

# **Lessons learned from a process of co-research with social actors of the Mar Menor.**

**On the problem and the  
sectors involved.**



Illustration by Josune Urrutia

## Introduction

The Mar Menor (Murcia, South-Eastern Spain) is Europe's largest saltwater lagoon and the first in this continent to receive the status of legal personhood following its ecological collapse. The lagoon suffers from severe eutrophication which triggered an algal bloom in 2016, turning into events of mass mortality of aquatic biota later in 2019 and 2021. This ecological degradation is partly attributed to the development of intensive irrigated agriculture in the "Campo de Cartagena".

'Collective construction of knowledge in the Mar Menor and the Campo de Cartagena' is a research project that took place between 2021 and 2023: eight local actors from different socio-economic sectors and two researchers shared spaces of dialogue and reflection on the multiple dimensions of the degradation of the lagoon and the consequences emanating from it.

This document summarizes the main lessons from this research process. These lessons are not meant to be generalisable but to communicate the reflections that have emerged from a collective effort among a group of people impacted by the socio-ecological crisis of the Mar Menor and the Campo de Cartagena, and with very diverse experiences and perspectives on the territory.

## On the social context in the Mar Menor and Campo de Cartagena

At the beginning of the research in 2021, we found a strong social tension around the eutrophic crisis of the *Mar Menor* and its possible solutions. We also identified a generalised sense of distrust towards public administrations at the different levels of the government. In fact, the attendant local, regional and national administrations are perceived as a fundamental part of the problem to the extent that they: have allowed and even encouraged behaviors that are now penalized; have not enforced existing regulations; and have not engaged in timely actions.

This perception is unanimous and paired up with the idea that ‘everything is politicised’. Local actors consider that policy making processes respond to individual interests and not to the protection of the commons, of what belongs to everyone. In this climate of distrust, and except from those people who belong to social movements, we observed a strong a feeling of disaffection towards the idea of the communal and the notion that organisations can defend common interests.

Science also plays a key role in the socio-ecological conflict of the *Mar Menor* and the *Campo de Cartagena*. Although non-academic actors use scientific knowledge for explaining the current state of the lagoon, they use different types of data and reports in their explanations. This has led to the idea that there are not only multiple but divergent scientific versions of the problem.

We also identified a territorial fracture: the *Mar Menor* and the *Campo de Cartagena* are very disconnected from the point of view of the social fabric and also in terms of the perceptions around the lagoon problematics.

## On the diversity of experiences in the Mar Menor and the Campo de Cartagena crisis

The demise of the *Mar Menor* evokes a sense of pain and suffering in Murcian society. Some people are mourning the death of the lagoon, while acknowledging the fact that it is going to be impossible for them to see the *Mar Menor* of their childhood again. Others feel sad because they believe that the lagoon is a symbol of the destruction of nature everywhere else. While another group of actors feel unfairly treated and criticised as they have been pointed out as the sole responsables of the eutrophic crisis. Among these people, some transform those feelings of loss and anger into actions to change the situation and others who live it with weariness and disbelief.

The eutrophic crisis and the conflict have created a sense of contradiction and confusion. There are people for whom the situation has triggered an internal conflict as they feel divided between their affection for the lagoon and the anger for being pointed out as responsables of its overnutrification. This tension materialises in the use of agricultural fertilisers, but also in the overfishing, or when one has a house on the coast or a motor boat.

Beyond the internal struggles the current situation of the lagoon is impacting the lives of social actors in land and ocean. Most of the actors are afraid of losing their livelihoods, but also of suffering reprisals or of being singled out if they speak out and act or if they do not.

As researchers, and based on these observations, we identified the need to reconnect land and sea. In a small scale we opened spaces for dialogue aiming at engendering a rework of the narratives that polarize society in relation to the *Mar Menor*.

## Reflections distinguished according the economic sectors that participated

For farmers “agribusiness” is a political term that does not reflect the reality of the sector. Agriculture in the *Campo de Cartagena* implies the work of thousands of people who depend on a business network of sales and exports. Buyers are the ones setting inflexible criteria which in turn end up determining what can be produced and how it should look like (weight, color and size of the produce). From the farmers perspective, the impact of their activity does not relate to the size of the farm/business. The problem is more of scale. Being “Europes’ orchard” implies a land with many farms producing at the same time.

Farmers are changing agricultural practices to comply with the new regulations. They have invested in new fertilisation and irrigation technologies as well as in the planting of hedges, among other measures. These measures have entailed significant economic costs for which they do not receive subsidies. However, social actors outside the agricultural sector are not aware of or do not recognize these changes.

