

Improving synergies between rural and coastal areas to tackle the water quality issues: the COASTAL project

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COASTAL
Collaborative Land-Sea
Integration Platform

Abstract #286



The Project

By combining local knowledge and scientific expertise in a co-creation process, the COASTAL project engages actors and stakeholders at all levels to improve coastal-rural interdependence and collaboration by identifying problems and setting up evidence-based business roadmaps and policy solutions, focusing on economic growth, marine spatial planning, and environmental protection, including inland water quality.

Methodology

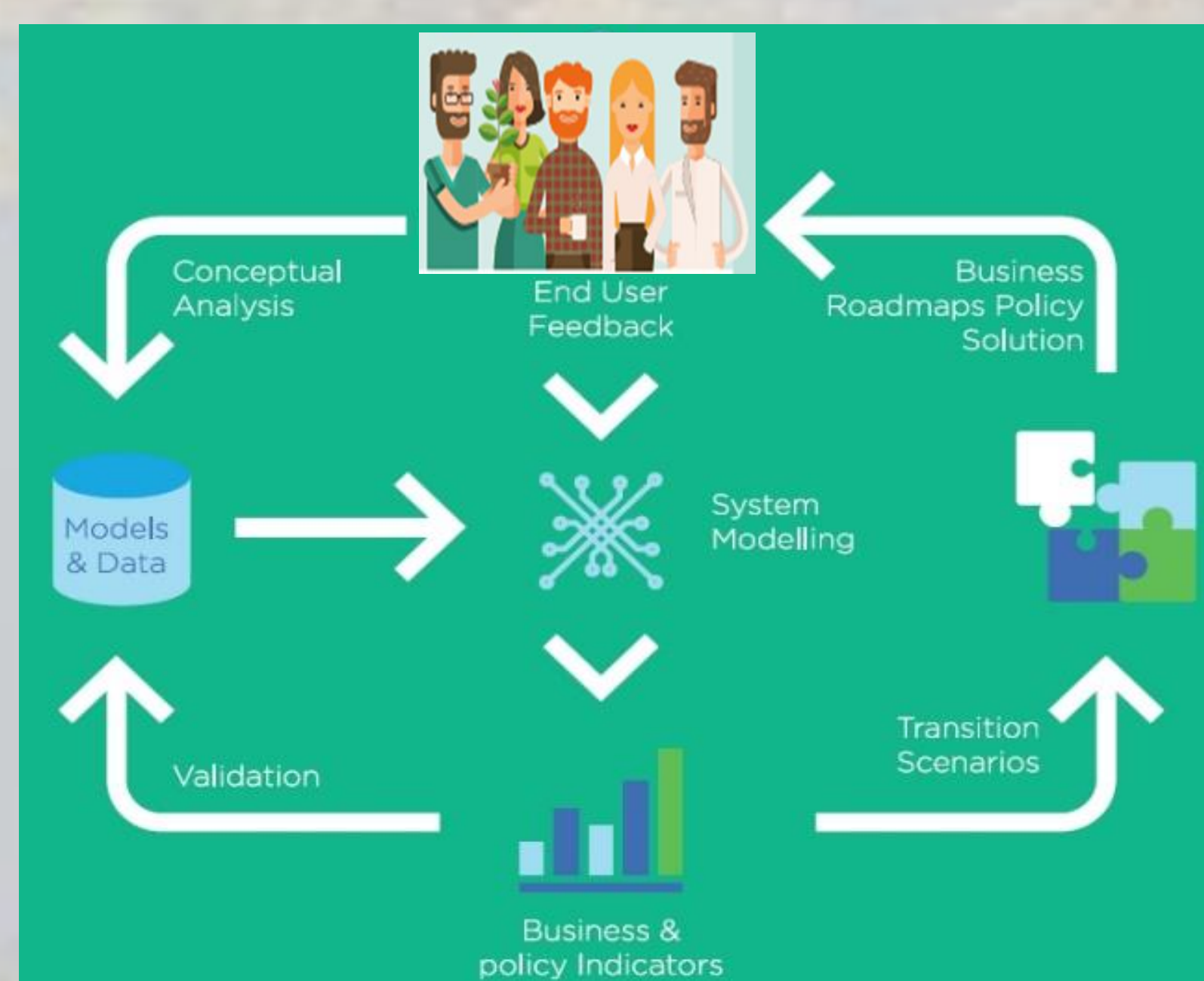
- 1 Multi-actor analysis
- 2 System thinking
- 3 Graphical System Dynamics model

1-Local actors and experts participate in **collaborative workshops** to analyze problems, the underlying causes, propose and discuss solutions, and validate and interpret the impacts of simulated business and policy decisions.

