

## **Small-scale fisheries under data-limited scenarios: Assessing SSF social and economic performance in an MPA with limited data**

*Leyre Goti*

*Thünen Institute of Sea Fisheries, Palmaille 9, 22767 Hamburg, Germany;*

### **Summary**

Evaluating the social and economic impact of an MPA on a small scale fishery segment in the Baltic coast of Germany presents several challenges due to the lack of data typical of this type of segment. The small size of the segment, the vulnerability of the fishing community and the characteristics of the MPA made it predictable that any impact on the fishery would be particularly important in social and economic terms.

Even though methodological first best solutions (as bio-economic modelling) were not accessible due to lack of data this case shows that ancillary sources of can still be used and complemented with qualitative information from the fishermen. This information can then be elaborated and analysed using simple methods, as calculating lower and upper bounds for economic or social sustainability, emulating the precautionary approach in biology,y or using partial spatial mapping techniques. Qualitative data from interviews and focus groups can serve not only to sharpen the lower definition quantitative data, but also to provide insights on further aspects influencing the impact of the management measures, as the compatibility of objectives and incentives of different groups of stakeholders or the implications of the existence of different sub-segments.

### **Introduction**

The Common Fisheries Policy (CFP) that entered into force in 2014 includes a higher emphasis on conservation measures affecting fisheries. In the case of data poor small scale fisheries, this increases the need to address additional complexity in the implementation and assessment of conservation measure, including their spatial and multi-tier governance aspects. Understanding the different scales and data nuances are key to capture the social and economic effect that an MPA may have on a fishery as the gillnetters in the German Baltic near Fehmarn.

The case study highlights the methodological steps that are needed in order to unveil the relevant pieces of information out of the complexity of a data poor situation, and shows the results that can be expected. This contributes to establish a path of research on social and economic impact assessment beyond the aggregated social and economic indicators under the current EU data collection framework (DCF).

### **Methods**

The economic and social impact was first approached using available data from the DCF database and a regional panel data collection. These sources presented the initial difficulty that for this segment there is no VMS data and logbook data lacks enough spatial definition to match the conservation measures. These measures have a lower spatial definition than the ICES rectangle used for fisheries data.

Interviews with the fishermen, producer organization and management representatives helped clarify the limitations of the data, including limited effort and price data. A focus group was set up to present the results of the impact calculations to the fishermen and reality check economic data, as cost items

and prices of direct marketing of specific species. This additional check contributed to fine tune the impact calculations, and highlight the different fisher groups and the economic and social impact that measures might have on them (Ota and Just, 2008).

The interviews also helped identify technical limitations of the fishery segments that would contribute to define potential fisheries areas. Higher definition spatial information was also useful in this context by checking potential fishing areas based on seafloor suitability for the fishing gear (gillnets) with fishermen stated fishing grounds and competing segments, as spatially defined areas for traps. Techniques for the definition of effort and catch maps based on interviews have already been described in the literature (Leopold et al 2008)

## **Results and Discussions**

This type of methodology contrasts with others more based on economic and social indicators, as revenue and employment indicators from the DCF. The methodologies applied show results that cannot be achieved through DCF data alone, due to its lower spatial definition and the specificity of price data, among others. Using data from interviews and focus groups together with quantitative data and available spatial information from conservation databases helps to approximate fisheries data to the finer scale of conservation measures in the MPA (including closed areas and effort restrictions). This approach allows to obtain useful results for smaller scale problems which are often not analysed because of lack of data and resources.

The small size of the segment and the characteristics of the MPA management measures (including closed areas and effort restrictions) made it predictable that the impact on the fishery would be relevant in social and economic terms for the community affected given its vulnerability. This makes social and economic analysis even more relevant, in parallel to what the precautionary approach would suggest in biological terms for vulnerable species.

## **References**

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