

MarBEF Theme 3: Socio-economics

The CHALOUPE Project

Global change, dynamics of exploited marine biodiversity and the variability of fisheries

By **Pascal Lorance, Fabian Blanchard and Olivier Thébaud**

Major changes are currently being observed in marine ecosystems and in the human activities, particularly fishing, that depend upon them. If the ecosystems are sustainable naturally, the observed changes raise growing concerns, both in terms of the loss of biodiversity of marine populations and in the capacity of the communities to absorb these changes without being radically transformed. These worries apply to the sustainability of fisheries, and largely also to other methods of exploitation of living aquatic resources.



The effects of fishing and of climate change have by now been identified as key factors in the evolution of marine populations and communities. The effect of this evolution on fisheries specifically has been that its development operates in a context of failed regulations on access to resources (leading to fleet overcapacity, increasing demand for fisheries products, and the deregulation of markets). The extent of these changes and the relative weight of different factors on a regional scale have yet to be quantified. This is the principal objective of the CHALOUPE Project, which was launched in February 2006.

The project, which will last three years (2006-8), benefits from financing by the ANR (Agence Nationale de la Recherche/National Research Agency, France), obtained under the framework of the 'Biodiversity 2005' call for appeals, and put together by teams working on

fisheries ecology, economy, and modelling, from IFREMER (Institut Français de Recherche pour l'Exploitation de la MER/French Research Institute for Exploitation of the Sea, France), the IRD (Institut de Recherche pour le Développement/Research for Development Institute, France), the ENIB (École Nationale d'Ingénieurs de Brest/National College of Engineers, Brest, France), the INRH (Institut National de Recherche Halieutique/National Institute of Fisheries Research, Morocco), the CEDEM (Centre de Droit et d'Économie de la Mer/the Centre for the Law and Economy of the Sea, Brest, France), the ULCO (Université du Littoral Côtes d'Opale, France), the CNRS (Centre National de Recherche Scientifique/National Scientific Research Centre, France)/MNHN (Muséum National d'Histoire Naturelle/National Natural History Museum, France) and the WorldFish Center (African Regional Office, Egypt). It is

This project, **CHALOUPE**, is part of the French participation to RMP 3.1: 'Causes and consequences of changing marine biodiversity – a fish and fisheries perspective.'

Chaloupe in French means rowboat. This acronym was extracted from the full name of the project: 'CHangement gLObal, dynamiqUe de la biodiversité marine exploitée et viabilité des PEcheries.'

coordinated by IFREMER (F. Blanchard and O. Thébaud).

The anticipated output of the project is an assessment of the observed changes, evolutionary factors, and the sustainability of communities/fisheries systems in three types of regional ecosystem: the temperate continental shelf of the Bay of Biscay, the tropical shelf of French Guyana, and the upwelling ecosystem of Morocco. The output is dependent upon the compilation and combined analysis of chronological series data related to environmental conditions, characteristics of populations and fisheries, fisheries economics, and the evolution of governance, as well as system modelling. It will rely on the establishment of dashboards to evaluate and assess the state of ecosystems, anthropogenic pressures, and physical conditions, leading to an analysis of sustainable conditions for exploited communities/fisheries systems.

An important focus of the project is to reinforce collaborations between fisheries ecologists, economists, mathematicians and computer scientists, to advance the development of an integrated approach to marine ecosystem management.

Pascal Lorance
IFREMER/STH
Centre de Brest
B.P. 70
29280 Plouzané
Email: pascal.lorance@ifremer.fr