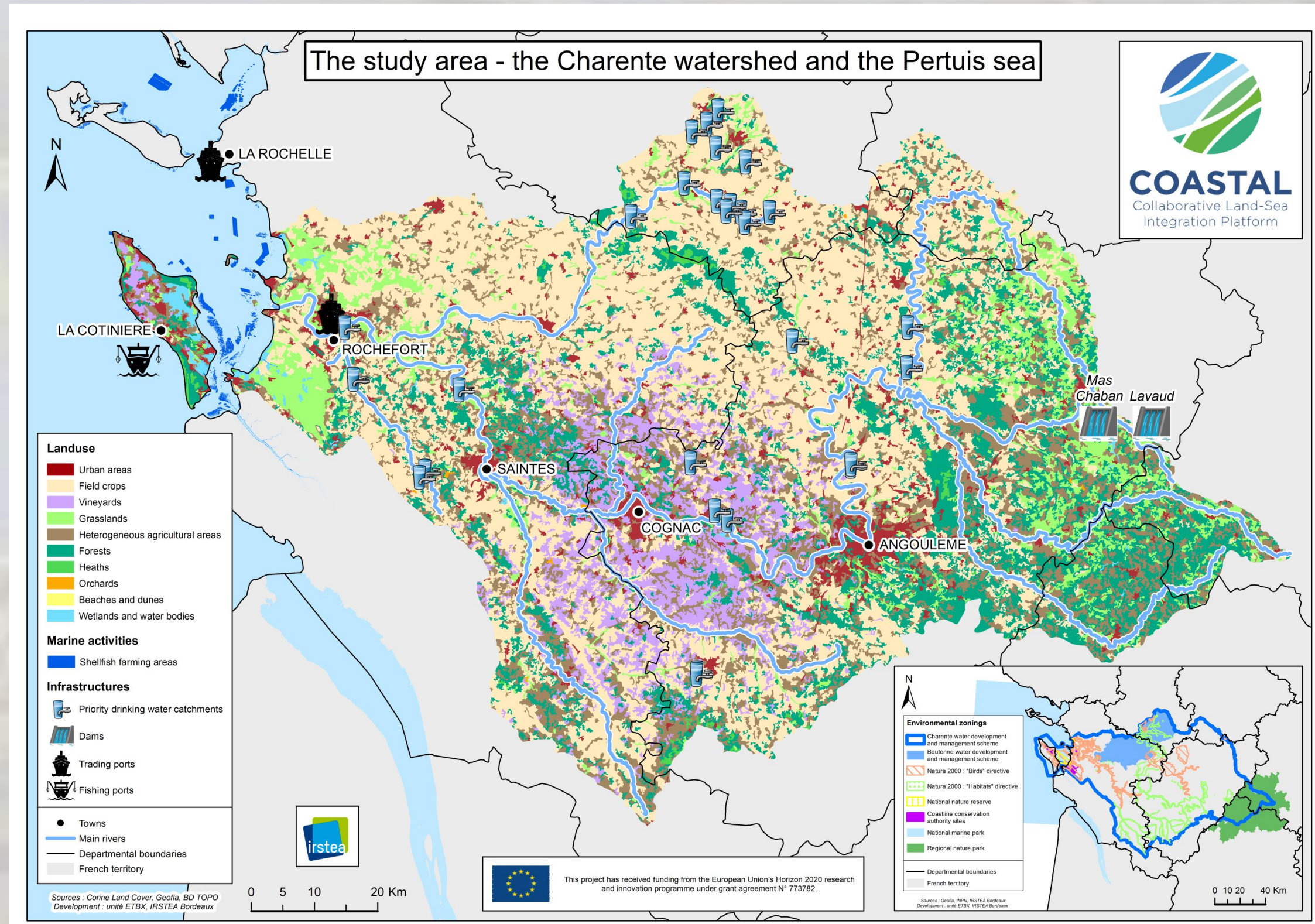
2-**Qualitative and quantitative techniques** are combined in this co-creation process supported by graphical tools (Vensim, Mental Modeler) to gain in-depth understanding of the systemic transitions underlying the land-sea interactions.

3-These systemic transitions are synthesized and analysed with **system dynamic models** using Vensim to **produce multiple transition scenarios** for key Business and Policy indicators.

