

COLLABORATIVE LAND-SEA INTEGRATION PLATFORM

Multi-Actor Lab 06 – Mar Menor Lagoon

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COASTAL-RURAL SCOPE & CHALLENGES



Challenges:

- Different economic activities caused strong **eutrophication**
- Environmental crisis has negatively impacted tourism, fisheries and local populations, leading to a severe socioeconomic crisis
- How to realise sustainable development based on coastal – rural synergies



Co-design process:

- Mental mapping for systems understanding
- ✓ Qualitative modelling
- ✓ Identification of **challenges & opportunities**
- ✓ Development of a shared future Vision







RURAL TOURISM



Promotion of rural ecotourism activities

COASTAL TOURISM



Promotion of coastal ecotourism activities

SUSTAINABLE AGRICULTURE



Implementation of nutrients, soil, and water retention measures



Decrease in agricultural water demand per hectare



Reduction in fertilizer use



Denitrification and treatment of brine wastes from groundwater for irrigation

INTEGRATED SUSTAINABLE MANAGEMENT



Control of the extension of irrigated areas



Groundwater pumping and treatment

Increase in sea water desalination amount



Surface water pumping and treatment from the Albujón ephemeral stream



Control of the number of groundwater wells for irrigation





Control of urban sources of pollution to the lagoon

ALC: NO

Promotion of small (agro)photovoltaic facilities (<10MW)



Promotion of environmental education activities





System Dynamics model of the Mar Menor and Campo de Cartagena watershed





 Policy support by simulating impacts of co-designed solutions on 10 Key Performance Indicators under 5 scenarios of socioeconomic and climate change
Prioritize solutions when resources are limited





- Co-design process contributed strongly to foster constructive collaboration and obtain systems understanding.
- ✓ System Dynamics modelling facilitates informed decision making based on integrated assessments.
- Model simulations help prioritize solutions and facilitate a gradual transition ensuring minimum sustainability thresholds.
- Restoration of the socio-ecosystem of the Mar Menor and Campo de Cartagena takes time and requires investment and public-private collaboration between all sectors.
- The Business Roadmap identifies different mechanisms by which public administrations and other actors can support implementation of solutions (e.g. *facilitation, incentives, investments, capacity building, awareness raising, implementation* and *enforcement* of regulation).









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