

**Coastal Resilience Talks**  
**24<sup>th</sup> February 2026**

**Connecting Disciplines through Social-Ecological Systems:  
a case study on Small-Scale Fisheries and Sustainable Tourism in  
Costa Grande, Guerrero, Mexico**

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Doctoral Program of National Interest in Biodiversity – University of Palermo**

# Background



**BSc Biological Sciences:**  
marine ecology and botany,  
community-led ecosystem  
restoration, carbon stocks  
and food systems



**MSc Marine Sciences:**  
Social-Ecological System  
Frameworks, SSF, LEK,  
Regenerative Tourism and  
Environmental Justice



**Ocean Literacy Internship at  
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**Experiences with various NGOs during and after my studies:**  
Environmental Education and Citizen Science



**"SSF and Sustainable Tourism: challenges and opportunities.  
The case of Costa Grande, Guerrero, Mexico"**

**Livelihoods of small-scale fishers in Latin America and the Caribbean**

at the IGU Thematic conference

**"The Ocean and Seas in Geographical Thought"**

# Background

## Why Social-Ecological Systems Frameworks?

Possibly the most comprehensive conceptual framework for diagnosing interactions and outcomes in Small-Scale Fisheries SES (Partelow *et al.*, 2018)

**Efficient transdisciplinary tool to analyse ecosystem services and their interaction with main drivers in coastal social-ecological systems**

Social-ecological system management model

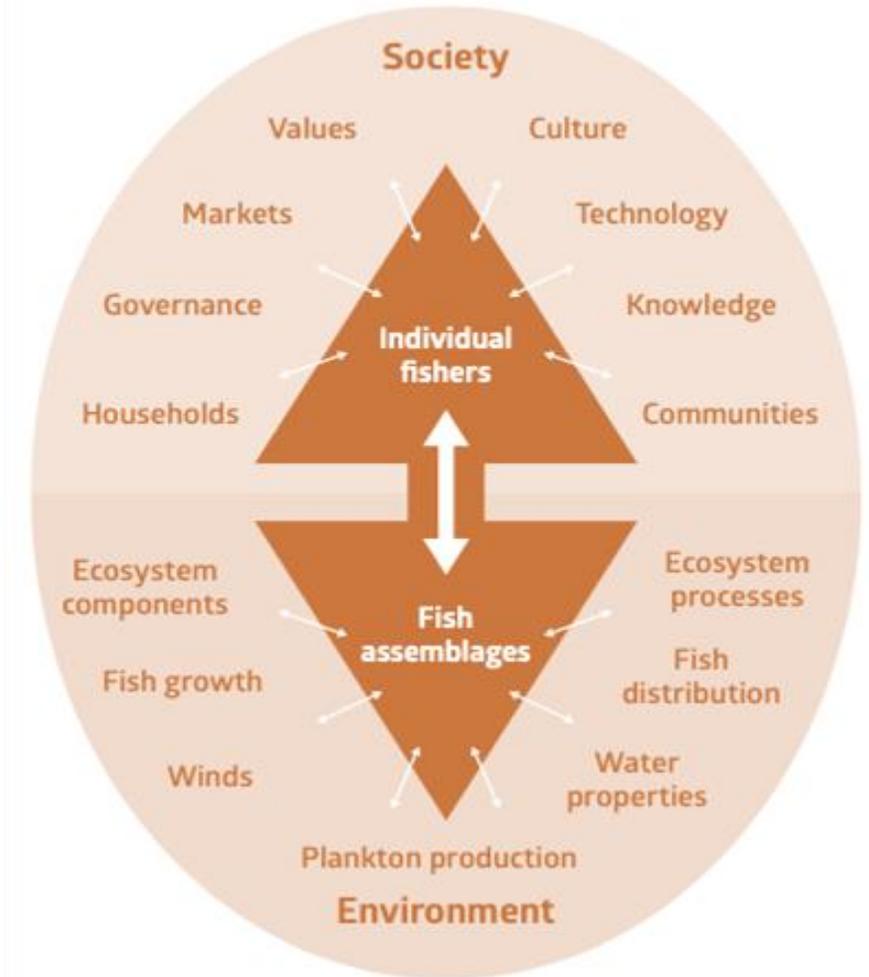
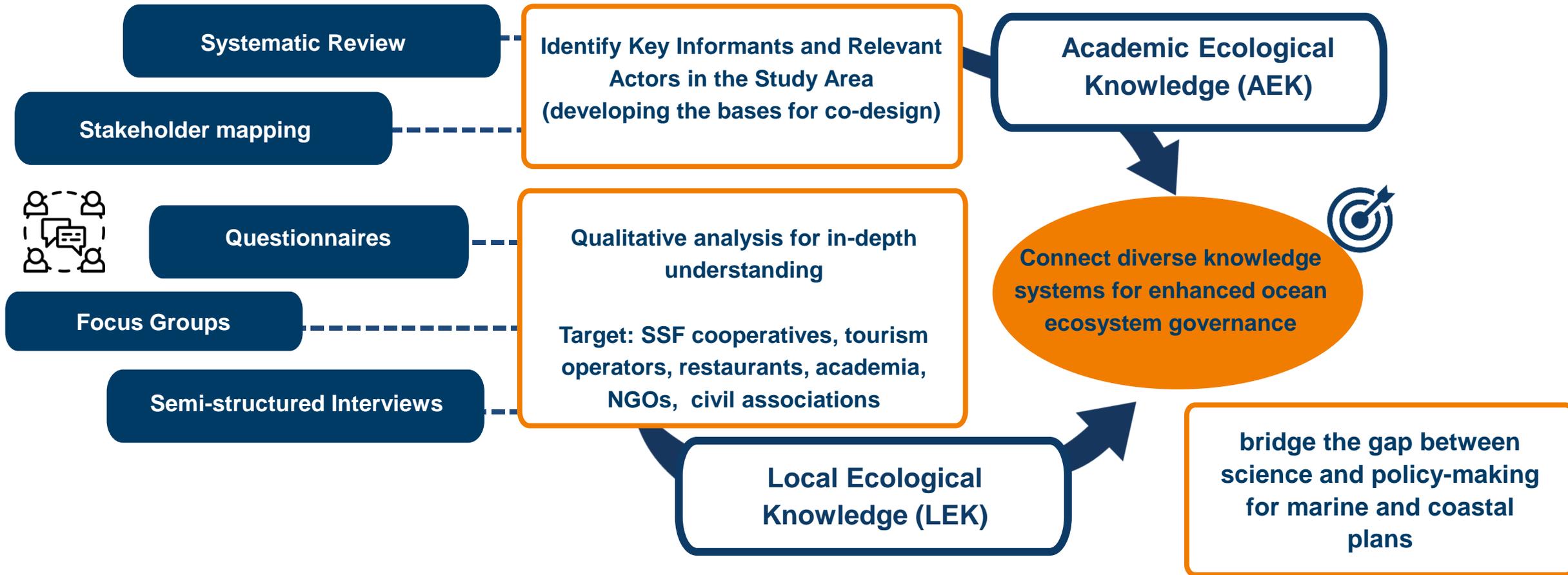


