



Impact of subsidies on the dynamics of pelagic small-scale fishery in Senegal

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Abstract

Small pelagic fish are the main fish resource in North West Africa. In Senegal, they are mainly represented by the sardinellas (*Sardinella aurita* and *S. maderensis*). The fishery, mostly composed by purse seines and encircling gill nets, is predominantly performed by artisanal fishers and is of great importance for the Senegalese economy and for food security in the region. However this fisheries is totally (engine fuel and fishing gear) subsidized by the state. Because of these effects, sometimes negative, this subsidy is the subject of severe criticism in the world. In such context, the operating conditions for this fishery have changed during the recent years, thus a bioeconomic model is developed to simulate the dynamics of sardinella exploitation and analyze the impact of subsidies on the dynamics of the fishery. This model may also allow managers and decision makers to analyze the responses of the fishery to economic (price, costs), biologic (growth, mortality, recruitment) and management (tax, subsidies, licenses, spatial regulations) parameters.

Keywords: bioeconomics, small pelagic fish, West Africa, fishing policy, subsidies.



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