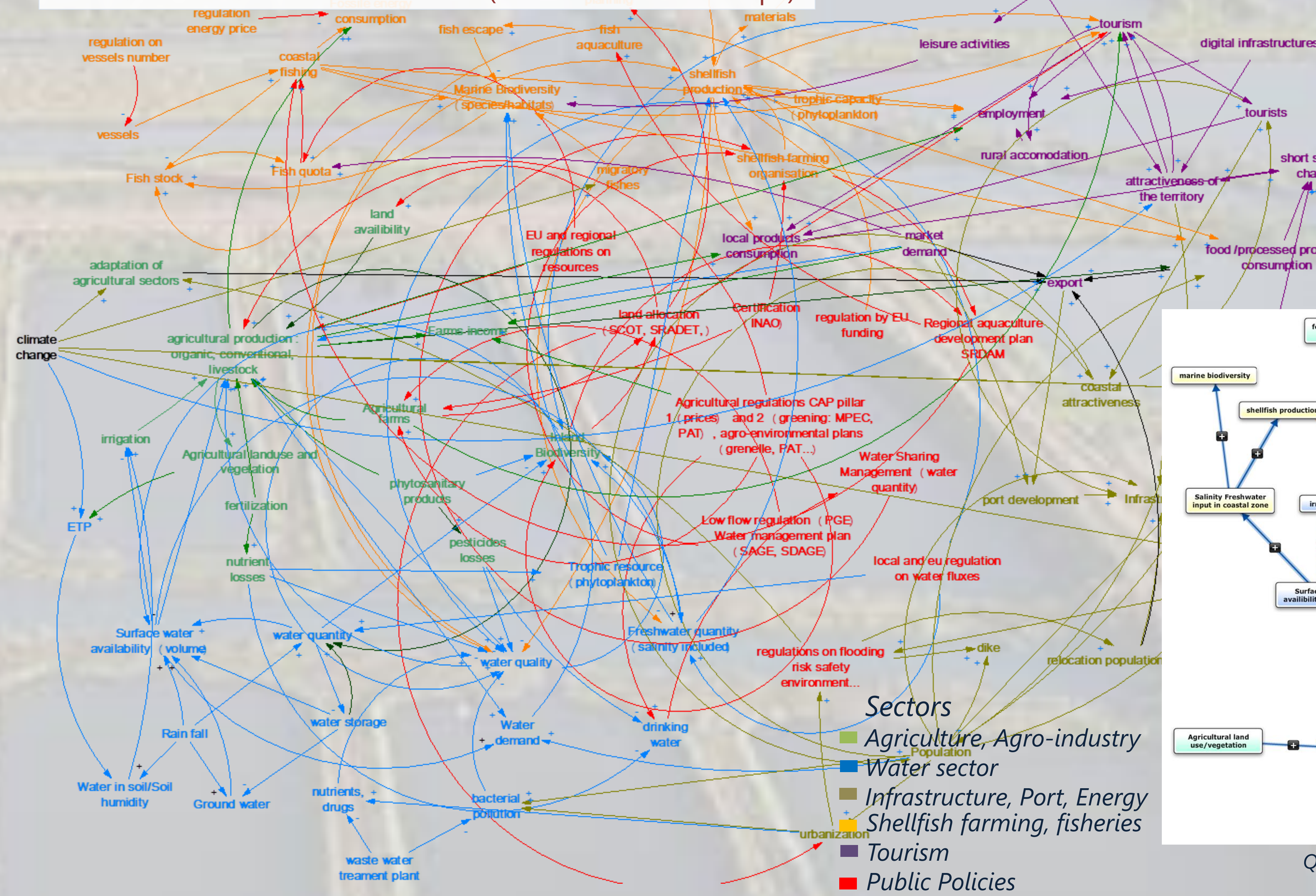
4-From these practical business **roadmaps and policy solutions** are derived, which are easily updated in the models used to support the analyses.



