Testing environmental, economic and social criteria in a co-creation process with stakeholders: An example model for European anchovy using shiny R package

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Population dynamics models and active participation of stakeholders have proved to be very useful in developing successful management regulations for fisheries, but they usually operate separately. The lack of communication seems to be one of the main impediments and the need of a common language emerges in a straightforward way. Models providing comprehensive outputs on the consequences of concrete management actions act as part of that language providing a framework in order to link scientist knowledge with the experience and needs of stakeholders.

In this communication we describe a successful example by using shiny R package. This allowed us to show the outputs of a bio-economic model for anchovy population dynamics in the Gulf of Cádiz under different management strategies defined by the stakeholders. The interactive tool provides the environmental, social and economic impacts of different management scenarios. Stakeholders give a positive feedback about the relevance of the tool as evaluated in a structured manner and state explicitly trade-offs among different management strategies; furthermore, they suggested future steps to a process that is expected to lead to a reconsideration of the present management strategy.

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