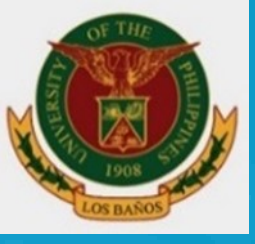
Assessing Island Community Resilience for Disaster Risk and Recovery Planning in the Philippines

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RESEARCH BACKGROUND

“Resilience and development are inextricably linked. When we invest in infrastructure, we have to invest not just for today but for the future and that means building resilience into everything we do.” – Rachel Kyte, World Bank Group vice president and special envoy for climate

Resilience is at the core of the Sustainable Development Goals (SDGs) and is a cross-cutting concept of the specific targets of these goals. Building and strengthening resilience is crucial in the achievement of these goals (Schipper & Langston, 2015). The vision of peace and prosperity for the people and the planet set out in the SDGs will inevitably fail without acknowledging and addressing the shocks and stresses that may come in the future (Schipper & Langston, 2015). The promise of “leaving no one behind” brings out challenges and requires a particular focus on the most vulnerable and poverty-stricken people which are estimated to be around 325 million in number by 2030 and located in 49 countries which are most prone to hazards (Schipper & Langston, 2015).

According to the Center for Epidemiology of Disasters (2017), Asia had the highest occurrence of disasters at 43% in 2017, with China being having the most events at 25, 6 of which are storms and 15 are floods or landslides. In the same year, India experienced the highest human impact of natural disasters with approximately 2,300 deaths and around 22.5 million people who were affected (CRED, 2017.). There is an urgent need to shift the focus of efforts to resilience - the ability of communities persist, adapt, and move forward in spite of shocks and stresses, and to transforms these risks into opportunities, and these will be necessary, especially for the Asia-Pacific region to achieve the SDGs (UNDP, 2018).

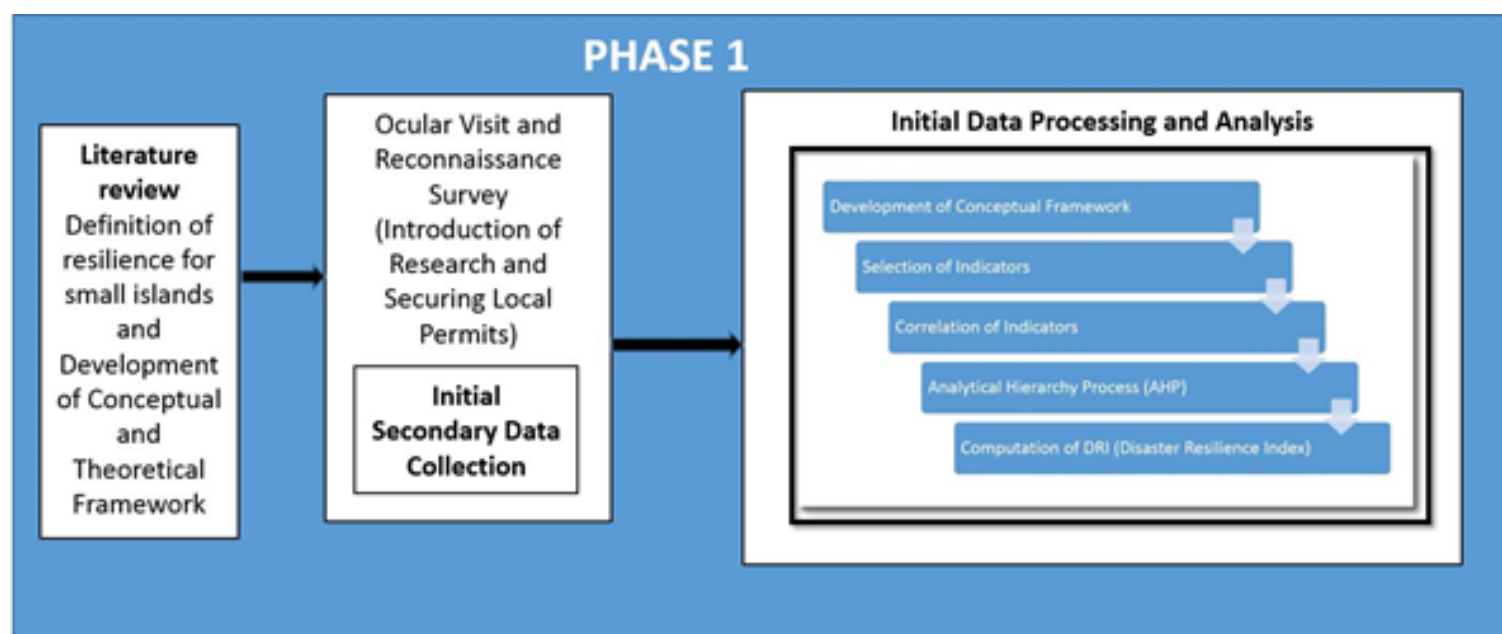
Research Gaps that we are addressing

- While there are many frameworks of disaster resilience, it has not taken a socio-ecological perspective.
- There are few existing studies that use the participatory approach for determining the indicators of disaster resilience.
- Little effort has been done in translating the scientific assessment of resilience to help locally in disaster risk and recovery planning.

Research Aim

The general aim of the study is to assess the resilience of an island community to disasters by means of a case study in the Philippines. It will develop an approach and framework based on the resilience indicators. The findings will then be translated into a tool to aid in the disaster risk and recovery planning process.

