

# Factors influencing the climate change adaptation efforts: Discussions from the case of coastal Tamil Nadu, India

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**PICES Climate Change Symposium 2018 Washington DC (Workshop 5: Climate change and fishing communities)**

Citation of this presentation: Madhanagopal, D (2018) Factors influencing the climate change adaptation efforts: Discussions from the case of coastal Tamil Nadu, India. The effects of climate change on the world's oceans – 4th International symposium, Washington, DC, June 2 – 8, 2018.

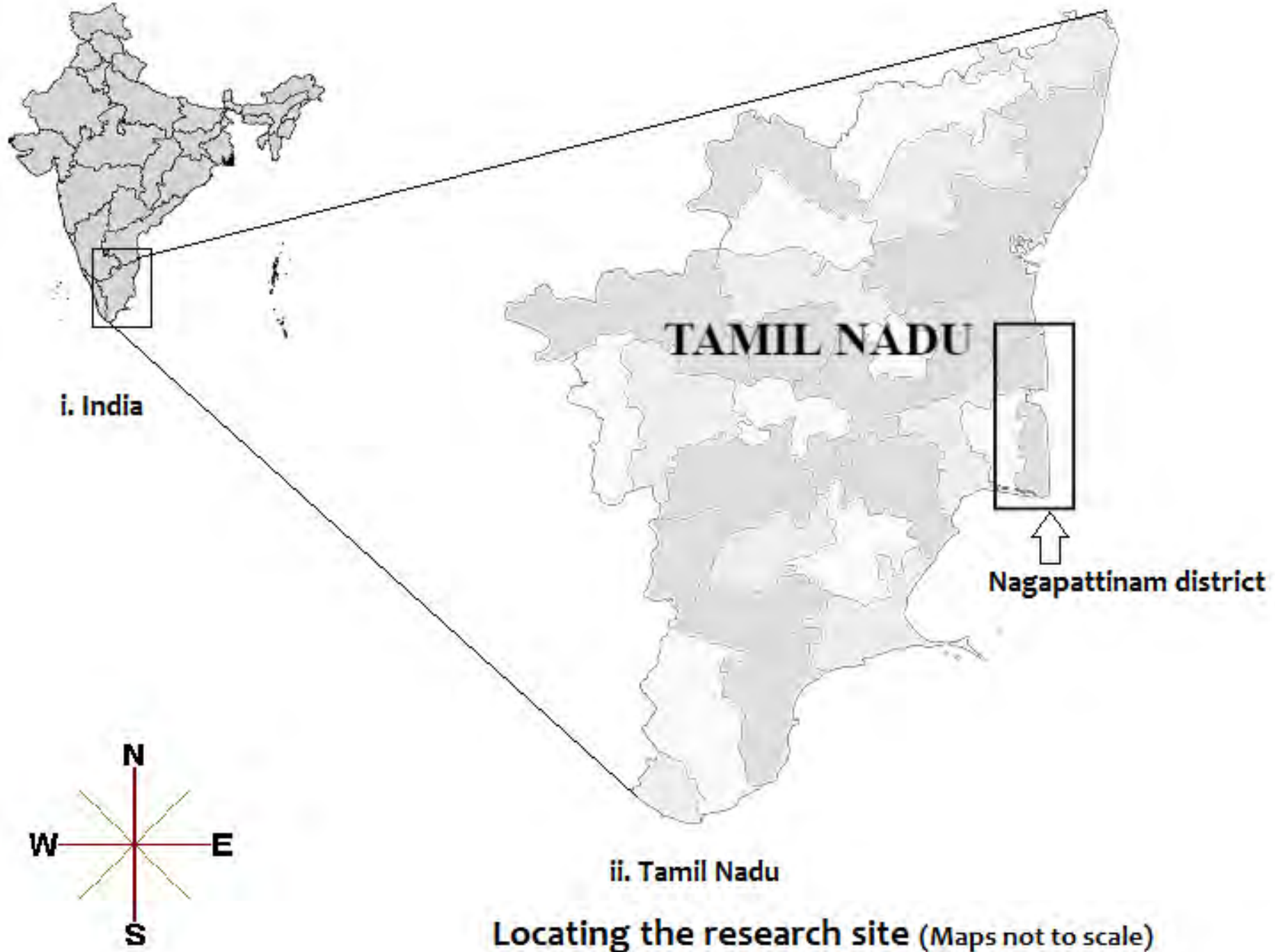


## Outline

- 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
- Who are the 'vulnerable' and 'vulnerable' among the 'vulnerable' populations in the face of climate change
- How are they responding to climate change?
- Factors influencing the marine fishers to respond to climate change – Discussions with local voices



Small-scale marine fishers in coastal Tamil Nadu (April 2017. Source: Field visits)



**i. India**

**TAMIL NADU**

**Nagapattinam district**

**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

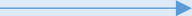
96% traditional fishermen - 66% of the marine fishing villages lie below poverty line.



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

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

