

# Fisherfolk perspectives on vulnerability: climate and policy intertwine in small-scale fisheries in Southern Brazil



**Denis Hellebrandt**

***d.hellebrandt@uea.ac.uk***

University of East Anglia  
School of International Development

**Patrizia Raggi Abdallah**

***p.abdallah@furg.br***

Universidade Federal do Rio Grande  
Unidade de Pesquisa em Economia Costeira

# Outline

> *research questions*

>> *purpose and analytical framework*

> *research context*

>> *potential drivers of vulnerability*

>> *methods*

> *who is vulnerable?*

>> *perceptions of vulnerability*

## Research questions

- > How do fisherfolk perceive their vulnerability context?
- >> What determines fisherfolk's exposure and sensitivity to risk?

## Analytical framework

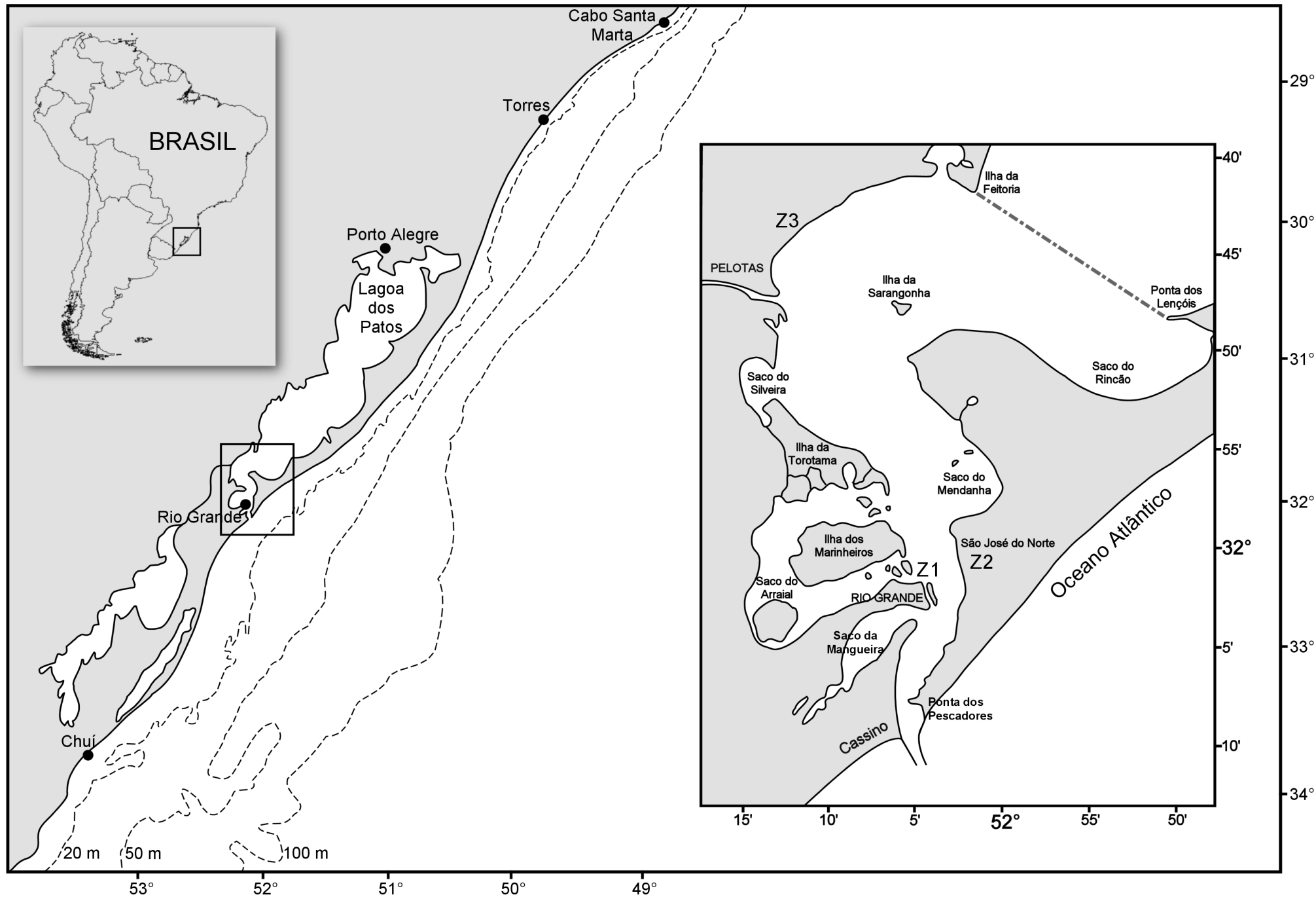
- > relationship between fisheries, poverty and vulnerability
- > trade-offs between