Image source: Ommer *et al.*, 2012. Social-ecological dynamism, knowledge, and sustainable coastal marine fisheries. *Current Opinion in Environmental Sustainability*, 4: 316–322.

# Methodological Framework



# PLAYA VIVA

## MSc Internship – Regenerative Hotel

- **6 months: Turtle Sanctuary + Fisheries**
- **2% Regenerative trust**

## Social impact project: *ReSiMar*

- **5 nodes: Education, Permaculture, Restoration, Fisheries, Water Culture & Resources**



playaviva.com

# Literature review

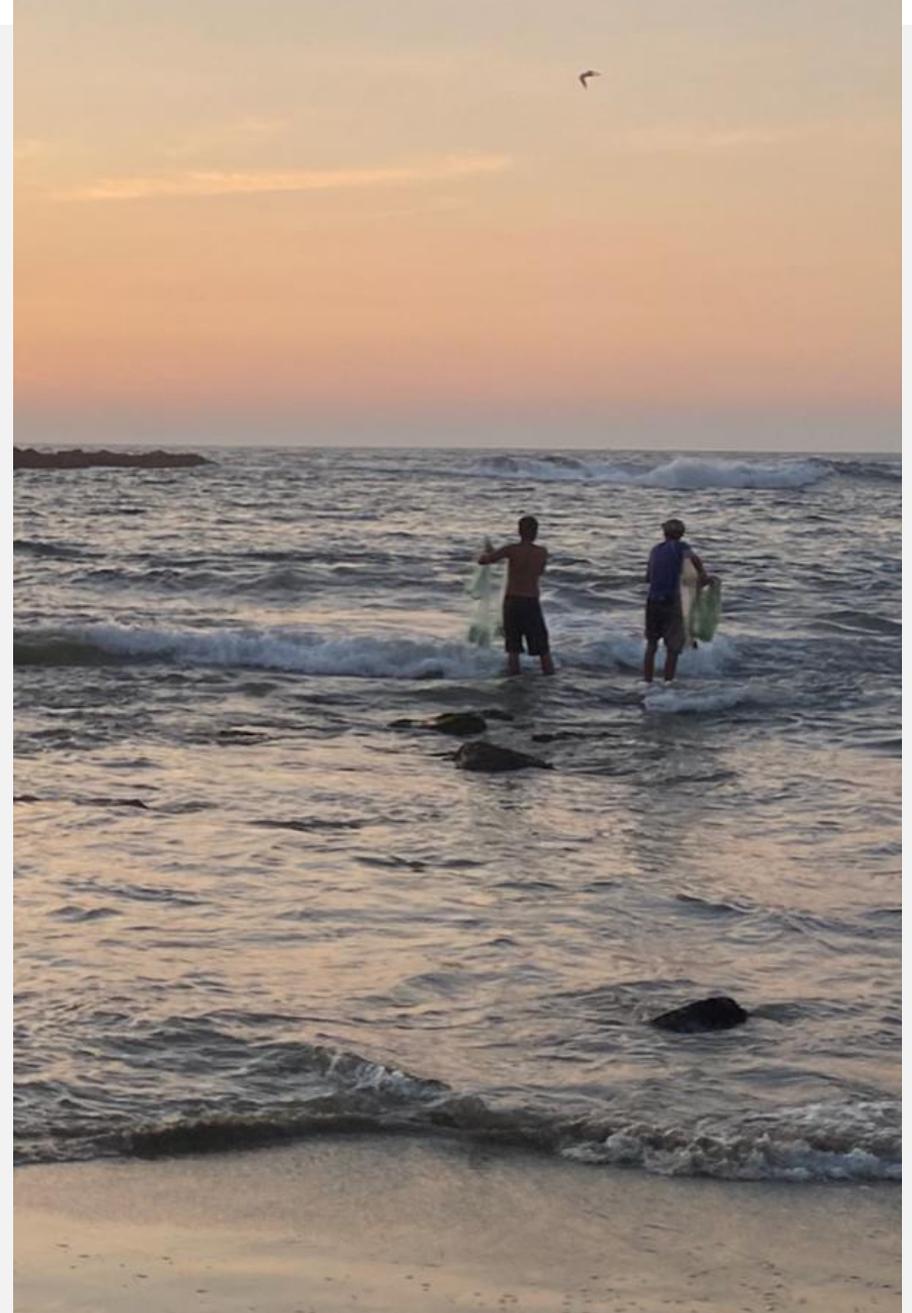
## SMALL-SCALE FISHERIES (SSF)



### CHALLENGES

- **Definition SSF** (*Smith et al., 2019*)
- **Lack of Representation**
- **Assesment : Bio-Economical** (*Said et al., 2020*)

