

The Future Marine Protected Area “Jbel Moussa”: Balance between Conservation Measures and Fishermen Well-Being [†]

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Abstract: Marine protected areas (MPAs) have been created to preserve biodiversity and manage human activities. Unfortunately, many of these MPAs have failed to accomplish their goals because fishermen well-being was neglected. Thus, taking in account fishermen perceptions will undoubtedly contribute to MPAs success and durability. In this paper we focused on assessing fishermen perception of the future marine protected area “Jbel Moussa” situated in northern Morocco. Results showed that the majority of fishermen affirm that the set of this MPA will lead to a reduction in catches and to an increase in costs and charges. They affirm that it will have to be managed jointly with locals according to “top-down bottom up” management approach to make it reach its goals, this will avoid conflicts likely to occur during the application of the regulations specific to the future MPA. In order to work for the success of the future MPA, fishermen must take part in the management process. The authorities have to organize meetings with fishermen to discuss about benefits, mode of governance, zoning, etc... Knowing all these factors, we can move towards better management of resources, finding a balance between preserving the marine ecosystem and the well-being of fishermen.

Keywords: marine protected area; fishermen perception; biodiversity; MPA management

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1. Introduction

Marine Protected Areas (MPAs) has been increasingly used to protect critical habitat and marine biodiversity, to manage fisheries by preventing spawning stock collapse, and to provide recruitment to fished areas [1–3].

However, some of these MPAs have succeeded to achieve their goals and others have failed to reach them. The engagement of stakeholders was one of biggest key of success of MPAs [4]. Otherwise, we will without doubt lead to a new case of the so called “paper parks” [5,6].

All around the world, there are only few studies that have focused on the impact of MPAs on local fishermen well-being [3]. Despite its essential role in MPA success, these studies show that management policies within the MPAs have direct impacts on the fishermen welfare by reducing their access to resource and thus reducing their incomes [7–9]. MPA experts often conclude that the remedy, in part, lies in better communication, with the implicit assumption that participation and communication are conditions that lead to MPAs success [10].

In our study we will focus on fishermen perception about the installation of the future marine protected area sheltering three fishing communities.

2. Experiments

Study Area

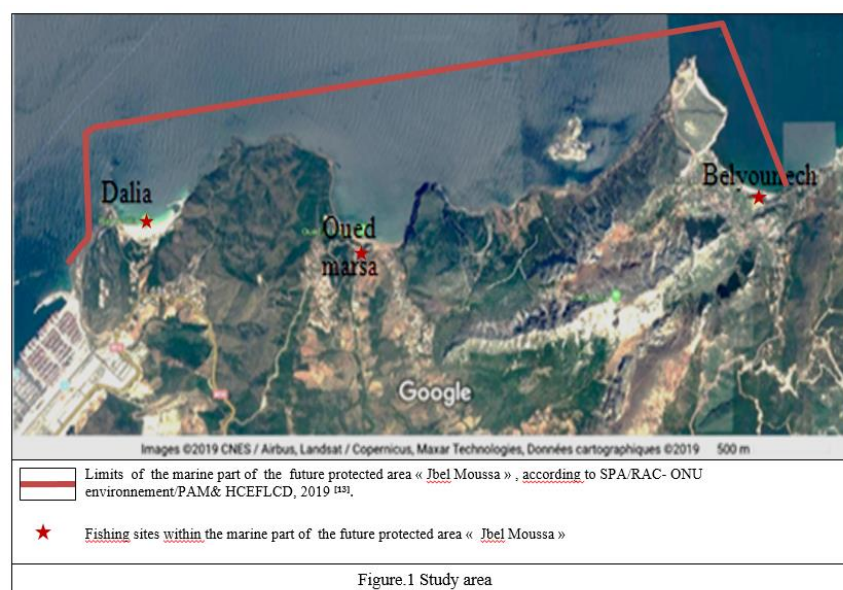


Figure 1. Studay area.

The study was carried out in the marine part of the site of biological and ecological interest «Jbel Moussa», which was proposed to be transformed on a future marine protected area. It is situated in Northern Morocco, overlooking the strait of Gibraltar. Three fishing sites (Belyounech, Oued Marsa, Dalia) exists within this area.

Survey:

Surveys were conducted by direct interviews, they concerned generally the skippers and some time seamen when skippers are absent or refuse to collaborate.

We gathered informations regarding:

- General state of the environment and resources;
- Fishermen statement about the future marine protected area project;
- Incentives to change or reduce activity.

3. Results

The surveys carried out among fishermen alarmed us about the state of degradation of the marine environment:

- More than the half of fishermen find that the environment is in an advanced state of degradation.
- This degradation is generally due to the overexploitation of stocks and the abundance of lost fishing nets on the seabed.

Concerning fishermen statement about the future MPA project, we observed that knowledge is limited:

- Lack of information about zoning system;
- Lack of information about governance methods;
- Lack of information about legislation;
- Etc., ...

Fishermen showed discontent about the full protection area which will affect negatively their activity and therefore there incomes.

According to fishermen, There participation in decision-making is one of the keys success of the MPA

Concerning incentives to change activity or reduce it, we noted that:

- A small part of fishermen is against any form of activity change.
- The remaining fishermen presented many proposals, such as:
 - monetary compensation;
 - subsidizes to acquire more sophisticated gears to explore new fishing zones;
 - working in inland activities including fisheries manufacturies;
 - Changing activity to eco-tourism and diving
 - Etc., ...

4. Discussion

We observed that the lack of communication make the gap very large between fishermen and decision-makers, and it lea to a resistance to MPA installation and no-compliance to the legislations.

To avoid this problematic situation it is necessary to organize meetings and workshops with fishermen.



5. Conclusions

The transformation of the marine part of the site of biological and ecological interest «Jbel Moussa» into a future MPA will whitout dought contribute to the preservation of the biodiversity in the region. Nonetheless, to ensure the full success of the MPA, it is necessary to integrate the fishermen perception into the process of governance of the MPA.

Institutional Review Board Statement:

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Data Availability Statement:

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Abbreviations

MPA

Marine protected area

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