*minimising effects of shocks and generating wealth*

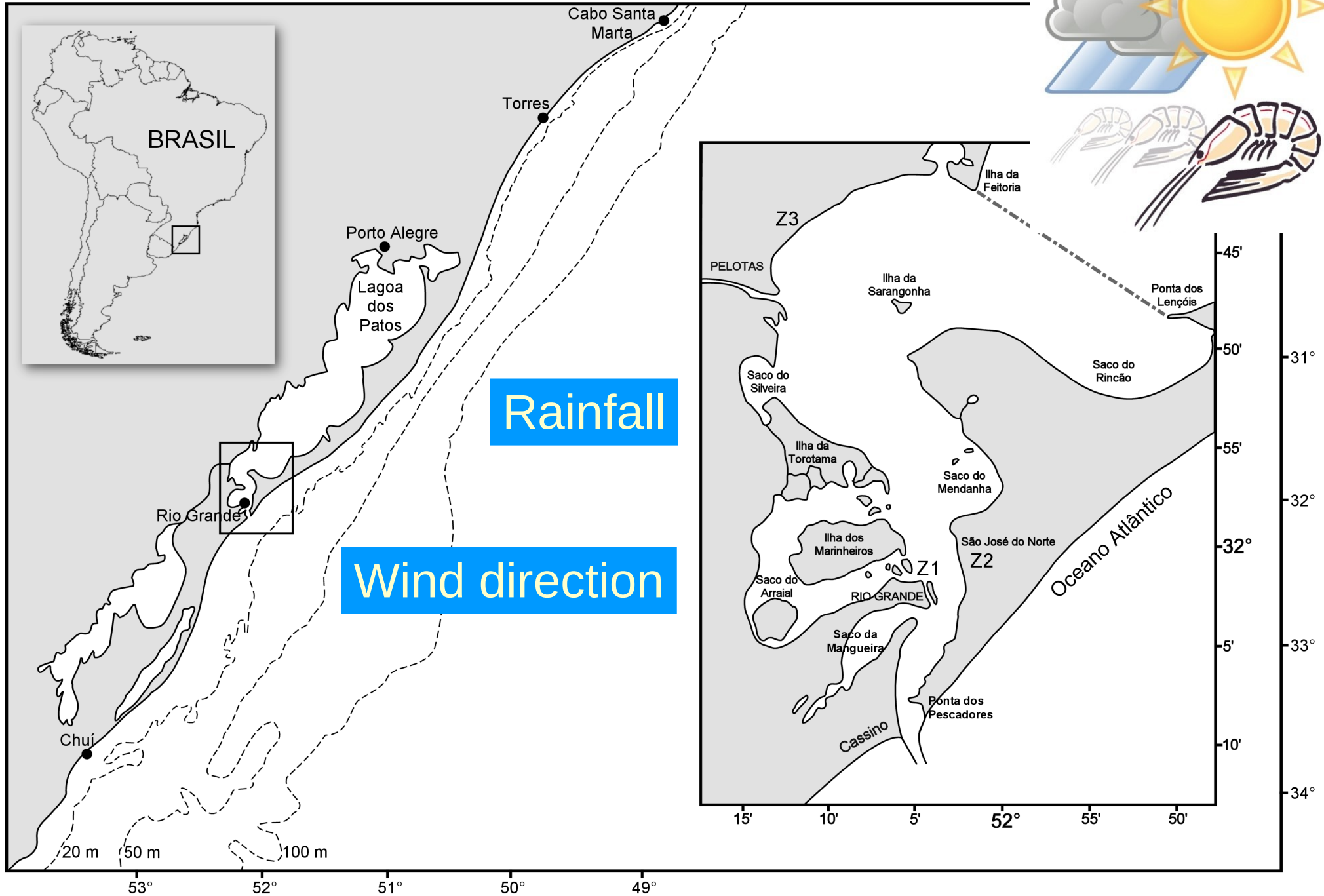
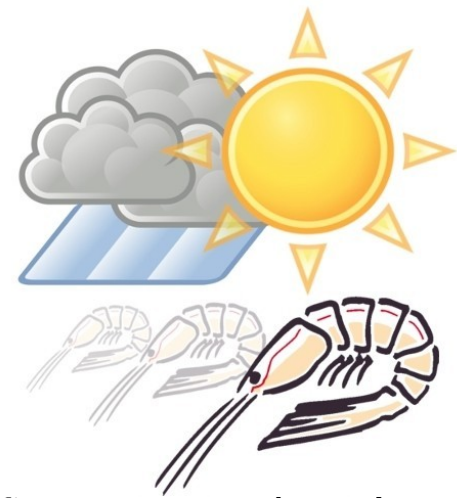
- >> relevance in policy