**vs. SESF** (*Partelow, 2018*)



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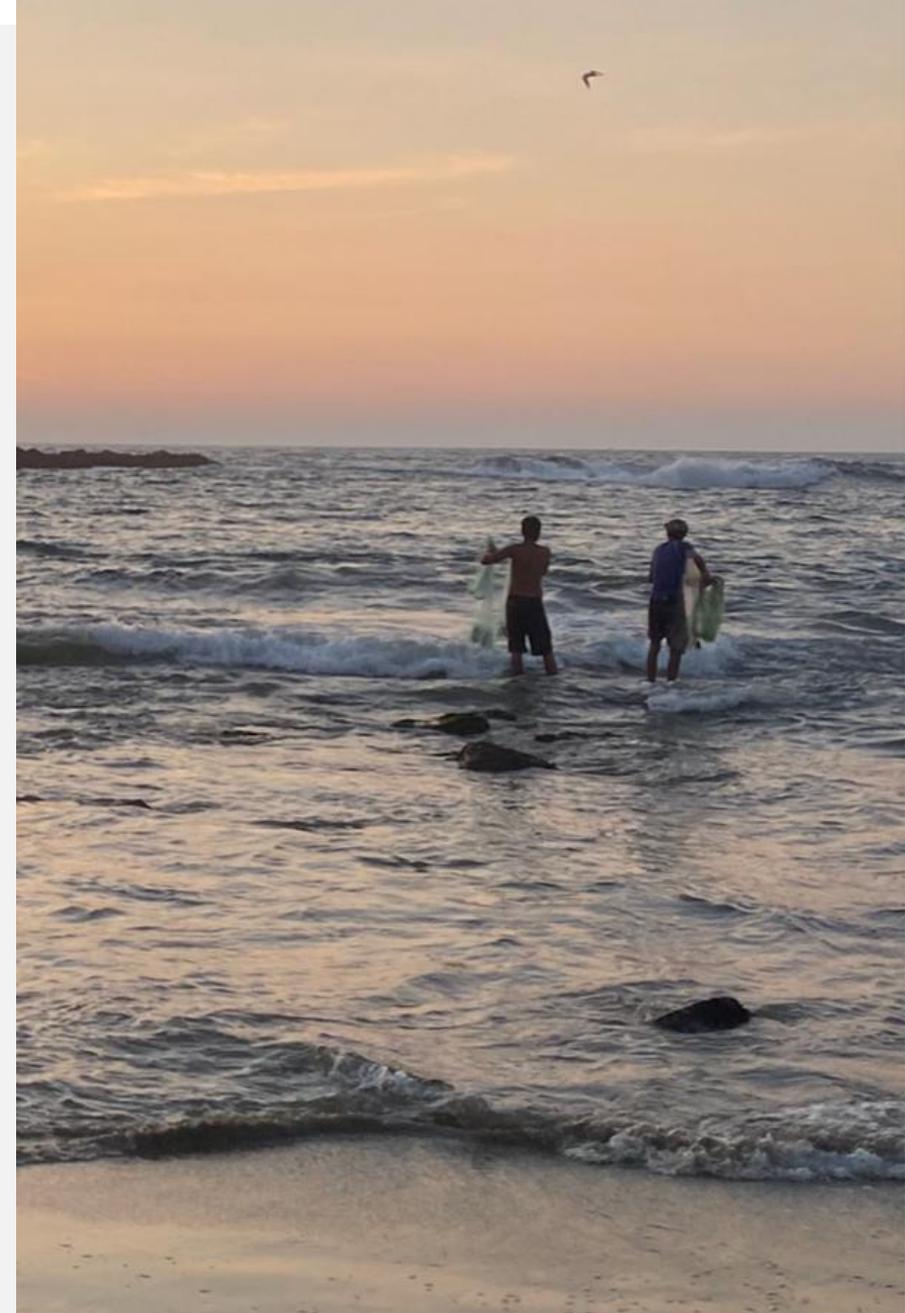
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**vs. SESF** (*Partelow, 2018*)

### OPPORTUNITIES

- **Synergies with other sectors**
  - **Tourism** (*Fabinyi, 2008; Fabinyi, 2010*)
  - **Conservation (MPAs)** (*Bennett et al., 2019*)



# Research questions

## MAIN AREAS OF INQUIRY



### SSF Cooperatives and Tourism

**How SSFs interact with the tourism industry and what is the perspective of fishers?**



### Impact on communities

**How SSFs can benefit from tourism as a driver of development for small rural coastal realities?**



### SSF and Sustainable Tourism

**In which modalities this interaction can be considered sustainable?**

[ec.europa.eu](http://ec.europa.eu)

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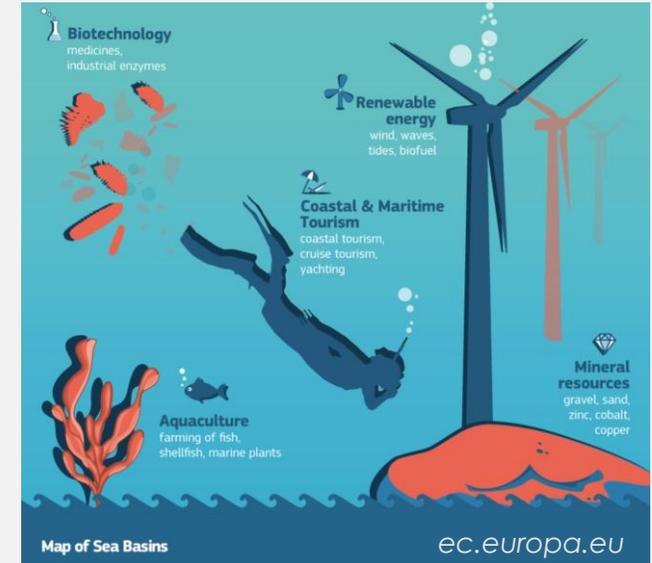


### SSF and Sustainable Tourism

In which modalities this interaction can be considered sustainable?

## RELEVANCE

- **FAO Blue Transformation Framework**
- **EU Blue Growth Model**
- **UN Agenda 2030, SDGs**



# Case study

## Mexico

- **Coastlines: 11000 km**
- **Coastal states population: 58 mil inhabitants (45.96%)** ↑↑
- **2% global marine catches** ↑↑
- **Vessels below 12 m (FAO, 2021):**
  - motorised: 6 1294
  - non-motorised: 13 612