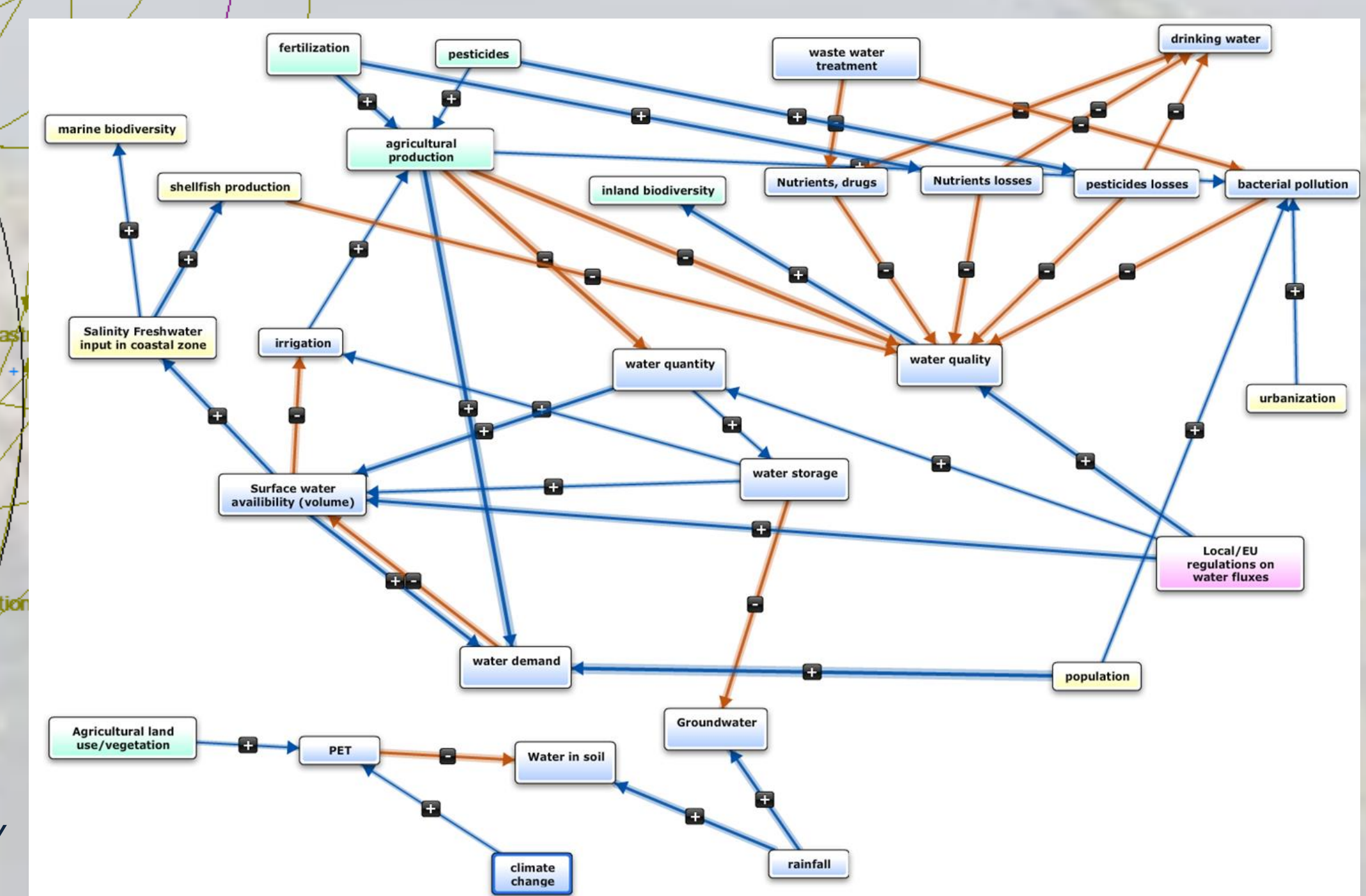
The Charente river basin and Pertuis sea Case study



First results: Global Vensim Model (Six sectorial workshops)



MAL Inter-sectorial Workshops



Qualifying the links between variables using Mental Modeler (Water sector)

Outputs of MAL Charente for Water sector

Problems & challenges

- ✓ Increase of population in coastal areas and high water demand particularly in summer
- ✓ Water quality (Nitrate, pesticides, salinity of estuarine waters)
- ✓ Irrigated systems in the river basin and lack of water in spring and summer
- ✓ Shellfish farming and coastal industries overlooked in decision making for water management,
- ✓ Need of better management of water resources for economic development both in the coast and inland areas

Opportunities for regional development

- ✓ Adaptation of farming industries (diversity of crops and systems, more sustainable/organic farming, better use of water...)
- ✓ Creation and management of water storage (farmers organisations)
- ✓ Adaptation of the water sector to climate changes and to increasing population: review of priorities in water uses, design of new policies to support economic activities

Obstacles

- ✓ New water storage projects lead to serious conflicts (between farmers and NGOs...)
- ✓ Sectorial policies (inland/marine) need more integration
- ✓ Environmental : effects of climate change, decreasing water resources, biodiversity (invasive species)

Contacts

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Project homepage www.h2020-coastal.eu
Knowledge Exchange Platform COASTAL www.coastal-xchange.eu
[@h2020-coastal](https://twitter.com/h2020-coastal) [@coastal_eu](https://www.linkedin.com/company/coastal-eu)

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Scientific partners

Multi Actor partners