Allison and Ellis 2001, *Mar Pol*; Allison et al 2009, *FnF*  
Bené 2009, *J Dev St.*; Bené and Friend, 2011 *Prog Dev St*

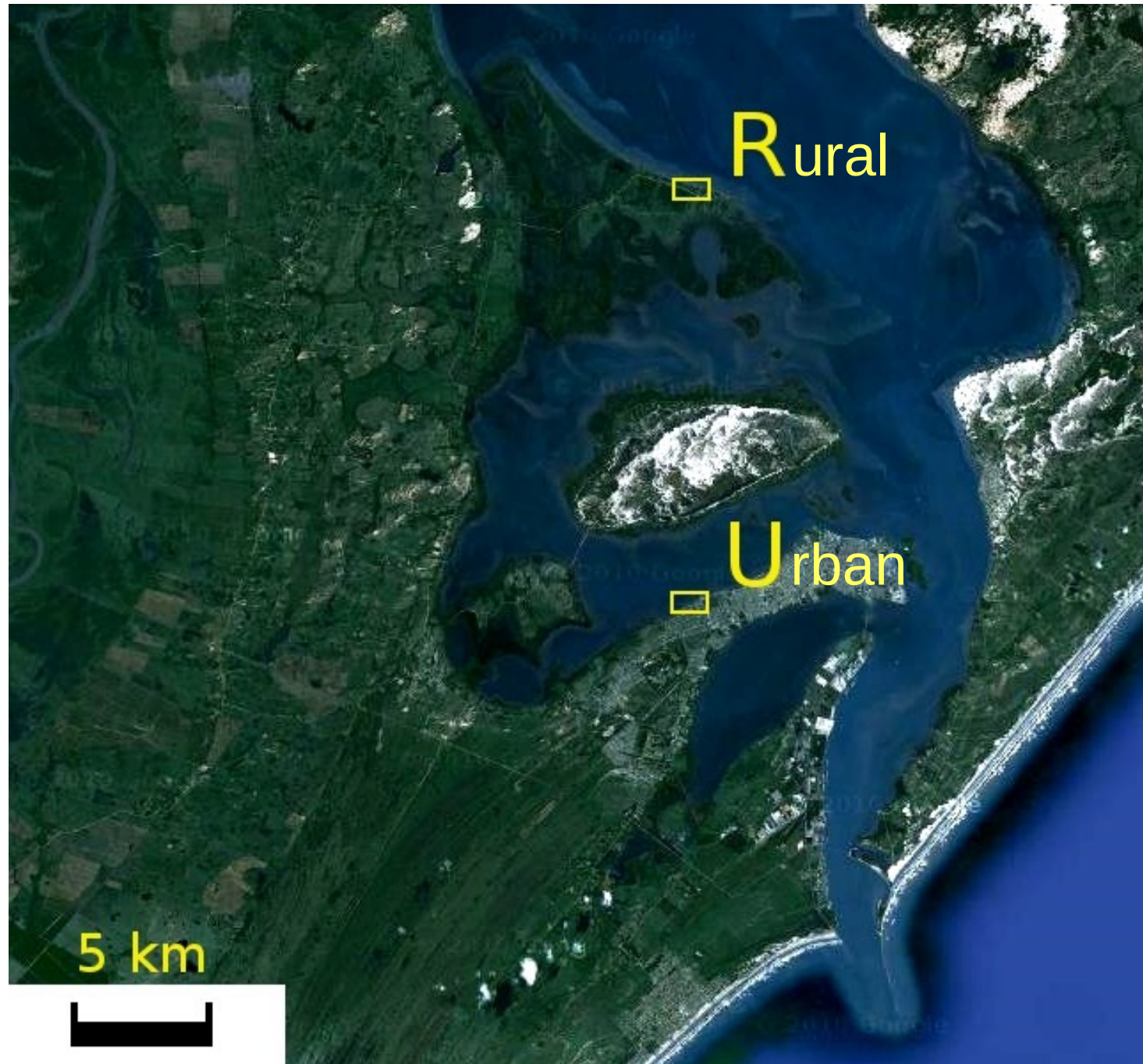
# Southern Brazil, Patos Lagoon estuary



# Southern Brazil, Patos Lagoon estuary



# Study sites



An aerial satellite image of a coastal estuary system. The water is dark blue, and the surrounding land is green with some brown patches. Two study sites are marked with yellow squares and labeled 'R' and 'U'. Site 'R' is located in the upper part of the estuary, and site 'U' is located in the lower part, near a large island. A scale bar in the bottom left corner indicates 5 km.