## Guerrero

- **Coastlines: 500 km**
- **Population: 3.6 mil inhabitants**



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# Case study

## SSF in Mexico



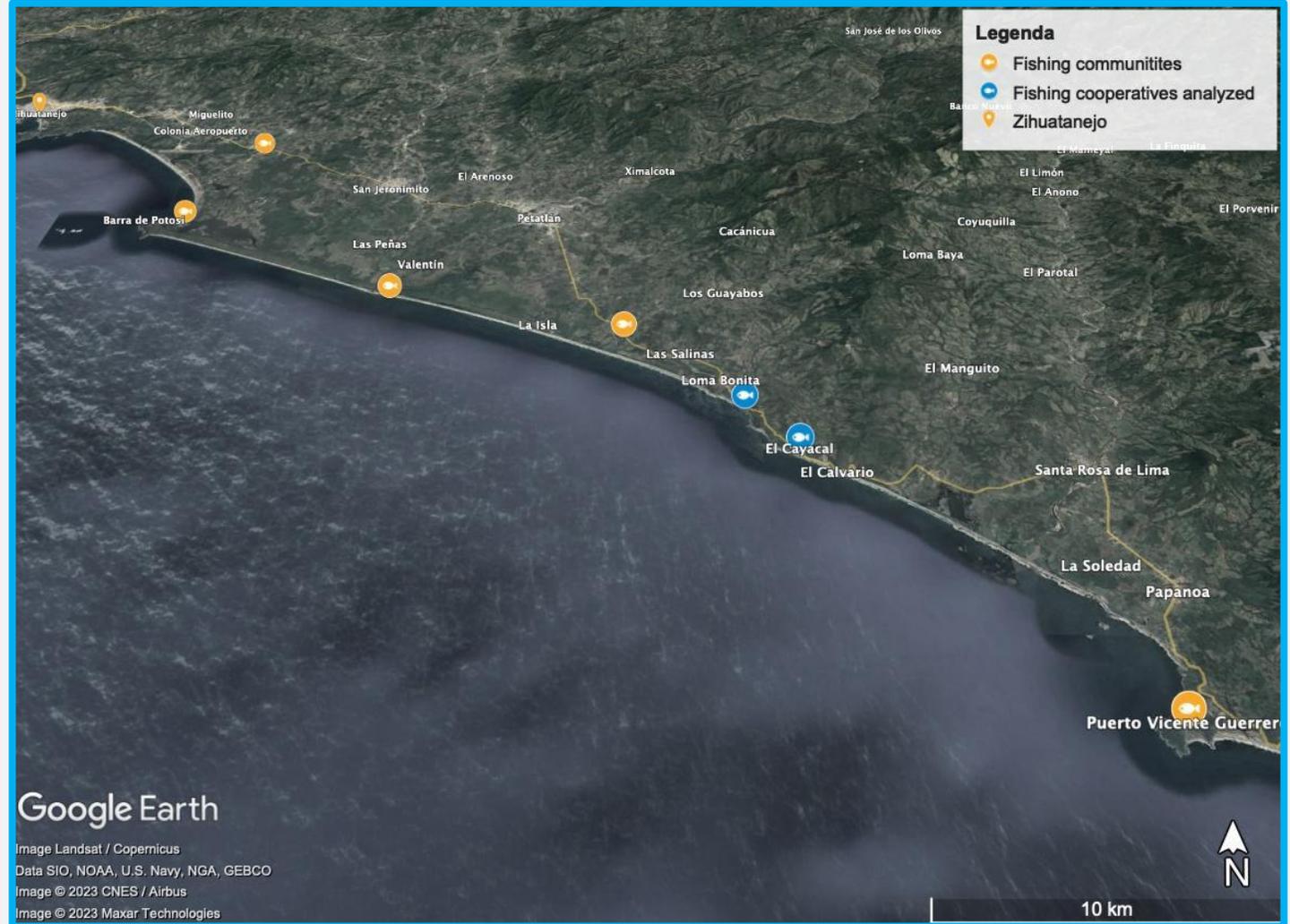
### Legislation

- **LGPAS**
  - **Zonas de Refugio Pesquero**
  - **Carta Nacional Pesquera**
- **EIEOS 2021-2024**
  - **30x30**
  - **integrated management of 100% of marine spaces under national jurisdiction by 2025**



### Organisation

- **Cooperatives**



# Case study

## ZRP - *Zonas de Refugio Pesquero*

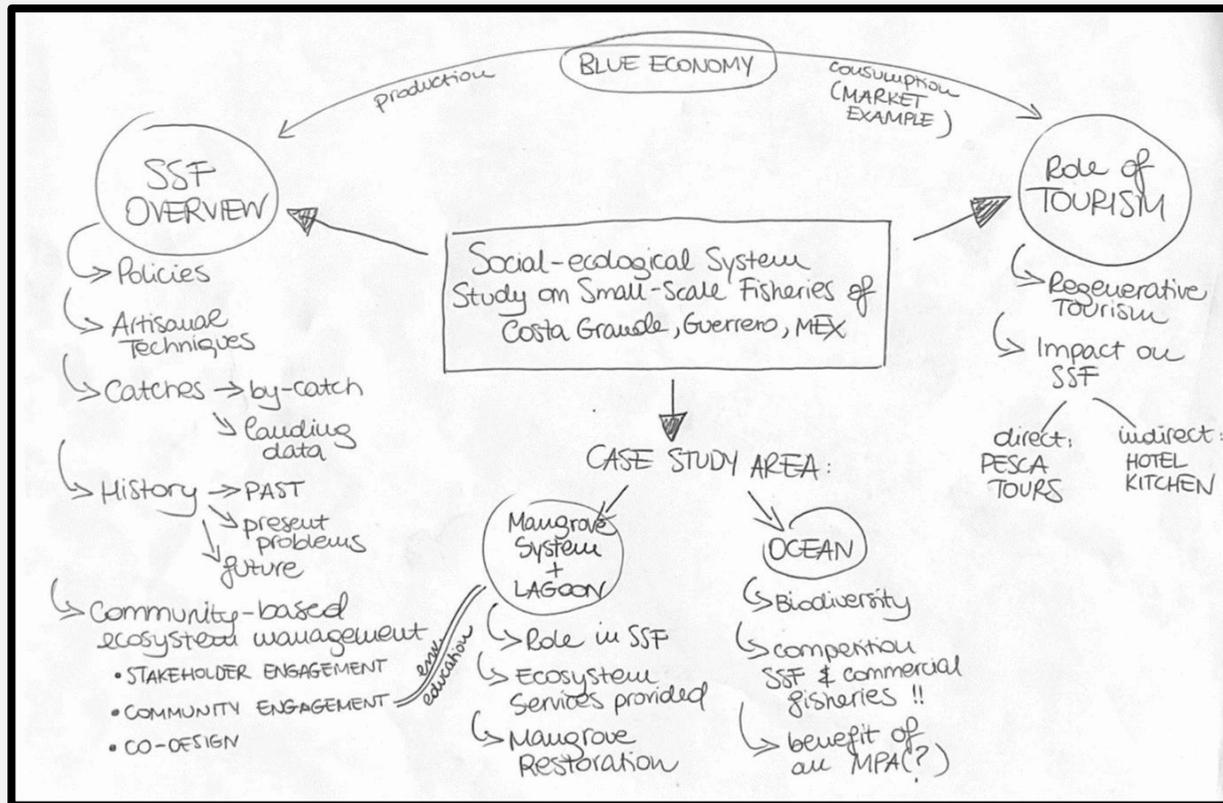
### Vs. ANP - *Areas Naturales Protegidas (including MPAs)*

