



A Bioeconomic modeling of *Sardinella* fisheries in Senegal

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Reçu le 02/11/2015; publié le 15/05/2016

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Abstract

A bioeconomic model of sardinella fisheries in Senegal is built. This model is produced to analyze the responses of the fishery (mainly small-scale units but other fishing units types such as industrials units maybe include if necessary) to economic (price, costs), biologic (growth, mortality, recruitment) and management (taxes/subsidies, licenses, spatial regulation) parameters. It focuses on the main small pelagic species caught in Senegal (*S. aurita* and *S. maderensis*). The model is based on an analytical spatial population dynamics model (obtained by virtual population analysis) and a spatial fleet dynamics model (Based on species and fishermen migration and the earnings expectations too). Main model's outputs are catch, revenue, private profit and economic rent, and also the spatial distribution of fishing units. A first version of the calibrated model and the preliminary analyzes of the results will be presented.

Keywords: responses of the fishery, small-scale, industrials, *Sardinella aurita*, *S. maderensis*, spatial dynamics, private profit, economic rent.



Commission Sous-Régionale des Pêches
Sub-Regional Fisheries Commission



International Conference ICAWA 2015

Extended book of Abstract

THE AWA PROJECT
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ISBN: 978-2-9553602-0-2



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Edited by:

Patrice BREHMER (IRD, France; Dakar), Babacar BA (CSRP, Sub-Region; Banjul) & Gerd KRAUS (TI, Germany; Hamburg).

Technical support: Marie Madeleine GOMEZ (CSRP), Ndague DIOGOUL (IRD).

With the collaboration of:

Peter BRANDT, Bamol Ali SOW, Alban LAZAR, Xavier CAPET, Heino FOCK, Eric MACHU, Hamet Diaw DIADIHO, Didier JOUFFRE, Ibrahima DIALLO, Joern SCHMIDT, Werner EKAU, Amadou GAYE, Mahfoudhould TALEB SIDI, Modou THIAW, Cl Abdoulaye DIOP, Adama MBAYE, Dienaba Beye TRAORE, Moussa SALL, Mariline DIARA, Assane FALL, Ibrahima LY, Ivanice MONTEIRO, Vamara KONE, Aboubacar TOGUYENI, Marie BONNIN, Abdelmalek FARAJ.

ISBN: 978-2-9553602-0-2

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Cover design: AWA (BMBF – IRD) project

Logo and flyers: Laurent CORSINI (IRD)

Translation: Amadou NDIONE (independent)

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