

Climate Change Impacts and Adaptation in the Real World of Coastal Communities

Anthony Charles

Saint Mary's University, Halifax, Canada (tony.charles@smu.ca)



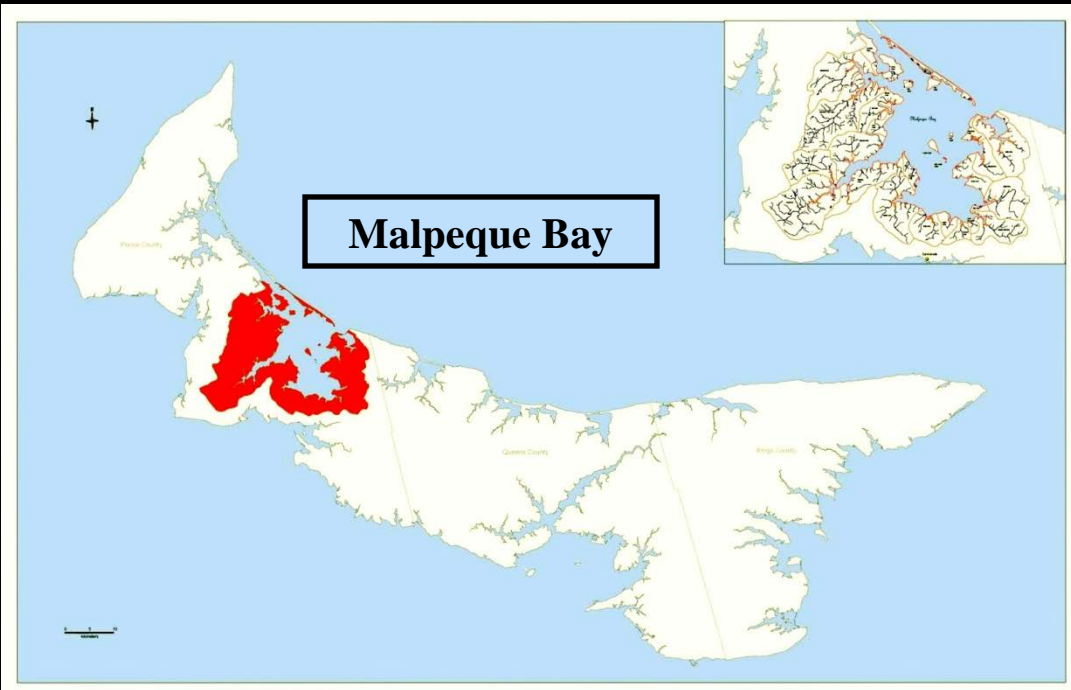
Acknowledgements:
Social Sciences and Humanities Research Council of Canada
Natural Sciences and Engineering Research Council of Canada

Three Coastlines, Three Climate-Response Realities, One Emerging Message

- Malpeque Bay, Prince Edward Island, Canada
- Muine & Portovelo, Northwest Coast, Ecuador
- Tuvalu, Pacific Islands



Climate Impacts and Adaptation: Prince Edward Island, Canada



- Lennox Island is an aboriginal 'First Nation' community.
- Malpeque Bay is rural and resource-based.

Figures: Mi'kmaq Confederacy of PEI

Climate Impacts & Adaptation: Prince Edward Island, Canada

- Main concerns:
- Saltwater intrusion
- Sea level rise threat to archaeological sites (Mi'kmaq & Acadian)
- Entry point: Concern for culture & history, plus biodiversity



Environmental Change: Coastal Ecuador

- Tiffanie Rainville thesis



- Most changes in communities attributed to causes other than climate change.
- Major environmental impacts in both communities were shrimp farm industry and the El Niño phenomenon (1997-98).
- Negative impacts observed locally in:
 - freshwater quality and availability
 - mangrove health
 - livelihoods of subsistence fishers.
- Climate change only partially understood at the local level.



Coastal Ecuador: Policy Environment

- Addressing key livelihood challenges (notably water supply) takes priority locally over longer-term issues.
- Environmental concern focuses on mangrove loss affecting fishery productivity (seen to be declining).
- But “Climate is crazy” (when asked about climate...)
- Entry point: Win-win mangrove restoration.



Development Priorities and Climate Change in Tuvalu



Credit: Encyclopedia Britannica

- Cait Dix thesis
- compared priorities of government and donor agencies with those of local citizens
- Compared development indicators today with the situation 20 years ago, prior to emergence of climate change concern.

Development Priorities and Climate Change in Tuvalu

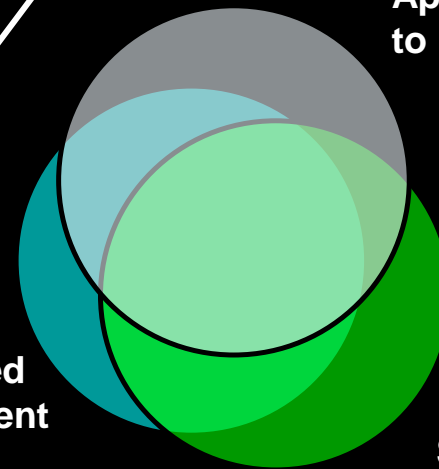
- Government is known globally for publicizing concern about climate change, notably sea level rise and its impact on Tuvalu.
- Citizens express desire for climate education internally rather than internationally, and attention to their priorities: health; drinking water; waste management.
- What is optimal balance of climate change focus & development initiatives?



Emerging Global Message

- Large variations from place to place in the perception of climate change & its relative importance compared to other priorities.
- Thus a one-size-fits-all approach by government is unlikely to be successful...
- Need some allowance for local realities, (without demanding lengthy 'formal' assessments in every community!)
- Integrated policy: connect human & development needs with climate responses.

Integrated
Management



Ecosystem
Approach
to Fisheries

Sustainable
Livelihoods
Approach