Climate change and adaptation in coastal Tamil Nadu, India: Discussions on local institutions

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Workshop 4: Climate change adaptation of fisheries and aquaculture

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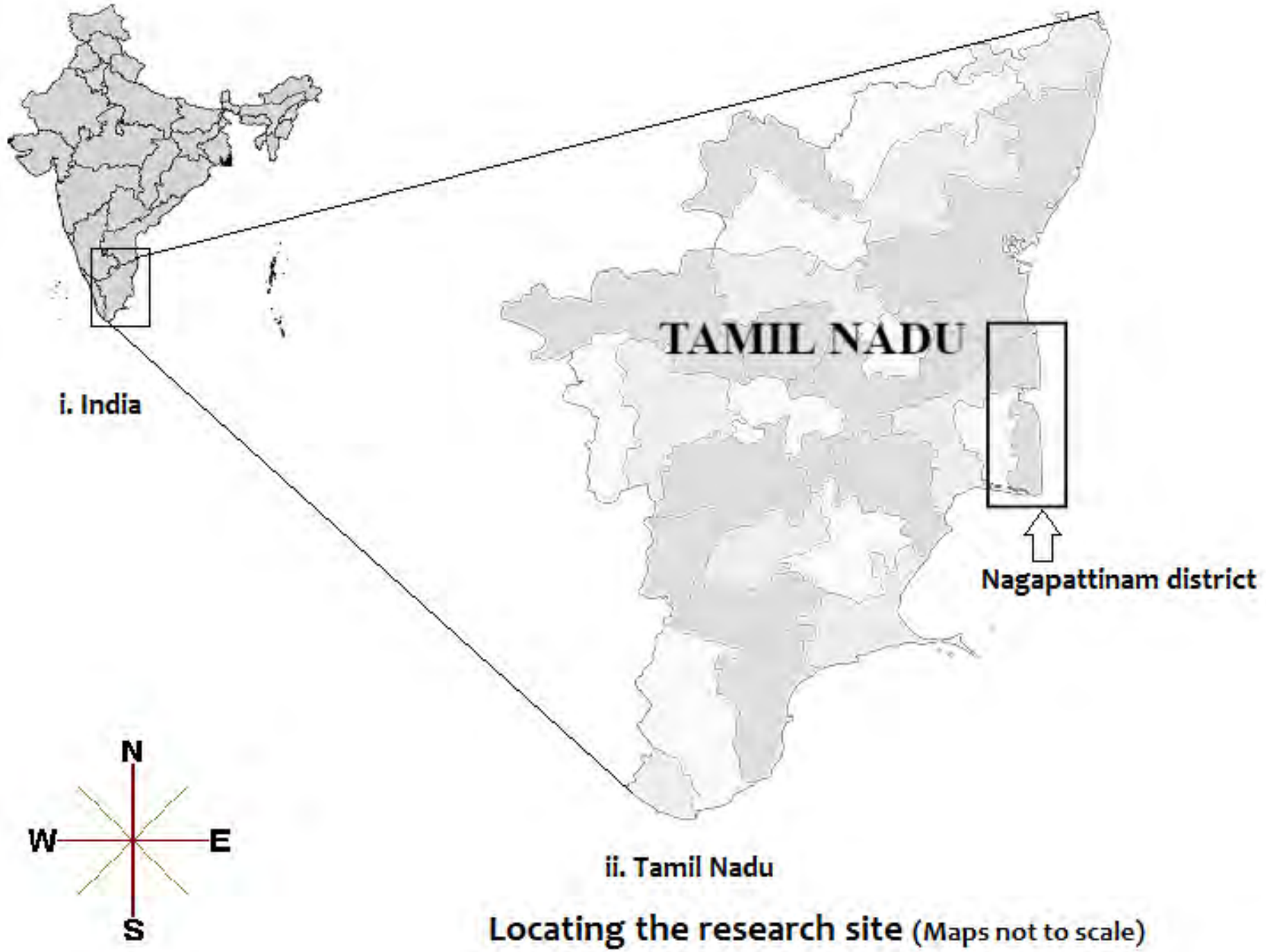
Outline

- Background to the study - The case of coastal Tamil Nadu
- Locating the research site – Uniqueness of the informal governance systems of the marine fishers across the coast
- ‘Vulnerable’ and ‘vulnerable’ among the ‘vulnerable’ populations in the face of climate change
- Responding climate change
- Factors influencing the marine fishers to respond to climate change – Discussions with local voices.



i. India

ii. Tamil Nadu

Locating the research site (Maps not to scale)

Tamil Nadu

The southernmost state of Indian peninsula

Coastal length - 1076 Km -- 13 coastal districts and 591 marine fishing villages.

