São Paulo School of Advanced Science on Ocean Interdisciplinary Research and Governance (13 to 25 August 2018) - São Paulo, Brazil. Local institutions, local leadership and adaptation to climate change – The case of coastal Tamil Nadu



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Background

- In India, around 91% of the marine fishers in India are traditional marine fishers, and about 61% of the marine fishing households belong to below poverty line (CMFRI 2012).
- Tremendous pressure on the fishing grounds across coastal
 India for over the past few decades due to the numerous
 increase of mechanised fishing vessels (Salagrama 2012).
- Climate change impacts exacerbate the vulnerabilities of marine fishers of India (Lakshmi 2011).

Research focus

To understand the social vulnerabilities of marine fishers to the broad impacts of climate change.

To explore the governance nature of the local institutions - its local leadership, and its overall relevance in coping and adaptation efforts to climate change.

To examine the barriers that delimit and hinder the local institutions to cope and to adapt to climate change.

Materials and methods

Qualitative approach – Rigorous field visits - Non-participant observations, Open interviews, Semi-structured interviews and focus-group discussions. Total respondents – Around 250.

The case of coastal Tamil Nadu



Climate change vulnerability of coastal Tamil Nadu

Around 40% of the Coromandel coast of Tamil Nadu is under high risks due to stochastic events like Tsunami and storm surges. In Coromandel coast, most of the east coast north of Nagapattinam district comes under low-lying region. Hence, this district is prone to sea level rise, seawater intrusion, shore erosion and all associated climate change impacts (Mascarenhas 2004, Byravan et al. 2010). This district was the highly affected region in the 2004 Tsunami disaster.

Few selected findings

Marine fishers across the study area strongly perceive the impacts of climate change, especially since the 2004 tsunami disaster. Shared values, social bonding and local leadership of the marine fishers play influential roles in adaptation to climate change. Insufficient income, weak financial base, weak local institutions, insufficient 'capitals' hamper the adaptation efforts of marine fishers to climate change impacts.

Fishers' local governance systems and local leadership

'Pattinavar' is the dominant fishing community in Coromandel coast of Tamil Nadu and Puducherry. It possesses the centuriesold rich history of locally governing the coastal commons. Local leadership of Pattinavars' institutional set-up and a few other local institutions play influential roles in governing the marine fishers and coastal commons (Bavinck 2001).

Conceptual underpinnings

Adaptive capacity of place-based communities (Charles 2012). Sustainable livelihoods, Conceptual discussions on 'Capitals' and local institutions (Agrawal and Perrin 2008).

References (Shortened)

Agrawal, A & Perrin, N (2008). The Role of Local Institutions in Adaptation to Climate Change. The World Bank, Washington, DC.

Bavinck, M (2001).Caste panchayats and the regulation of fisheries along Tamil Nadu's Coromandel Coast

CMFRI (2012) Marine Fisheries Census 2010 - Part I - India.

Byravan, S., Chellarajan, S. & Rangarajan, R. (2010). Sea Level Rise: Impact on major Infrastructure, Ecosystmes and Land along the Tamil Nadu Coast.

Charles, A. (2012). People, oceans and scale: governance, livelihoods and climate change adaptation in marine social–ecological systems.

Lakshmi, A. (2011). Review of Literature for ICSF Study on "Climate Change and Fisheries: Perspectives from Small-scale Fishing Communities in India on Measures to Protect Life and Livelihood".

Mascarenhas, A. (2004). Oceanographic Validity of Buffer Zones for the East Coast of India: A Hydrometeorological Perspective.

Salagrama, V (2012). Climate Change and Fisheries: Perspectives from Small-Scale Fishing Communities in India on Measures to Protect Life and Livelihood.