Understanding the behavior of policy decision makers through participatory experiments, a role playing game to explore management of the Atlantic Bluefin tuna fishery

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Résumé

The Atlantic and Mediterranean Bluefin tuna fishery has been considered as the archetype of an overfished and mismanaged fishery. While this crisis has been widely communicated by the media, it has also demonstrated the role of public awareness and the importance of the interactions between science and management. We investigate the policy making process associated with this regional fisheries management, using an innovative socioeconomic experiment based on a role-playing game.

We propose a computer-based experimental approach to explore the effects of key factors on the cooperation process in a complex straddling stock management setting. The approach is based on a 'standard' multi-gear, age structured bio-economic model which explicitly represents the decision making process. Each participant plays the role of a stakeholder of the International Commission for the Conservation of Atlantic Tunas and represents a national fishing industry involved in the fishery, deciding on a policy for the coming year. In a context where lobbies influence the public opinion for conservation or exploitation, the participants must deal with the uncertainty in the scientific advice about the stock status, to develop their contribution to the fishery and to set common management plans for the stock during the negotiation process in a commission session. The model is set as an experiment which specifies lobbies' interventions, as well as the uncertainty associated with scientific advice, according to a factorial plan. The context of the experiment induces the incentives for exploitation and collaboration to achieve common sustainable harvest plans at the Atlantic Bluefin stock scale.

Mots-Clés: Participatory simulation, Role playing games, Fisheries management, Policy making, Atlantic Bluefin Tuna

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