**Context**

- > ~3500 people depend on the estuarine fisheries
- > Main target *Farfantepenaeus paulensis*, pink shrimp
- > Governance
  - > co-management
  - >> season closure
  - >> gear type
  - >> minimum size

5 km





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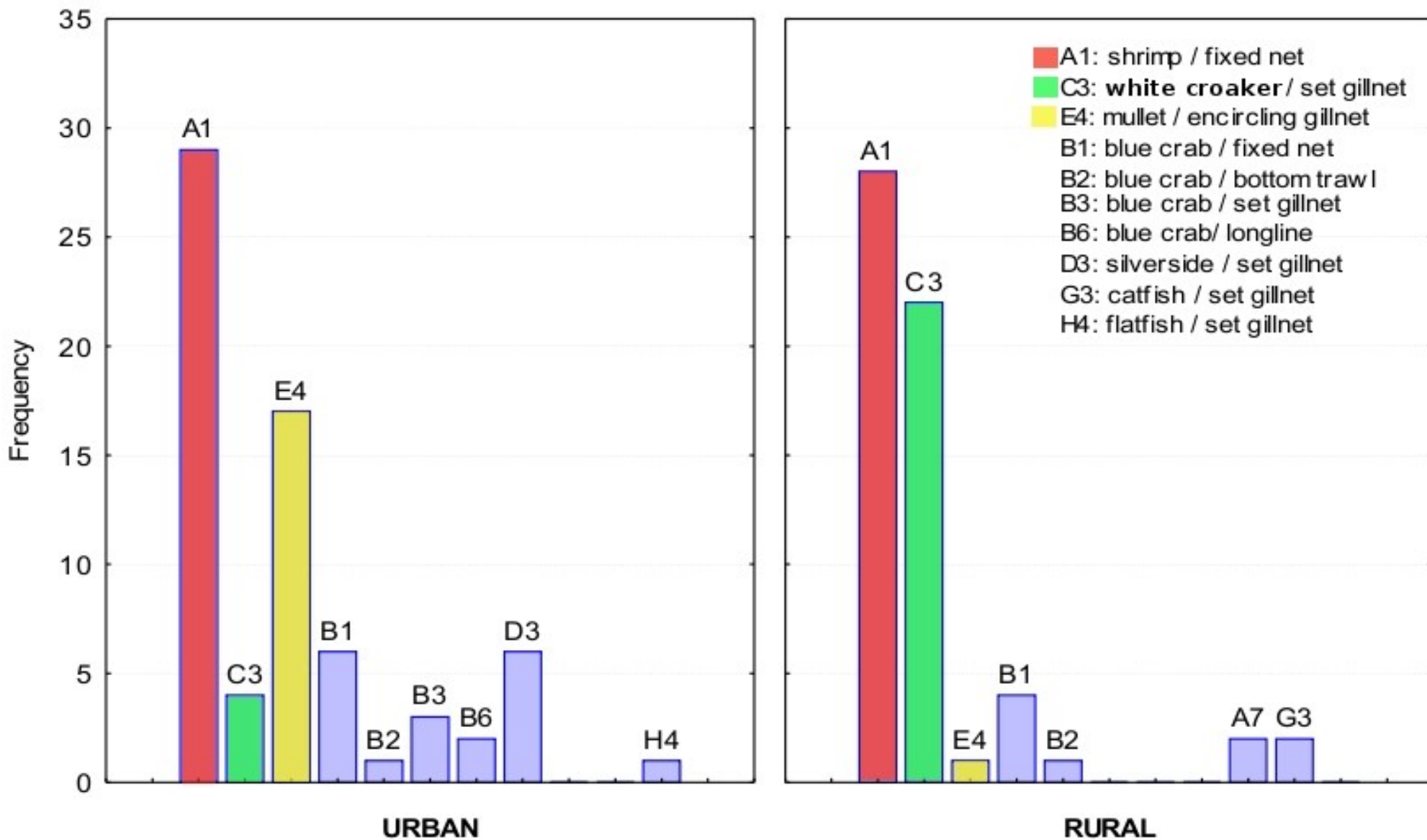
**Methods**

- > six months of fieldwork
- > fishing seasons 2007/08 and 2008/09
- > mixed methods
  - >> household survey
  - >> observation + interviews