ANP (CONANP)	ZRP (CONAPESCA)
Polígonos muy amplios	Polígonos pequeños
Vigencia permanente	Vigencia limitada (Extender)
Mayor limitación de la actividad pesquera (Zonificación)	Menor limitación de la actividad pesquera (Modalidades)
Mayores costos de implementación y operación	Menores costos de implementación y operación
Propuesta de la autoridad (Consulta e imposición)	Propuesta del sector productivo (Consenso y corresponsabilidad)
Menos adaptable a las necesidades del sector (Ambiental-Conservación)	Más adaptable a las necesidades del sector (Pesquero-Acuícola)

Source: [https://www.gob.mx/cms/uploads/attachment/file/516926/ZRP\\_VIGENTES\\_191211\\_2\\_.pdf](https://www.gob.mx/cms/uploads/attachment/file/516926/ZRP_VIGENTES_191211_2_.pdf)

# Methodology

## CASE STUDY



Initial study design (Pert Graph). Courtesy of the author.

### SESF Study (Partelow, 2018)

- Qualitative Inquiry
- In-depth understanding

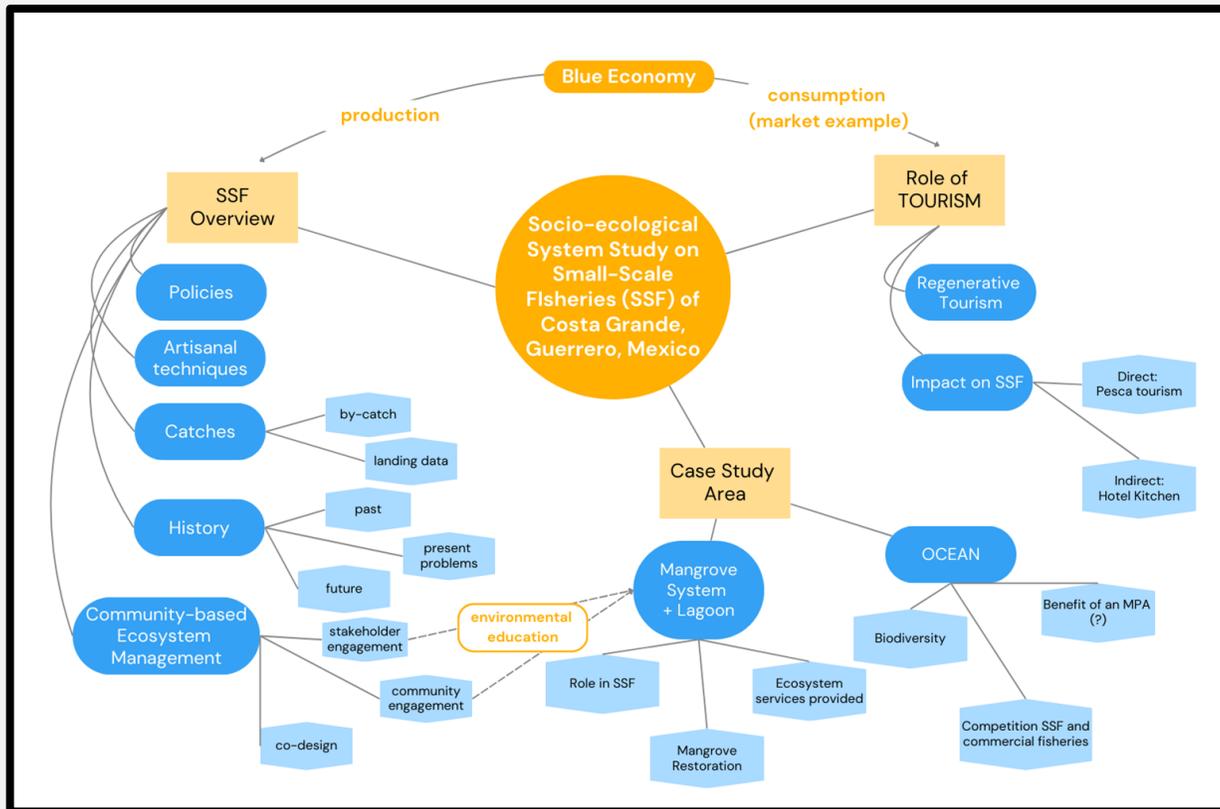
### Semi-structured Interviews (Flowerdew, et al., 1997)

- 2 SSFs' Cooperatives (20) - Nov/Dec 2022
- Relevant Stakeholders (4) - Feb/March 2023

