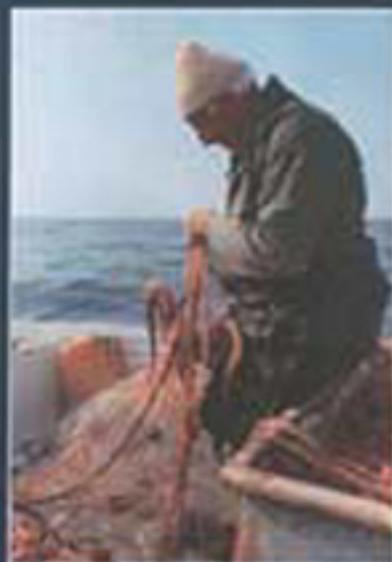


Artisanal fishery communities in the Mediterranean. Two Case Studies



PECHE ARTISANALE DANS LA LAGUNE
DE NADOR: EXPLOITATION ET ASPECTS
SOCIO-ECONOMIQUES.

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EVOLUTION OF THE
ARTISANAL FISHERY
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PÊCHE ARTISANALE DANS LA LAGUNE DE NADOR, MAROC: EXPLOITATION ET ASPECTS SOCIO-ÉCONOMIQUES



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Table of Contents

Introduction	iv
Main results of the two studies.....	v
The evolution of the artisanal fishery in Cilento, Italy. Case Study	1
Pêche artisanale dans la lagune de Nador, Maroc: exploitation et aspects socio-économiques. Étude de cas.....	61

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INTRODUCTION

Artisanal fishery in the Mediterranean region is a very attractive and interesting tradition. Because of its unpredictable operational pattern and its constant adaptation to internal and external phenomena it is difficult to really assess its status over time. The need to improve our knowledge of artisanal fishery and how it is conducted in the Mediterranean has been highlighted on many occasions and, in a way, still remains an ongoing issue. The FAO-COPEMED Project took up the opportunity to initiate a sub-regional project activity to assess the situation of artisanal fisheries in the eight countries involved in the project (Algeria, France, Italy, Libya, Malta, Morocco, Spain and Tunisia) in order to contribute regionally to an issue which, to our knowledge, is usually treated in a very superficial way and only at national level.

The present work illustrates two case studies dealing with small scale fisheries systems in two different and significant areas of the Mediterranean sea: the area of Cilento in Italy and Nador Lagoon in Morocco.

Even though the offshore industrial or semi-industrial fisheries are the most productive, small-scale coastal fisheries have a much greater social and cultural significance. Mediterranean artisanal fishing is a very variable activity. It encompasses many types of fishing gears and methods. Its resources, shared among various parties, move from one region to another, and the size of the fish catch varies from country to country, as does its economical value. Catches are highly multi-specific and fishing intensities and strategies show very rapid fluctuations in space and over time. The variation of active fishermen and boats by area, sometimes over very short periods of time, is also a significant characteristic of the artisanal fishery sector.

Therefore, information on artisanal fishery and interacting activities such as tourism or marine protected areas is fundamental for planning and management purposes. At present, the various official national statistical systems cannot take into account the high variability of all the components in this sector.

The FAO-COPEMED Project, through its initiatives, offered the possibility of starting an in-depth study of this sector, focusing on its area of competence (Algeria, France, Italy, Libya, Malta, Morocco, Spain and Tunisia).

The whole study on artisanal fisheries consisted of the planning and realization of the following major components: (i) methodological design; (ii) data collection (field work); (iii) data base (ArtFiMed); (iv) case studies; (v) processing and analysis; and (vi) CD output, including appropriate documentation and presentation.

Once the preliminary phase of the project had been completed (i.e. the inventory of artisanal fishery communities in each of the involved countries), the research switched from focusing on producing a qualitative and generic inventory to depicting timely and precise case studies. More knowledge and, in particular, results from **case studies** based on actual circumstances, could help to envisage changes, highlight similarities and dissimilarities, interpret future evolution, and propose options to managers and authorities in the sector. The case studies were undertaken in areas where the conditions permitted comprehensive and detailed data collection and analysis.

