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Policy Perspectives

Perspectives on resource management and environmental policy from the Centre for Resource Management and Environmental Studies (CERMES), Faculty of Science and Technology, University of the West Indies, Cave Hill Campus, Barbados.

The Centre for Resource Management and Environmental Studies (CERMES) initiated this occasional outreach publication, ***Policy Perspectives***, to share lessons learnt from ongoing research. The interdisciplinary applied research at CERMES emphasizes learning-by-doing through collaboration. The information in ***Policy Perspectives*** may be used by policy-makers and advisers to strengthen linkages between interdisciplinary research and integrated policy-making in the Caribbean.

SIDS vulnerability is tied to climate impacts on fisheries

Vulnerability assessments of fisheries at national, regional and global levels are receiving increasing attention in the face of climate change, and are being used in the international policy arena. Small Island Developing States (SIDS) are considered to be extremely vulnerable to climate change impacts. Yet, they have largely been absent from these assessments due to (perceived) lack of data. This absence encourages underrepresentation of SIDS vulnerability and weakens the position of SIDS in climate change debates. This Policy Perspective explains key issues and encourages more SIDS to actively manage the data and information required for international vulnerability assessments. This will allow their vulnerability to be better assessed and represented in the international policy arena.

National vulnerability assessments

Over the past decade there has been increasing attention in the international arena to vulnerability assessments covering different economic sectors and comparing countries. Understanding the impacts of climate change on fisheries is crucial as fisheries are important for food security, livelihoods, employment and the generation of foreign exchange for national governments throughout the world. The impacts of climate change are expected to be different within and between regions and nations.

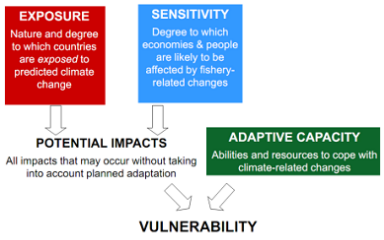


Figure 1: Vulnerability framework (Allison et al. 2009 based on IPCC 2001)

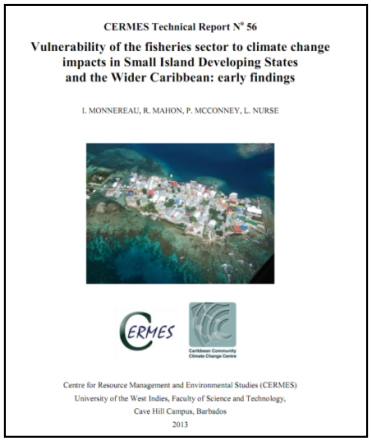
In 2009 researchers used a framework to examine the national level vulnerability of fisheries sectors to climate change. See the figure. The resulting article '*Vulnerability of national economies to the impacts of climate change in fisheries*' has been widely cited in the literature and in the upcoming IPCC report (AR5,) as well as used in the climate change policy arena internationally.

SIDS

- Produce only **0.6%** of global greenhouse gases yet they are expected to be disproportionally affected by climate change
- This is due to their **social**, **economic** and **geographical** characteristics such as small size, remoteness, economic vulnerability, high dependence on the marine sector, proneness to natural hazards, low-lying areas, and low adaptive capacity.
- **They** will be exposed to high levels of climate change impacts such **as sea-level rise**; **sea surface temperature** change; increased intensity of **storms**; **ocean acidification** and **coral reef bleaching**.

The assessment concluded that the Least-Developed Countries (LDCs) have the most vulnerable fisheries sectors in the face of climate change. The study, however, scarcely included SIDS and Wider Caribbean countries as they were considered to be 'data-deficient '.

Only nine of the 52 tropical island states that make up SIDS were included in their analysis representing only 7% of the total number of countries considered in the study. The inclusion of only four SIDS in the national vulnerability assessment of coral reef fisheries by Hughes et al. (2012) was similarly attributed to a lack of available data.


CERMES Technical Report N° 56

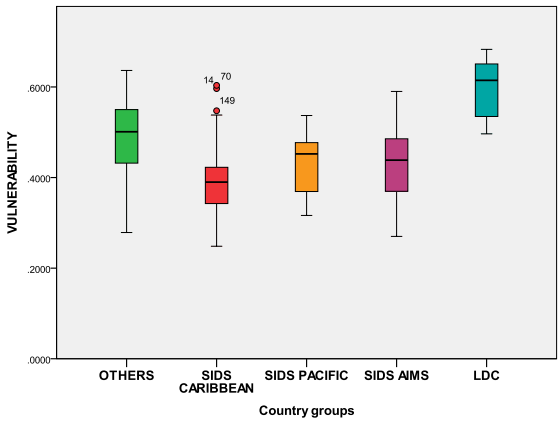
Vulnerability of the fisheries sector to climate change impacts in Small Island Developing States and the Wider Caribbean: early findings

I. MONNEREAU, R. MAHON, P. MCCONNEY, L. NURSE

Centre for Resource Management and Environmental Studies (CERMES)
University of the West Indies, Faculty of Science and Technology,
Cave Hill Campus, Barbados
2013

In 2012 the regional Caribbean Community Climate Change Centre (5Cs) and CERMES teamed up to closely examine the vulnerability framework; include data on all SIDS and build on to the current vulnerability framework to show a more holistic picture. Our project is ongoing, and we present some early perspectives of which the CERMES Technical report No. 56 is the first publication.

Figure 2: Vulnerability of nation's fisheries sector in the face of climate change (incl SIDS)



Source: Monnereau et al. 2013

The results of inclusion of 51 SIDS showed SIDS to be least vulnerable. The Caribbean SIDS, in fact, showed to be the least vulnerable of the three SIDS groups and the least vulnerable of all nations.LDCs and other nations come out as most vulnerable in this analysis. This is due to the choice of the exposure indicator: change in air surface temperature by 2050. This change is highest in the higher latitides but much lower in subtropical and tropical areas. Inclusion of other exposure indicators, such as sea-level rise, is therefore vital.

These results do not imply SIDS are not vulnerable to the impacts of climate change. Rather, they show that the results of vulnerability assessment depend highly on the indices chosen. The indices chosen in this analysis do not necessarily represent vulnerability of SIDS (see also the *Barbados Programme of Action for the Sustainable Development of Small Island Developing States*).

These types of assessments are, however, widely used in the international arena. Our project strives to develop a framework that builds on the current framework but incorporates a more holistic picture of the vulnerability of the fisheries sector of SIDS and LDCs in the face of climate change. This should better inform SIDS policy.

What can policy makers and advisers do? Policy direction is needed to ensure data and information are more easily available on SIDS and that these measure what SIDS determine are the main contributors to vulnerability.

Early perspectives:

- SIDS need to be aware the results of national level vulnerability assessments are used widely in the international governance arena
- National level vulnerability assessments comparing countries often underestimate the actual vulnerability experienced by SIDS (particularly in the Caribbean)
- This underrepresentation can have widespread consequences for SIDS in the climate change debate
- SIDS should focus on data collection beyond the community level and encourage adequate data collection at the national level
- This national level data should be shared on the international stage and represent the interests of SIDS in the same way other international actors are showcasing their interests

This policy brief is an output of the CERMES project on ***Assessing the Vulnerability of Caribbean Fisheries To Climate Change.*** This project is supported by the Caribbean Community Climate Change Centre (CCCCC). The views expressed are those of the author(s) and do not necessarily represent those of the CCCCC.