### Thematic Analysis

# Methodology

## CASE STUDY



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## CASE STUDY



### Chronological perspective

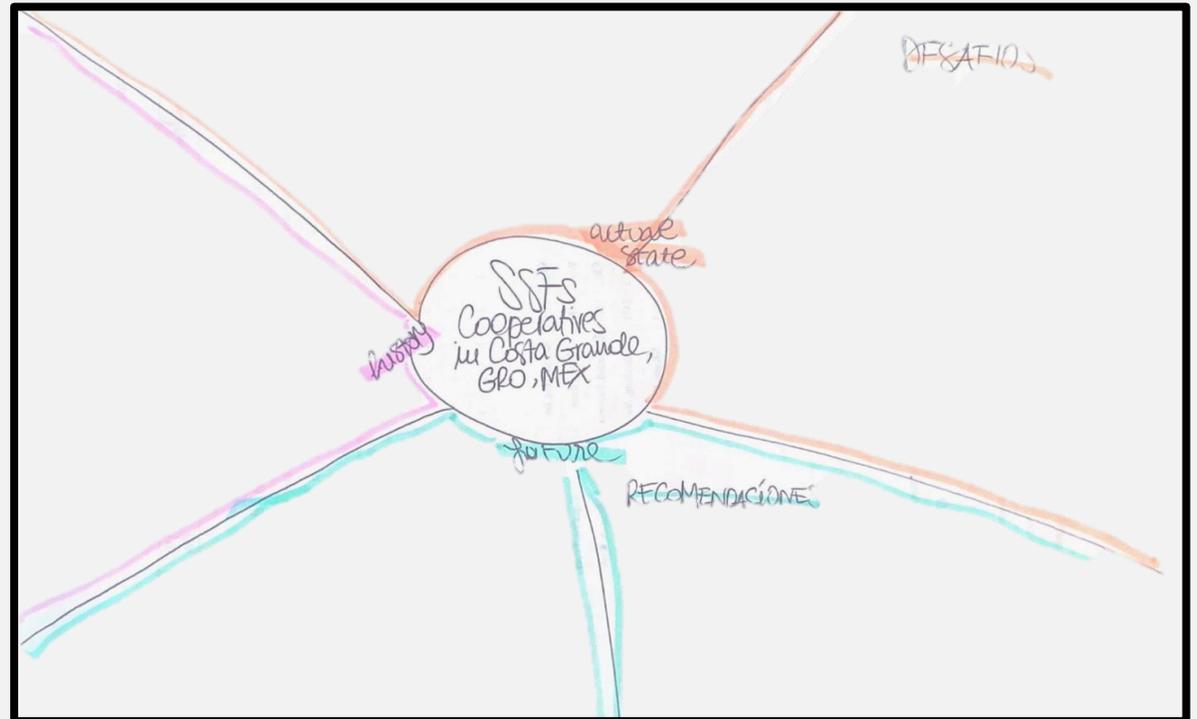
- **History**

- **Actual State**

➔ **focus on challenges**

- **Future Visions**

➔ **focus on tourism potential**



Visual elicitation for the second round of interviews. Courtesy of the author.

# Methodology

## CASE STUDY



### Chronological perspective

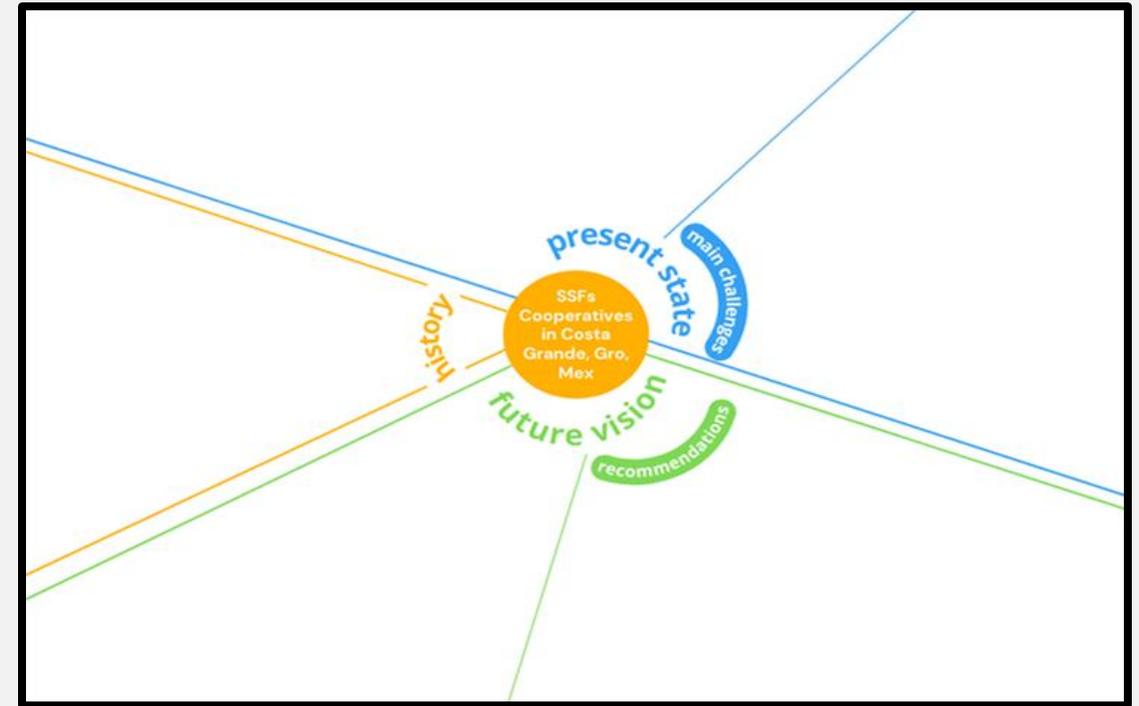
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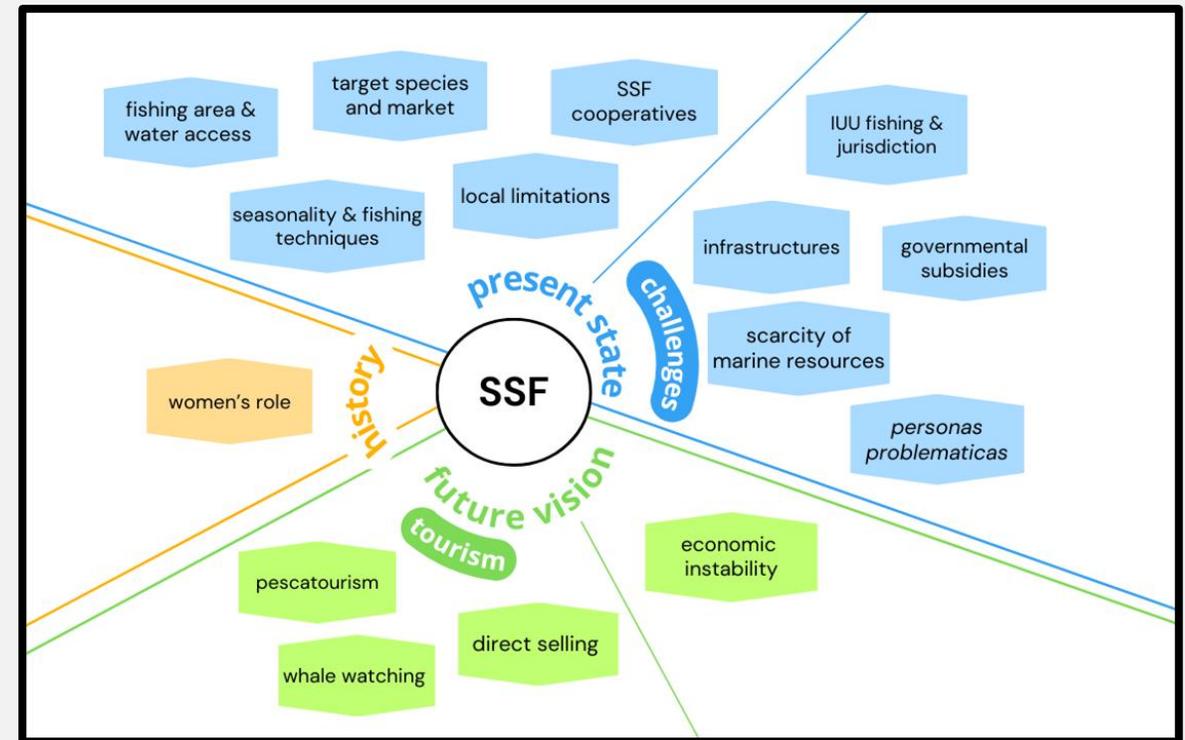
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# Results