5 km

# Fishing strategies in the Patos Lagoon estuary

## *Combinations of target species and gear*



Frequency is number of households. n=60, data for 2007/08 season



**Exposure   Sensitivity   Adaptive capacity**

***Research concepts***

**Potential impacts   Vulnerability**



**Exposure    Sensitivity    Adaptive capacity**

***Research concepts***

**Potential impacts    Vulnerability**

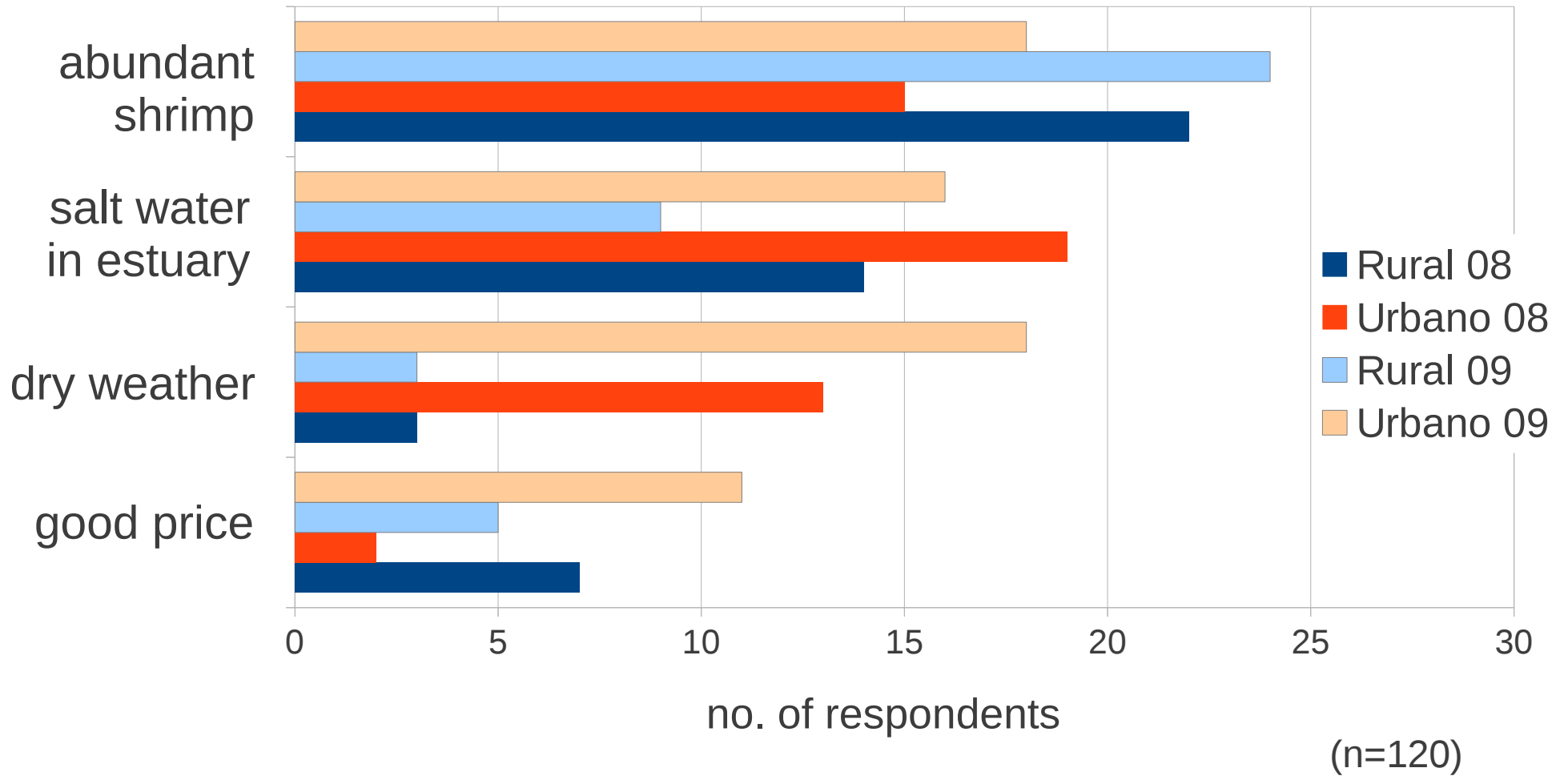
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**Best / Worst fishing season**