The history of the fishing communities in Tamil Nadu dates back to Sangam age, which roughly extends between 300 BC and 300 AD

Three major fishing castes – **Pattinavars**, **Paravas, Mukkuvars**

96% traditional fishermen - 66% of the marine fishing villages lie below poverty line

Estimated marine fish production (2016 – 2017) - 4.72 Lakh tonnes

Climate change impacts – Discussions centered on the coastal Tamil Nadu, India

But Why Coastal Tamil Nadu?

It was hit by cyclonic storms/depressions for about 31 times with disastrous effects from 1952 to 2004 (Government of Tamil Nadu 2004)

The 2004 Indian Ocean Tsunami Effects (Srinivasan and Nagarajan 2005; Ramanamurthy et al. 2012) – 'Double burden' to the coastal fishing populations

Major parts of the coastal areas of Tamil Nadu are one of the high vulnerable zones in India due to sea-level rise and cyclones (Chakraborty and Joshi 2016)

Vulnerability, Resilience, Adaptation and Adaptive capacity - Mounting literature and definitions for over the past three decades

Climate change adaptation is an inherently social process, underpinned by socio-cultural characteristics of the societies that adapts (Wolf 2011)

Place-based communities Charles (2012)

'Adaptive capacity reflects the capability to with risks and to respond to impacts, including recovery from negative effects, learning and adapting over time, and taking advantage of opportunities for positive change'

Locating the research sites

Study village 1

Small-scale fishing village

Covered by water in all the four sides.

It was one of the highly vulnerable fishing villages in the district to climate stress

Study village 2

Less than 1500 reside in the small-fishing village.

Highly affected due to the climate events including the 2015 massive rainfalls.

Economic status of the fishers are far better than the other study

Study village 3

Less than 1000 people reside in the village

All the fishing households are involved in small-scale fishing.

Marine fishers of this village are highly prone to the effects of coastal hazards and climate

Qualitative approach

Selection of the key informants and respondents

Sampling methods

In-depth open interviews, focus-group discussions, non-participant observations

‘Climate change’ - Does it matter to the marine small-scale fishers?

‘For over the last five years, because of seasonal anomalies and erratic shifts of monsoon periods, our fishing days have been highly reduced during February and March. The normal fish catch season has been delayed to April and May, which is the fish ban period.'

(April 2016 – A senior fishermen who do fishing by non-motorized catamaran boat)

‘Cyclones and storms had never been a new disastrous phenomenon in the lives of us, but the tsunami was an unprecedented disaster. Tsunami heavily upset the ‘normal' weather patterns and ‘normal' fishing seasons. It changed the sea, so much. Significant commercial fish species had already migrated to interior sea/some other coasts since the tsunami. For over the last two decades, because of drastic less fish

Vulnerability of one of the fishing hamlet (Chinnamedu) to extreme climate conditions

Insecure Lives Under Extreme Climate Conditions: Insights from a Fishing Hamlet in Tamil Nadu, India

by Devendraraj Madhanagopal, on 17 April 2018

Tags: fishing | climate change | social change | precarity | insecurity | poverty | vulnerability | safety | India | Tamil Nadu

How are marine fishers responding to climate change?

Who are adaptable? Reasons….

Who are not adaptable and why? Insights from the field.

Focus group discussions with the fishermen and local leaders of Chinnamedu (May 2016) Image © Madhanagopal

Interview with the fishermen co-operative society leader of Chinnamedu (May 2016) Image © Madhanagopal

Local leadership, beliefs, cultural norms and collective action

Shared values and social bonding of fishers – Its relevance in climate change adaptation (Charles 2012; Cinner 2018)

Emotional connections of fishers with fishing – Interested towards foreign jobs – Two contrasting but relevant factors in climate change adaptation

Focus-group discussions with the fishermen of Madavamedu (April 2015) Image © Madhanagopal

Focus-group discussions with the fisherwomen and local women leaders of Madavamedu (April 2015) Image © Madhanagopal

Fishing vessels on the beach of Madavamedu (April 2015) Image © Madhanagopal

Madavamedu (April 2015) Image © Madhanagopal

Capitals/Assets - Where does the difference lies and how does it influence the climate change adaptation efforts of the marine fishers? - Reflections from the field

Limitations

Reflections from the Tsunami rehabilitation activities and its effects on the activities of the fishers' institutions.

Insufficient income, unstable finances, and a lack of proper disaster education exacerbate the vulnerabilities of fishers to extreme climate conditions.

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Thank you..!!
Questions?