**But Why Coastal Tamil Nadu?**



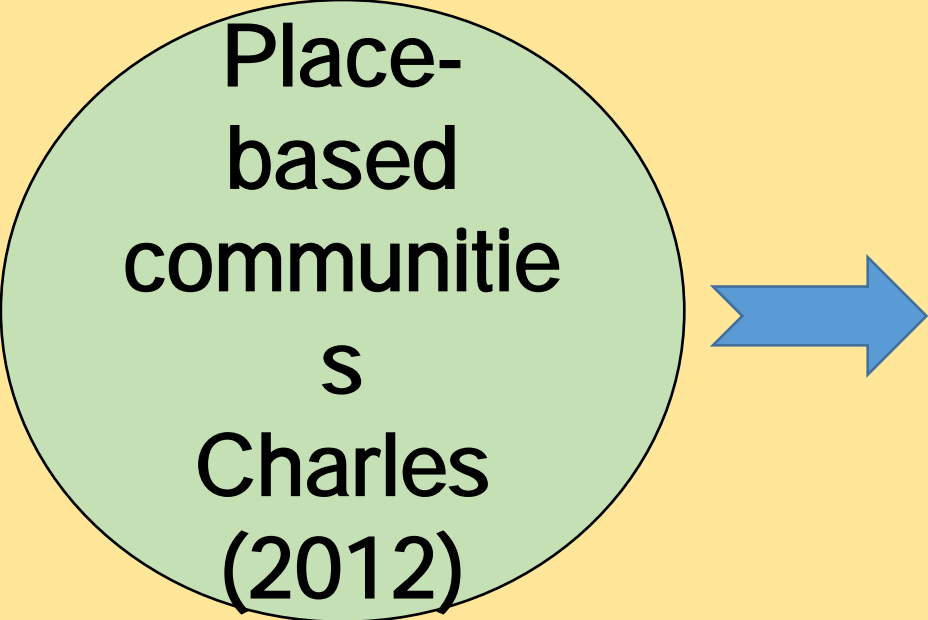
**The 2004 Indian Ocean Tsunami Effects** (Srinivasan and Nagarajan 2005; Ramanamurthy et al. 2012) – ‘Double burden’ to the coastal fishing populations

**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  
communitie  
s  
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'*



1

- In coastal Tamil Nadu, which areas are highly vulnerable?

2

- Focusing on one of the most vulnerable coastal district to the impacts of climate change

3

- Locating the research sites

4

- Focusing three vulnerable marine fishing villages

5

- Who are 'vulnerable' and who are 'vulnerable' among the vulnerable populations ?



## Locating the research sites

### Study village 1

Small-scale fishing village

Covered by water in all the four sides. Also called as Kodyampalayam island

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

### 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



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

by [Devendraraj Madhanagopal](#), on [17 April 2018](#)

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**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



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



Madavamedu (April 2015) Image © Madhanagopal

Capitals/Assets - Where does the difference lie 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?**