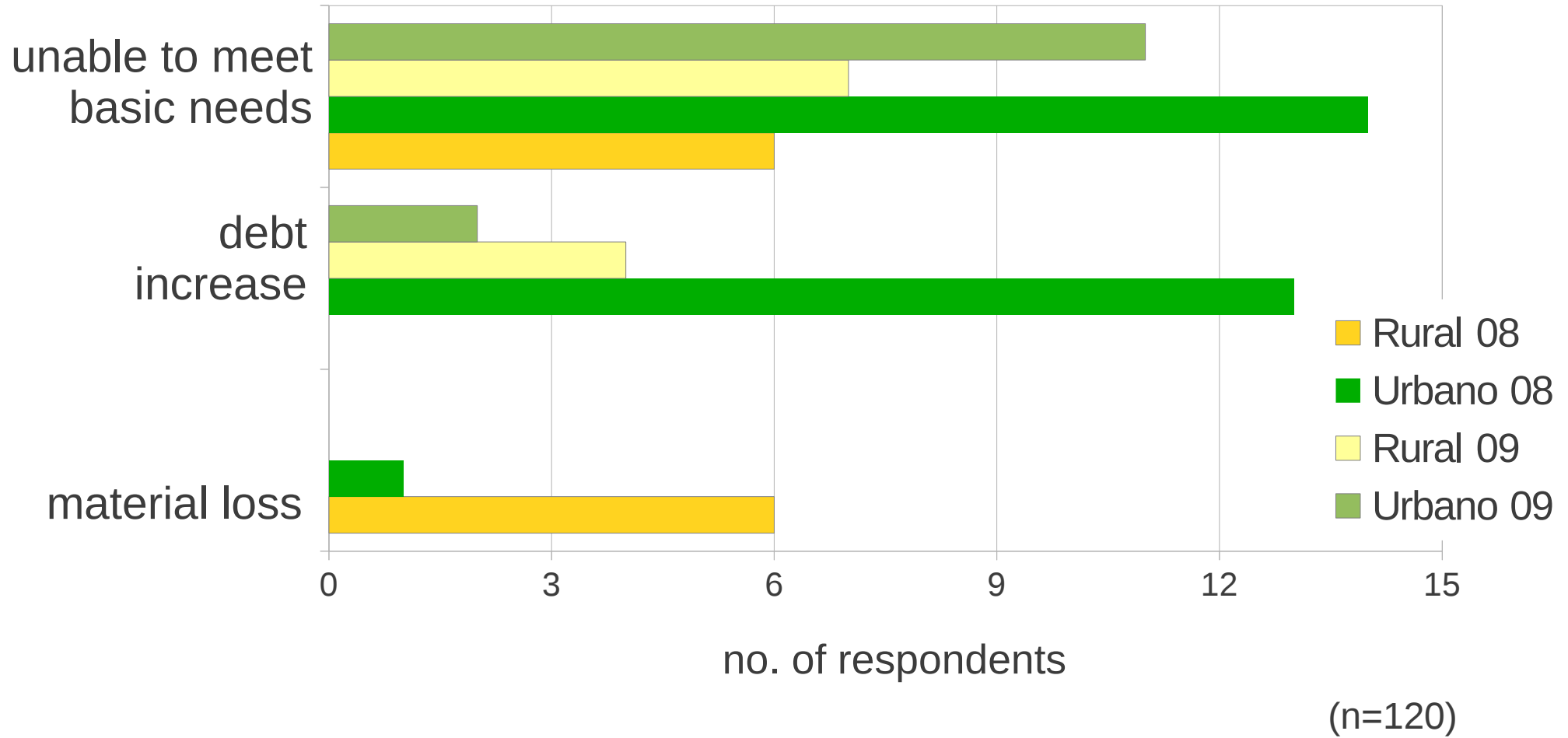
***Fisherfolk terms***

**Causes    Consequences**

# What were the **causes** of your **most** successful fishing season?



# What were the **consequences** of your **least** successful fishing season?





## Inter-related hazards - qualitative analysis:

### (1) Overcapacity

- > gov. credit and benefits are incentive for increase in number of fishers
- >> favourable market results in more intense use of bottom trawling