METHODOLOGY



PHASE 2: Soft-systems approach through Rich Pictures workshops and Content Analysis

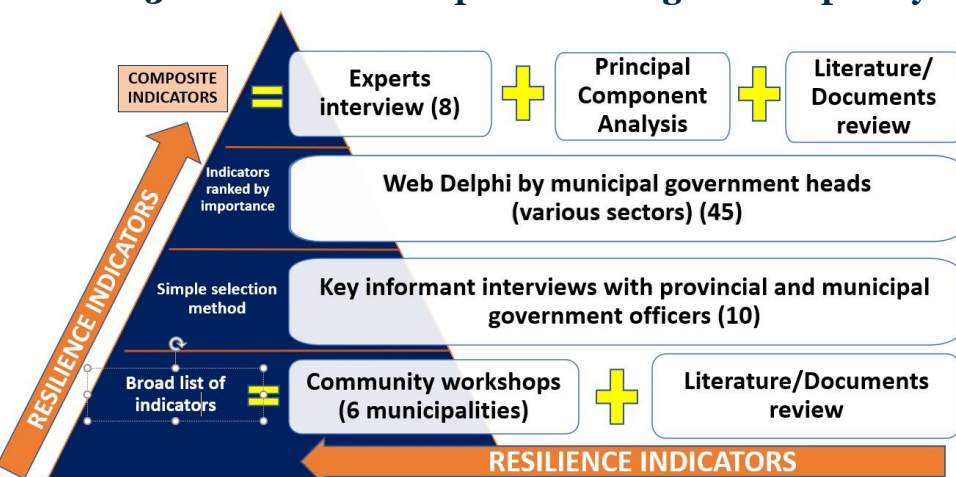
Building on the work of Bell and Morse (1999, 2003), a one-day ‘Rich Pictures’ workshop which followed a six-step soft-systems approach was conducted in each of the six municipalities in Batanes. The participants were residents of the community which included the following: barangay officials (village leaders), farmers, fishermen, store owner, tour guides, police, schoolteachers, to name a few. In each municipality, the participants were divided into groups and they chose their groupmates according to their own preferences.



The researcher transcribed videos of each group presenting their outputs and all the information from the flipcharts was also extracted and arranged into tables to support the content analysis. The content analysis also helped with the identification of themes (and sub-themes) which emerged across the groups and which could be used to categorise the indicators.

Due to the overlap and non-linear relationships of the themes and sub-themes to each other which resulted in several overlaps, the researcher did a mind/concept mapping for the themes to aid in the analysis of the relationships, looking at groups of related indicators and reducing them to a single indicator which represents the core.

PHASE 3: Indicator development through Participatory Approaches and Statistical Analysis

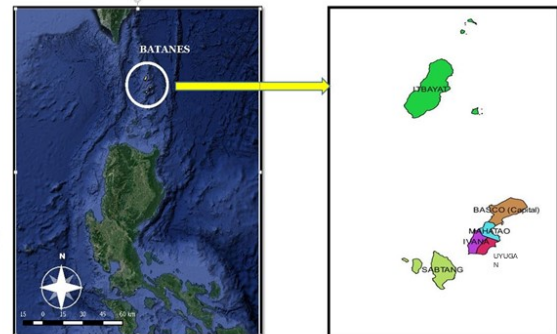


From the indicators that were identified from the community workshops, a simple selection method was done through key informant interviews of the key provincial and municipal government officers. Then a Web-Delphi was performed among the heads of various sectors of the six municipalities and finally a Principal Component Analysis (PCA), literature and documents review, and expert's interview to finalise the composite indicators.

THE STUDY SITE

Batanes, Philippines

- Located at the northernmost part of the country
- Composed of 11 small islands with 6 municipalities in 3 islands
- Considered the smallest province in terms of land area (2,219.01 sq km) and population (17,246)



The study will cover all the six municipalities in the province namely Basco, Itbayat, Ivana, Mahatao, Sabtang and Uyugan.



PHASE 1 RESULTS

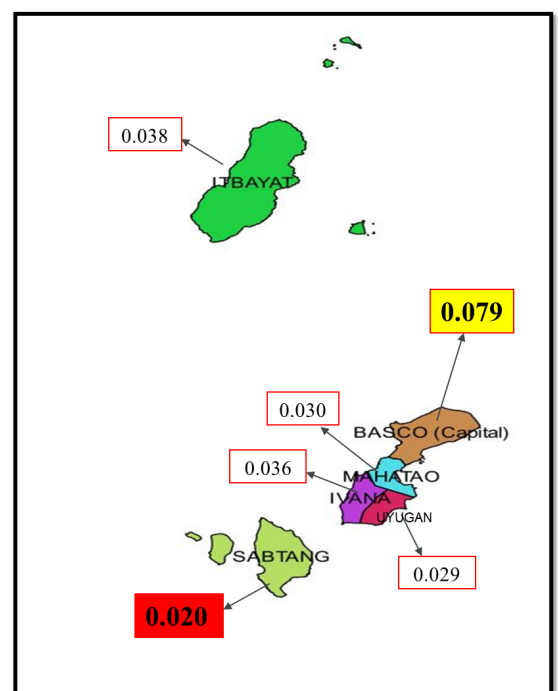
Disaster Resilience Index (DRI) of the six municipalities of Batanes

(Based solely on secondary data)

Disaster Resilience = f (social, ecological, economic)

Municipality	DRI
Basco	0.079
Itbayat	0.038
Ivana	0.036
Mahatao	0.03
Sabatang	0.02
Uyugan	0.029

Basco emerged as the most resilient among the six municipalities in the province, while Sabtang came out as the least resilient among the six municipalities.



PHASE 2 RESULTS



Some 'rich pictures' outputs from the workshops



The themes, sub-themes and indicators showed a strong similarity with the existing ones, however, there emerged indicators which are community-based and unique to the case study island. These indicators are deeply rooted in the cultural heritage and indigenous knowledge, systems and practices (IKSP) in the island.

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