



Biodiversity dynamics of demersal fish assemblages of the Guinean continental shelf in an increasing fisheries exploitation context

Mohamed Lamine CAMARA^{1,*}, Bastien MERIGOT², Fabien LEPRIEUR², Marc Antoine TOMASINI², Ibrahima DIALLO¹, Mariama DIALLO¹ and Didier JOUFFRE³

¹CNSHB, 814, Rue MA 500, Corniche Sud, Boussoura Port, BP 3738, Conakry, République de Guinée

²Université Montpellier II, ECOSYM (UMR 5119), , 34095 Montpellier cedex 5, France

³IRD, UMR 5119 ECOSYM, LABEP-AO, BP 1386, 18524 Dakar, Senegal

*Correspondance: Tél: (+224) 62 84 95 362 ; Courriel: mlcamara.kennedy@gmail.com (M.L. CAMARA)

Reçu le 09/12/2014; publié le 15/05/2015

AWA © MS WP4_S4_4_91

Abstract

The purpose of present study is to assess the impact of fishery exploitation on biodiversity dynamics of demersal fish assemblages in Guinean continental shelf. A statistical treatment combining factor analysis and biodiversity indices calculation is performed on data series of demersal trawls scientific surveys between 1985 and 2012 in order to characterize the multi-species composition and diversity characteristics of fish assemblage and its evolution over the studied period. The results show that the fishing intensification, quantified and documented here by national data on effort and landings, seems to have significant effects on some characteristics of the fish assemblages in the area. Since 1985, we can indeed notice a decline in the average density, the average trophic level, the Simpson equitability index and the richness of the fish assemblages as well as some turnover of the dominant species. Smaller species with lower commercial value and rapid growth are replacing gradually former dominant species of high commercial value, characterized by high body mass and slow growth. The study tends to prove that the concerned fish assemblages may not represent a fully resilient system regarding its biodiversity.

Keywords: Biodiversity, ecosystem indicators, fishing impact, Guinea, historical data, marine ecology, trawling surveys, West-Africa.



Commission Sous-Régionale des Pêches
Sub-Regional Fisheries Commission



Book of Abstract International Conference ICAWA 2014

THE AWA PROJECT
Ecosystem Approach
to the management
of fisheries and the
marine environment
in West African waters

Cap-Vert

Mauritanie

Sénégal

Gambie

Guinée Bissau

Guinée

Sierra Leone



Bundesministerium
für Bildung
und Forschung



Institut de recherche
pour le développement



Liberté - Égalité - Fraternité
RÉPUBLIQUE FRANÇAISE
Ministère des Affaires étrangères
et du Développement international
Ministère de l'Enseignement
Supérieur et de la Recherche

Trilateral German-French-African research initiative

ISBN :978-2-9553602-0-1

Edited by:

Patrice Brehmer (IRD) & Hamady Diop (SRFC/CSRP)

With the collaboration of:

Marie Madeleine Gomez, Ndague Diogoul, Viviane Koutob, Peter Brandt, Bamol Ali Sow, Alban Lazar, Xavier Capet, Heino Fock, Carlos F. Santos, Eric Machu, Hamet Diadihou, Didier Jouffre, Ibrahima Diallo, Joern Schmidt, Amadou Gaye, Mahfoudhould Taleb Sidi, Yves Gouriou, Rafael Almar, Moussa Sall, Dominique Duval Diop, Modou Thiow, Ross Wanless, Jacob Gonzales-Solis Bou, Ibrahima Ly, Dienaba Beye Traoré, Marie Bonnin, Werner Ekau.

ISBN: 978-2-9553602-0-0

SRFC/CSRP – IRD ©2015

Cover design: AWA (BMBF – IRD) project

Logo and flyers: Laurent Corsini (IRD)

Sponsors ICAWA 2014