### (2) Climate variability

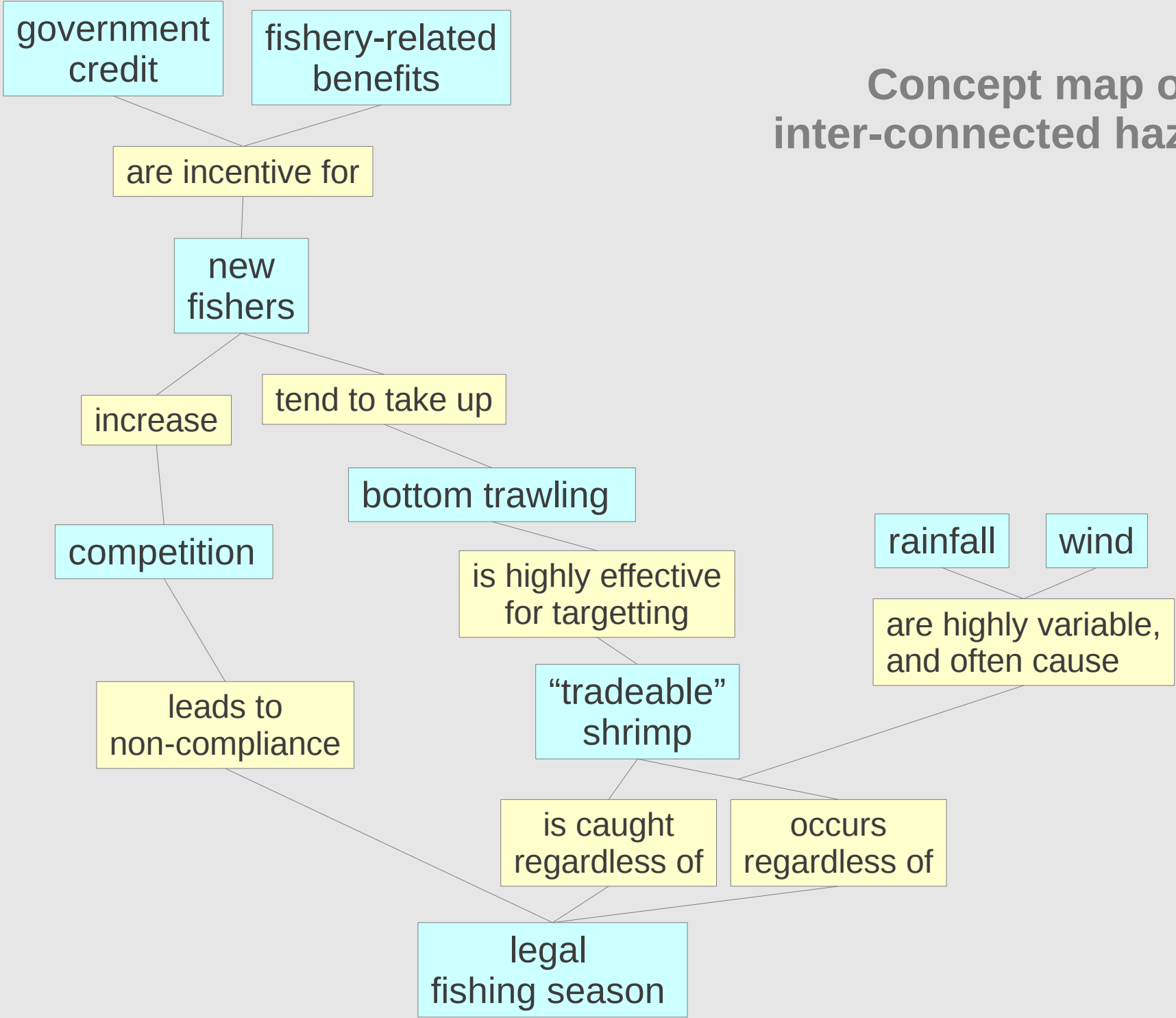
- > rainfall + wind determine fish/shellfish abundance and movement
- >> high variability and uncertainty
- >> non-compliance to regulations

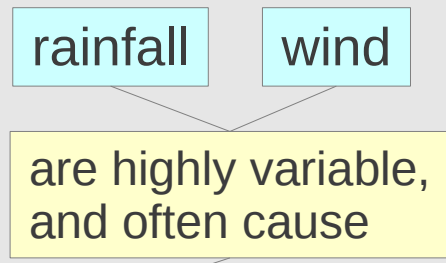
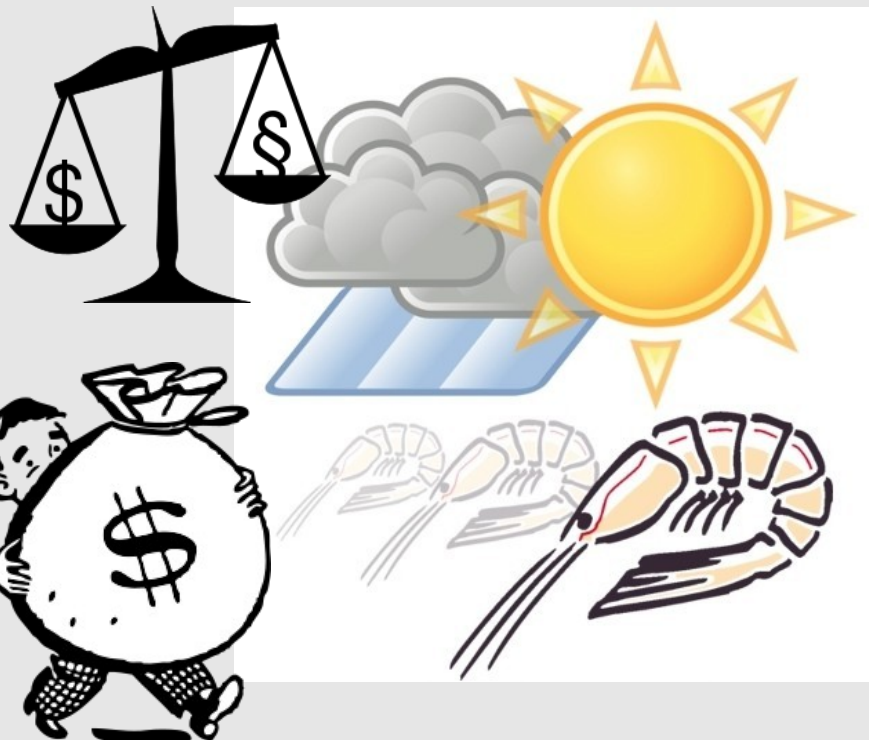
### (3) Pressure on estuarine stocks

