



CLIMATE HAZARD EFFECTS ON SOCIO-ENVIRONMENTAL HEALTH AND ADAPTATION STRATEGIES IN TWO COASTAL COMMUNITIES IN PALAWAN ISLAND

P. A. Regoniel, M.T.U. Macasaet, and N. I. Mendoza

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Project Description

- This research project is part of a cross-country study on the economic analysis of climate change adaptation strategies in selected coastal areas in Indonesia, Philippines and Vietnam
- It documented the impacts of three climate hazards affecting coastal communities, namely typhoon/flooding, coastal erosion, and saltwater intrusion
- The study analyzed planned adaptation options, which communities and local governments can implement as well as autonomous responses of households to protect and insure themselves from these hazards



Objectives of the Research Project

- This study aims to help address the country's need for better resilience against the negative effects of climate change
- Specifically, it intends to assess the socio-environmental health effects of climate hazards in two typical coastal communities facing Honda Bay in Palawan Island



Research Methodology

Method	Purpose
Key informant interview	<ul style="list-style-type: none">•Gather information on climate-related events in the community
Focus group discussion	<ul style="list-style-type: none">•Identify relevant issues related to climate change•Gather information to refine HH survey instrument•Determine adaptation activities/policies undertaken
Cost effectiveness analysis	<ul style="list-style-type: none">•Assess the economic viability of different planned adaptation options that are doable
Participatory mapping	<ul style="list-style-type: none">•To illustrate detailed village layout and infrastructure as perceived by the residents•Helped identify areas and resources perceived to be at risk to climate hazards

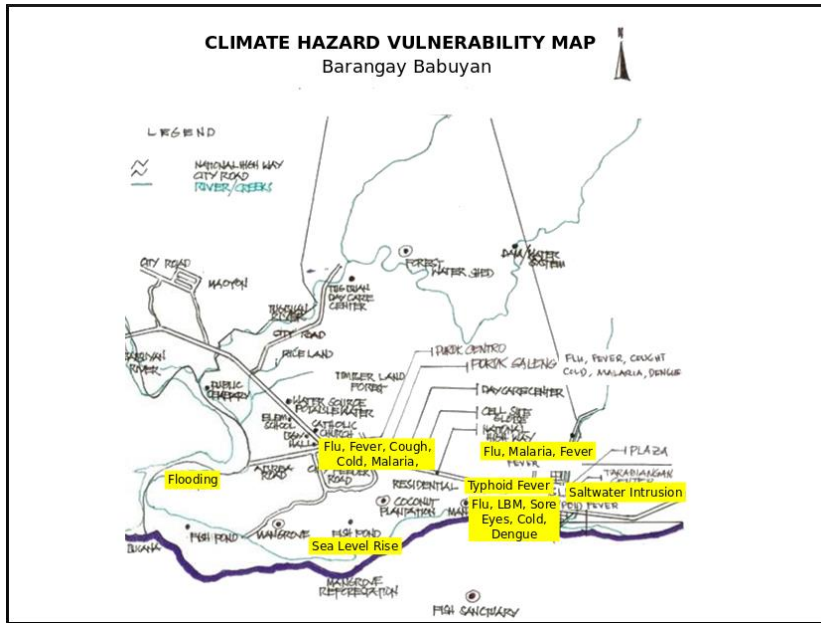
Climate Hazard Vulnerability

- Agriculture and health are common sectors identified as highly vulnerable to climate hazards
- Residents perceive high vulnerability mainly to typhoons
- Highly resource dependent communities are sensitive to climate change



Climate Hazard Vulnerability Maps

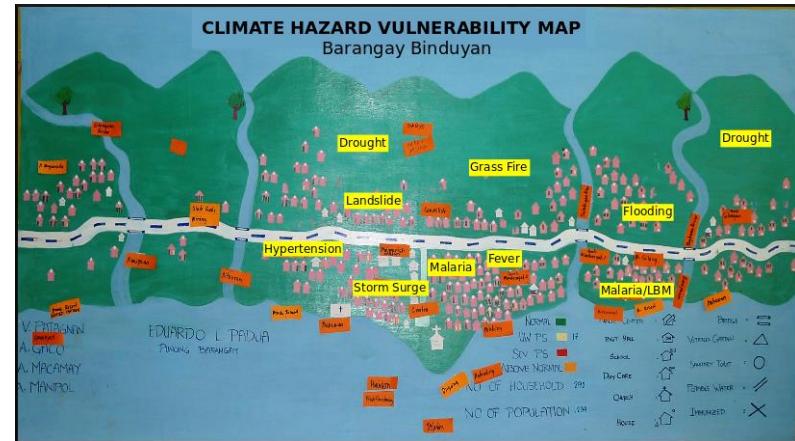
Barangay Babuyan



- Hypertension cases increased; attributable to higher than usual temperature
- Malnutrition occurs due to poor harvest



Barangay Binduyan



- Pathogenic microorganisms contaminate fresh water
- Typhoid fever, loose bowel movement, flu, cough and colds, sore eyes, dengue, and pruritus occur
- Increased malaria cases due to expanded distribution range



Planned Adaptation Options

Objectives	Adaptation Options
Barangay Babuyan	
Protect HH from storm surges, loss of property, and minimize sand erosion	Breakwater construction, dike/levee, mangrove reforestation
Prevent river overflow and minimize siltation	Riverbank rehabilitation using vetiver grass, dike construction, river dredging
Protect households from inland flooding	Upland reforestation, IEC/EWS + temporary evacuation center, relocate affected households to safer places
Barangay Binduyan	
Protect households from strong waves and storm surges	Breakwater construction, mangrove reforestation, seawall construction, relocation

Cost Effectiveness Analysis

- Among the climate hazard adaptation options, mangrove reforestation is the most cost-efficient at ~PhP800,000
- The most expensive climate hazard adaptation option is breakwater construction at ~PhP11 million



Conclusion

- The most vulnerable sectors to climate hazards are agriculture and health
- Households close to rivers, steep slopes or nearshore and low-lying areas are prone to climate hazards
- Residents prefer adaptation strategies that are cost-effective, doable, and within their capability to finance



Recommendations

Thank You
for Your
Attention!

- The communities should base their decision primarily on affordability of “soft” adaptation strategies in view of environmental sustainability
- Mangrove reforestation is a cost-effective strategy to protect households from climate hazards
- Early warning systems (e.g. bells) and evacuation centers should be established