## Interviews with fishers - HISTORY



### Local Ecological Knowledge (LEK)

- Artisanal Techniques
- Fishing Grounds
- Lexicon

Photos: Artisanal fishing techniques.



*"[...] antes sacabamos muchos pescado, 30/ 40 kg en un día, y ahorita fui a pescar y saqué 1/5 kg nada más."*

*"Antes, años atrás, tenían muchas mujeres, estaba [...] el esposo y estaba su esposa [...]."*



### Women inclusion

- Historical role
- Declining importance

Photo: access to the ocean in Puerto Xiaputica.



# Results

## Interviews with fishers - PRESENT STATE



### Highlights

#### - Local Limitations

*"[...] los trasmallos y la cimbra no están permitidos. [...] con todo lo que tenemos, nosotros cuidamos."*

#### - Markets



### Main challenges

1. Boats from outside
2. *Personas problemáticas*
3. Lack of governmental subsidies
4. Scarcity of marine resources
5. Infrastructures

Photos: Main catches, fishing ground, selling operations.



# Results

## Interviews with fishers – FUTURE VISIONS



### Highlights

*"[El futuro] se me hace muy complicado. Por eso le he dicho a mis hijos que estudian, porque de pescadores últimamente el pescado se está escaseando."*

- **Economic instability**
- **Scarcity of resources**



### Tourism Potential

*"Más turismo. En realidad, aquí lo que nos hace falta es la entrada del turismo."*

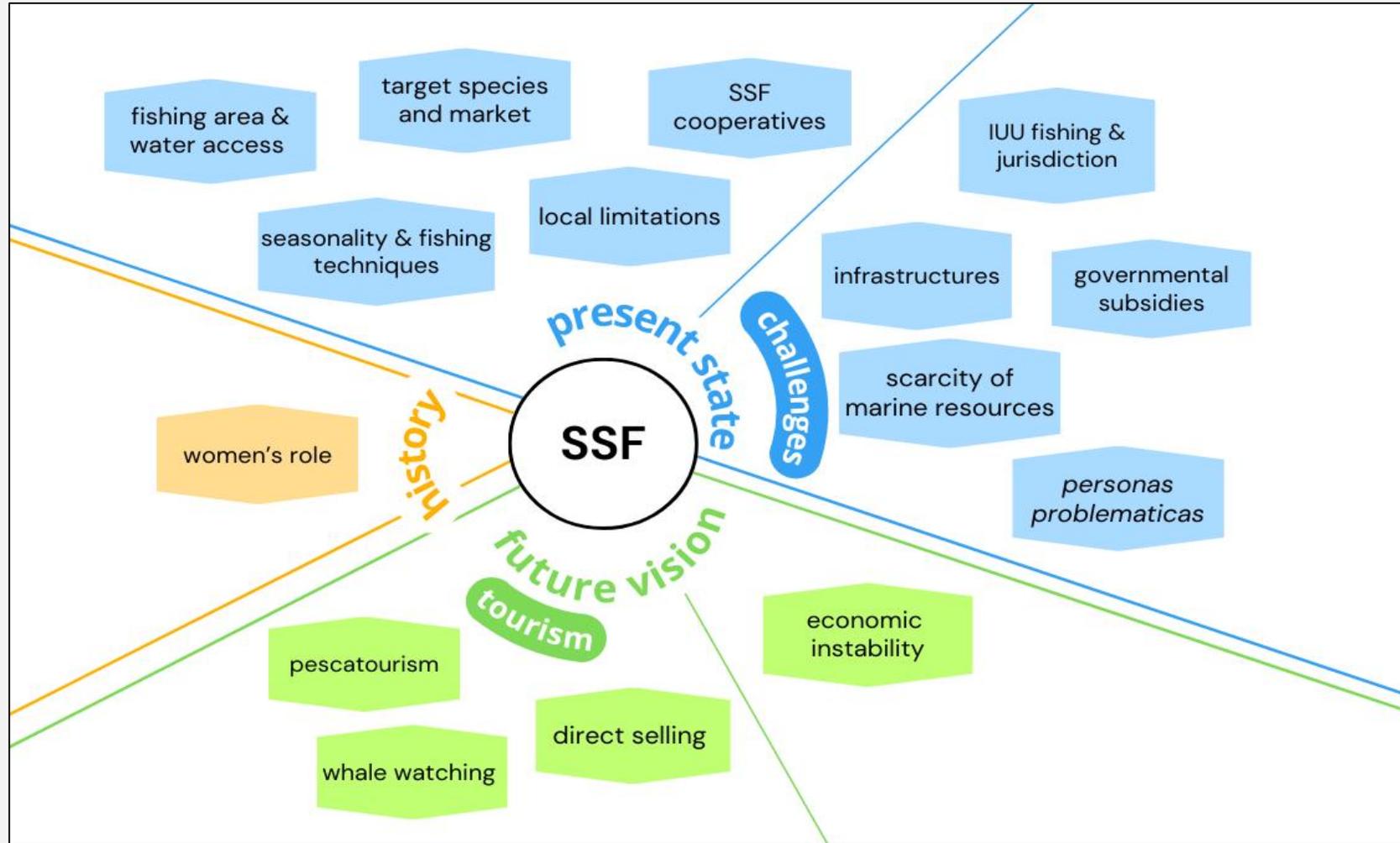
- **Pescatourism** ↑↑
- **Whale-watching** ↑
- **Direct sell to hotels** ↓↓



Photos: Pescatourism experience, local reality.