- > excessive fishing capacity of industrial coastal fleet



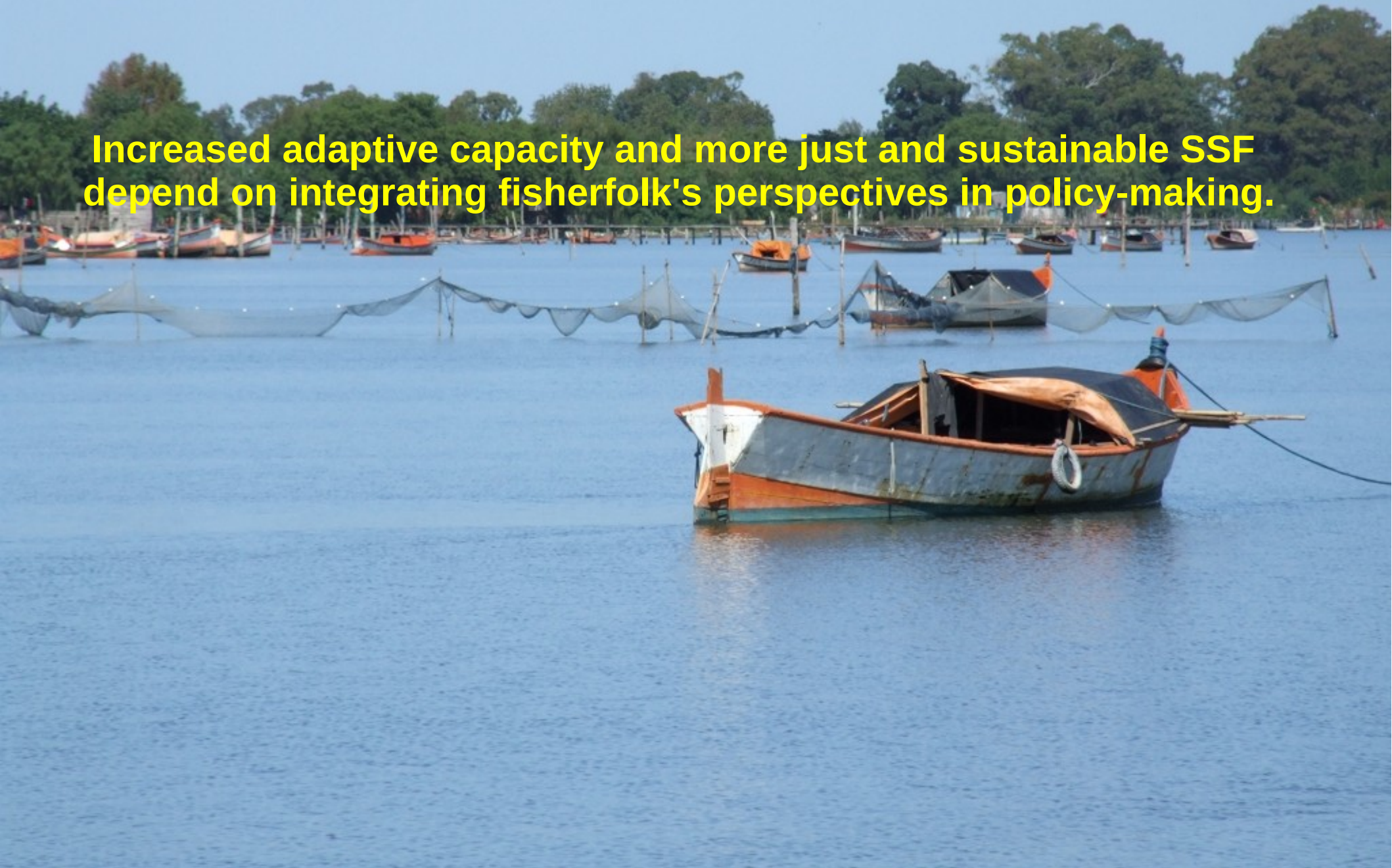
# Concept map of inter-connected hazards





**Fisherfolk perspective: vulnerability determined by ecosystem + policy processes.**

**Increased adaptive capacity and more just and sustainable SSF depend on integrating fisherfolk's perspectives in policy-making.**





*Thanks!*

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