The FAO-COPEMED project funded case studies in two different regions for the following reasons:

1. Case study in Cilento, Italy, because this region's characteristics are common to most of the Italian and Western Mediterranean coastal areas. Here there is an overlap of the various types of coastal uses and traditional fishing activities suffer from environmental degradation and significant fishing effort.
2. Case study in Nador Lagoon, Morocco, because this is one of the most productive areas in the Moroccan Mediterranean. Its interest lies not only in its ecological value but also in its socio-economic role. The Nador Lagoon provides important opportunities for the development of the region, generating jobs in both the fishing and tourism sectors.

Both studies have dealt with more than just fleet characteristics and catch and effort analyses. They have delved inside the population's social and economic structures, providing data for the fishing activity's socio-economic indicators. In the case of Cilento, a final assessment of the system was carried out. A score was assigned to illustrate the overall health of its fisheries. The score fell within a range of possible values obtained from an adaptation of the Pitcher *et al.* 2001 methodology. In the case of the Nador Lagoon, a more qualitative assessment was provided. In addition, for the first time in the area, a GIS-based cartography was produced as well as an easy-to-update geo-referenced database recording the site's attributes.

Rafael Robles (Director of FAO-COPEMED Project)

MAIN RESULTS OF THE TWO STUDIES

Cilento study (carried out by F. Colloca, V. Crespi, S. Cerasi and S.R. Coppola at FAO). Overall, this case study has provided new and useful information for stakeholders and has allowed an assessment of the fisheries' health.

More specifically, this particular case study helped to:

- ✓ Describe and assess the status of local artisanal fisheries. It showed how biological and structural parameters (CPUEs, catch/boat tonnage, fleet activity ratios, daily number of vessels by fishing area, *etc.*) can be used together with socio-economic attributes (economic CPUEs, economic performance methods, mean age of fishermen, *etc.*) as tools to analyse the health status and the trends of artisanal fisheries.
- ✓ Define methodologies for routine data collection and analysis; these could be applicable to similar areas of the Mediterranean Sea and would make possible the comparison of data from different fisheries at the national and regional levels.
- ✓ Analyse the short- and long-term temporal changes in artisanal fishing activities, based on available historical data. A comparison of short-term data was very useful in forecasting changes in fishing effort and activity patterns. This information, coupled with long-term data series, has provided a better understanding of the evolutionary trend of several fishery parameters (e.g., fishing effort, CPUE, economic revenues, *etc.*).

Nador Lagoon study (carried out by M. Malouli Idrissi, Y Zahri, R. Houssa, B. Abdelaoui, N. El Ouamari at the CNRH centre in Nador). This was the first study to examine the variables linked to the exploitation of fishery resources and their socio-economic aspects. The results of this case study covered the socio-economic aspects, the commercialisation process, and the problems encountered by the fishermen.

These unprecedented results have helped to achieve the following:

- ✓ Understand the actual status of fishing activities within this lagoon ecosystem in the Moroccan Mediterranean.
- ✓ Elucidate the main socio-economic characteristics, estimate the fishing effort, and monitor the capture of the main species targeted by the on-site artisanal fleet.
- ✓ Identify and compare the different avenues of commercialisation; study the economic situation of all members of the artisanal fishery.
- ✓ Provide a reference base for national and international projects requiring an assessment of the status of the sites. The main focus of these projects is on creating a plan for the sustainable management of the lagoon, ensuring the conservation of its biodiversity and the quality of its waters.

The following actions are recommended as follow-ups to the study:

- ✓ Implement a follow-up programme to regularly monitor fishing activities and where the main objectives are to:
 - Analyse the biological parameters of the main commercial species, such as prawns, cuttlefish, seabream and anchovies.
 - Study the economic development of the products of artisanal fisheries.
 - Perform an in-depth study of anchovy exploitation with the goal of protecting this species, which is exclusively captured in its juvenile stage.
 - Update the socio-economic database.
- ✓ Suggest measures which could raise decision-makers' interest in the sustainable management of fishing activities in the Nador Lagoon. Such measures are particularly pertinent to the following:
 - Development of basic infrastructure and fishing.
 - Improvement of the conditions for product commercialisation.
 - Improvement of storage conditions and product quality.
 - Creation of a representative organism for the fishermen (an association or a cooperative) to facilitate government intervention and the introduction of public sector development measures.