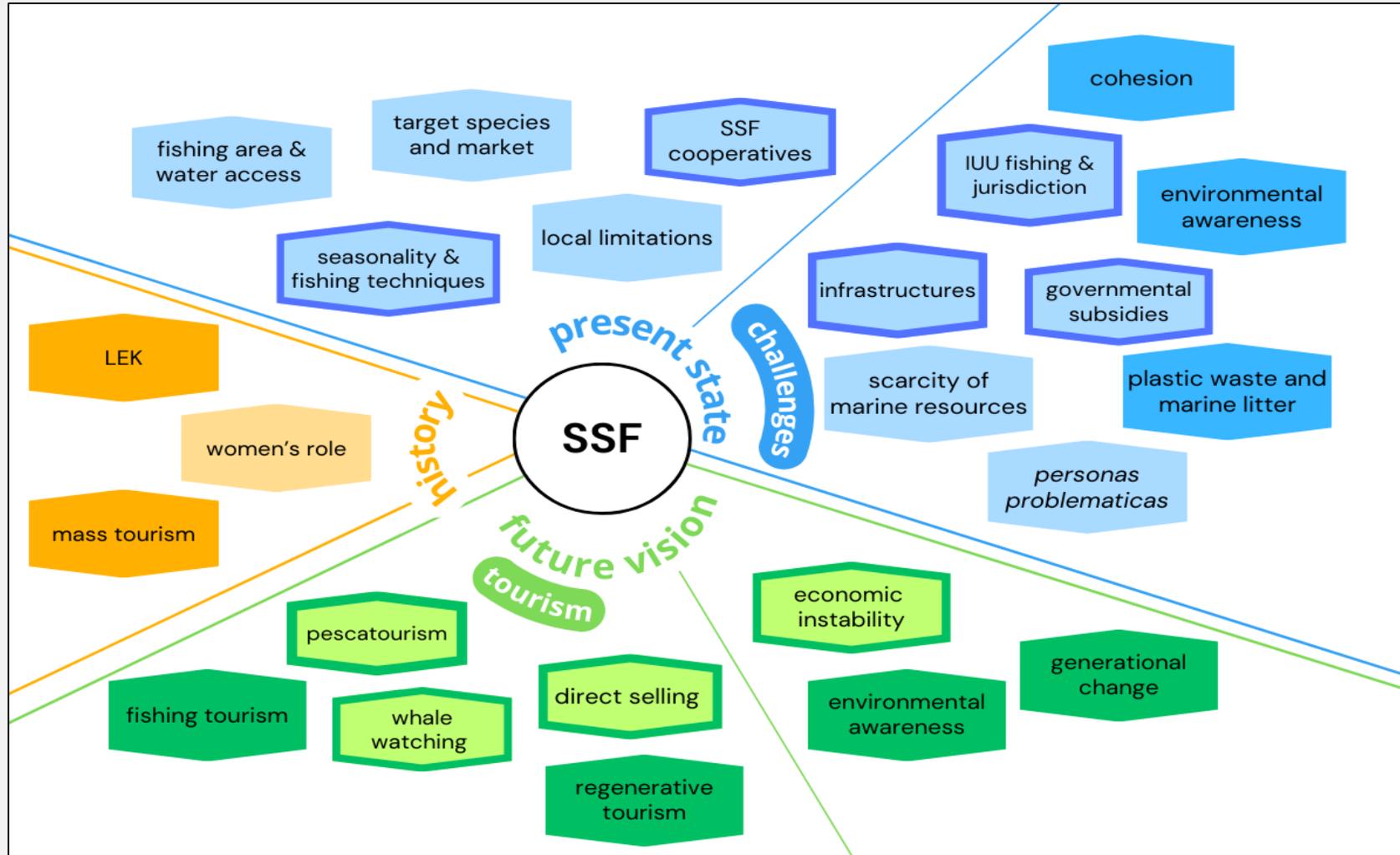


# Discussions



Elaboration of the results of the first round of interviews. Courtesy of the author.

# Discussions



Elaboration of the results of interviews with different actors. Courtesy of the author.

# Discussions

Main findings	Stakeholders Perspective
<p><b>Local Ecological Knowledge (LEK)</b></p> <p><b>Local limitations</b></p> <p><b>Women involvement</b></p> <p><b>Historical records of SSF activities</b></p> <p><b>Past abundance of resources</b></p> <p><b>Potential of involvement in tourism activities</b></p>	<p><b>Not common</b></p> <p><b>Not known</b></p> <p><b>Potential of involvement for the whole community</b></p> <p><b>Not always present in small rural communities</b></p> <p>/</p> <p>/</p>
Main challenges	Opportunities related
<p><b>IUU Fishing</b></p> <p><b><i>Personas problematicas</i></b></p> <p><b>Governmental subsidies</b></p> <p><b>Infrastructures</b></p> <p><b>Scarcity of marine resources</b></p>	<p><b>Enforcement/Representation</b></p> <p><b>Building cohesion</b></p> <p><b>Participatory management processes</b></p> <p><b>Tourist potential of the area</b></p> <p><b>Sense of belonging and stewardship</b></p>

# Conclusions

## Limitations of the study



### Ethical issues

- **positioning of the researcher**
- **internalized bias of the category**



### Methodology

- **formal introduction**
- **time constraints**

## Further Analysis



### Extend the research subject

- **other SSFs cooperatives along the coast**
- **communities without SSFs cooperatives**
- **fishing efforts inside lagoons' systems (eg. mangroves)**



### Co-design for ZRP establishment

- **bio-ecological analysis**

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**Thank you for your attention!**  
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