Despite being a unique to the Mediterranean, the particularities of the small scale fishery in the *Mar Menor* are barely known by locals. Such is the case of the rfishing system, the use of fixed fishing gears that have been refined for centuries, and the knowledge of local species, among others. The fishery faces problems of generational renewal and fish stocks sustainability, especially with the recent introduction of radar technologies to increase yields and the eutrophic state of the lagoon that poses great uncertainty. Some of the needs expressed in our dialogues were to strengthen the collective organisation for the fishery’s management and to critically review fishing agreements given the current state of the lagoon (e.g. permitted practices and fishing gear).

The tourism sector reports institutional abandonment and very limited public efforts of promotion. For example, it is perceived that sailing has been very poorly supported and advertised by the public administrations in spite of the lagoons’ potential as a perfect setting for this practice.

Finally, urban planning is another pending issue in the *Mar Menor*: how to re-imagine it from another perspective than that of *La Manga*? How to adapt it to the increasing flood risk? How to deal with the loss of housing commercial value?

## Reflections regarding nutrient sources

Farmer’s positions concerning the contribution of agriculture to the concentration of nitrates in the lagoon are very diverse. Some argue that according to their own data (probes reports) there is very little return flows from irrigation. Others recognise that having zero impact is impossible and that there is always some return flows. These assessments come from farmers who have operated within the margins allowed by law, which evidences the need for exhaustive and long-term monitoring of nitrate use and emissions.

The importance of the aquifer’s contribution to the influx of nitrates to the lagoon is a key issue for farmers. They expressed their discontent with current actions plans as they see a gap regarding the measures for managing and governing groundwaters. Whereas aquifers may not be the main source of nitrates inputs to the *Mar Menor*, the water table has steadily increased since 2016 according to farmers observations on groundwater levels. This level rise generates drainage through different *ramblas* and rainwater canals that finally reach the lagoon.

Despite participants not having an agreement on the preponderance of sewage in the eutrophication of the lagoon, they consider that it adds up to the over-nutrication and that there are gaps in its management. In addition, they agree that local governments have neglected the control over broken pipes, and over housing developments disconnected from the sewage network, discharging directly to the lagoon.

For participants who defend the lagoon against intensive agriculture, it is important that farmers stop victimising themselves and take responsibility for the problem. They highlight the importance of the agriculture sector to demonstrate that they are taking the required measures to reduce the impact of farming in the lagoon.

On the other hand, participating farmers expressed that it is necessary that other impacting activities become visible in the public debate, especially regarding phosphate inputs and rainwater runoff. They also demand the conduction of rigorous and precise studies to measure nitrates and phosphates emissions by sector.

## Reflections regarding the role of science

Despite the important influence of scientific knowledge in the construction of local knowledge about the eutrophication of the lagoon, we identified difficulties in distinguishing among different types of literature. Non-academic social actors are not aware of the difference among peer reviewed papers, reports commissioned by particular stakeholders and reports that express an expert-personal opinion.

We also identified confusion when distinguishing between synthetic data obtained from modeling exercises and data coming from empirical sampling. Local non-academic stakeholders are not aware of the limitations and uncertainties associated with current watershed models.

Finally, there is a gap in the characterisation of the socio-ecological crisis from a socio-historical and emotional perspective, hindering a deeper understanding of the societal roots of the problem.

## Reflections regarding the actions that are been implemented

Over the past years the attendant administrations at local, regional and national level have started to design and implement actions for tackling the crisis. In most of the cases the coordination among the different levels of the government has been limited which has been reflected in a slow and/or difficult implementation.

Through our conversations we found convergence on the need to hydrologically restore the watershed to reduce the risk of flooding. On the other hand, we noted that the “Green Belt” (nature based solution that entails the establishment of different green infrastructures such as wetlands to reduce nutrient inputs to the lagoon) generates controversy due to lack of information and understanding on its effectiveness. But perhaps the most controversial idea was ‘changing the economic model’. Participants expressed opposed opinions, and some of them felt that it is necessary to be very specific about what this change would entail and how it can be fair for farmers.

## Conclusion

To close, we would like to highlight the need to strengthen the information and communication channels to enhance the dialogue with concerned local actors in the design and implementation of new interventions. In our co-research process, we found that when an agreement is not pursued, dialogue between divergent positions is possible and fruitful. Not forcing consensus was important for finding small points of rapprochement. In fact, participants have greatly appreciated the opportunity to meet and dialogue with others that hold different visions and knowledge. Most of them reported learning and a broadening of their understanding of the problem.

Finally, we have seen the importance of imagining what until now was unimaginable: a common territory and a future where all social actors fit in, while taking responsibility for making individual and collective changes to pursue it. All the participants recognised that future generations (children and youth) are fundamental for the defense of the lagoon and yet we found it difficult to involve them. Although there is no certainty on what the *Iniciativa Legislativa Popular* (Popular Legislative Initiative) on the *Mar Menor* will bring, we consider that it may be an opportunity to broaden existing visions on the *Mar Menor* problem.

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