

Scientists, Decision Makers, Tourists, and Artisanal Fishers: The Case of La Gomera Marine Reserve, Canary Islands, Spain.

Raquel de la Cruz Modino

Post Doctoral Research Fellow

Ministry of Education of Spain and Memorial University of Newfoundland & Labrador

José J. Pascual-Fernández

Profesor Titular of Social Anthropology and Director of the Institute of Social & Political Sciences

University of La Laguna (ULL), Tenerife

Introduction

This study is a part of the GOBAMP project (*El análisis de gobernabilidad aplicado al proceso de creación de áreas marinas protegidas*) [REF: CSO2009-09802], funded by the Ministry of Science and Technology in Spain. The aim of the project is to create a set of key factors that will ensure the success of Marine Protected Areas (MPAs).

Our theoretical inspiration grows from interactive governance, an approach suiting for fisheries management, which takes into consideration the interactions between both fisheries and society while understanding long-term societal trends and needs (Kooiman, Bavinck, Jentoft, & Pullin, 2005). This projects focus is on the 'Step Zero' (Chuenpagdee & Jentoft, 2007) of MPAs (S. Jentoft, van Son, & Bjorkan, 2007). A Step Zero assessment helps us to understand the factors, processes and interactions which lead to an event and which may create favourable conditions for a particular action to take place. The central questions in our research ask how MPAs have been created, who initiates the event, what inspires their implementation, and what influences the future perceptions of these institutional arrangements. The inception and implementation of an MPA are key elements to for its future success.

This project will build on previous research on the development process of MPAs in Spain. Since the start of our research in this realm, we have considered the very first phases of an MPA as a key factor for analyzing their future viability. For this research we have brought together an international group of researchers linked by their interest on governability and MPAs, to develop theoretical insights in this area, which will be illuminated by our extensive fieldwork and detailed ethnographies on Spanish and international cases.

General overview of Marine Reserves in Canary Islands

In Spain there are several types of MPAs, including Marine Reserves (MR), Marine National Parks, Protected Biotope, Protected Area, and others. The first proposal for a MR was developed in the 1970's, this was an initiative led by conservation groups and academic institutions. But, it was not until the 1990s that the first MR was implemented. Drivers for this MR's were primarily based on biological concerns.

Nowadays, there are a wide range of MPAs in Spain differing in legal status, designations, implications for local fisheries, and images (Kooiman, Bavinck 2005) and goals from a socio-

ecological point of view. In 2009 there were 25 MPAs, several of which were MRs, and each involved different levels of participation from local fishing communities.

Name	Location	Type	Date	Has.	Area	Management
1. ISLA DE TABARCA	Valencia Autonomous Community (AC)	M. Reserve Fishing Interest (MRFI)	1986	1.400	Mediterranean Sea	SHARED between the State & Autonomic (regional) Government
2. ISLAS COLUMBRETES	Valencia AC	MRFI	1990	4.400	Mediterranean Sea	State
3. ILLES MEDES	Catalonia AC	Protected Area	1990	533	Mediterranean Sea	Autonomic Government
4. CAP NEGRE	Catalonia AC	Protected Area	1993	15	Mediterranean Sea	Autonomic Government
5. CABO DE SAN ANTONIO	Valencia AC	Marine Reserve (MR)	1993	250	Mediterranean Sea	Autonomic Government
6. LA GRACIOSA	Canary Islands AC	MRFI	1995	70.700	Atlantic Ocean	SHARED
7. CABO DE PALOS-ISLAS HORMIGAS	Murcia AC	MRFI	1995	1.898	Mediterranean Sea	SHARED
8. CABO DE GATA-NÍJAR	Andalucía AC	MRFI	1995	12.200	Mediterranean Sea	State
9. PUNTA DE LA RESTINGA	Canary Islands AC	MRFI	1996	750	Atlantic Ocean	SHARED
10. ISLA DE ALBORÁN	Andalucía AC	MRFI / Fishing reserve (FR)	1997	429 / 425.645	Mediterranean Sea	State
11. CAP DE CREUS	Catalonia AC	Natural Park	1998	3.073	Mediterranean Sea	Autonomic Government
12. GAZTELUGATXE	Basque Country AC	Protected Biotope	1998	487	Cantabrian Sea	Autonomic Government
13. FREUS DE IBIZA Y FORMENTERA	Balearic Islands AC	MR	1999	13.617	Mediterranean Sea	Autonomic Government
14. NORTE DE MENORCA	Balearic Islands AC	MR	1999	5.119	Mediterranean Sea	Autonomic Government
15. BADÍA DE PALMA	Balearic Islands AC	MR	1982/99	2.394	Mediterranean Sea	Autonomic Government
16. MASÍA BLANCA	Catalonia Autonomous AC	MRFI	1999	280	Mediterranean Sea	State
17. ISLA DE LA PALMA	Canary Islands AC	MRFI	2001	3719,1	Atlantic Ocean	State
18. MIGJORN DE MALLORCA	Balearic Islands AC	MR	2002	22.332	Mediterranean Sea	Autonomic Government
19. ISLA DEL TORO	Balearic Islands AC	MR	2004	136,02	Mediterranean Sea	Autonomic Government
20. ISLAS MALGRATS	Balearic Islands AC	MR	2004	88,85	Mediterranean Sea	Autonomic Government
21. DESEM. DEL GUADALQUIVIR	Andalucía AC	FR	2005		Atlantic Ocean	Autonomic Government
22. CALA RATJADA	Balearic Islands AC	MRFI	2007	5.900	Mediterranean Sea	SHARED
23. OS MIÑARZOS (LIRA)	Galicia AC	MRFI	2007	2.200	Atlantic Ocean	Autonomic Government
24 EL CACHUCHO	Asturias AC	AMP	2008	234.966	Cantabrian Sea	State
25. CEDEIRA	Galicia AC	MRFI	2009		Atlantic Ocean	Autonomic Government

Table 1: MPAs in Spain (2009)

In Spain MPA's responsibilities and management varies depending on location. When MPAs are located in External Waters (i.e. waters outside of points in the coastline) they are managed by the State through Ministry of Agriculture and Fisheries, and its Fisheries bureau specifically. And when MPAs are located in Internal Waters (i.e. water between points in the coastline, such as bays, inlets, or marine channels) they are managed by the Autonomous (regional) Governments. All MPAs located in external waters are declared MR "with fishing interest" (MRFI) by mandate of the Spanish Ministry of Agriculture and Fisheries. Habitually, MRFI proposals use to be consulting with local public rights fishing organizations (*Cofradías*). MPAs located in internal waters are managed by Autonomic (regional) Governments, with diverse designations and legal regulations. Furthermore, some MPAs are located sharing Internal and External Waters, in these cases MPAs are usually designed as MRFI and both administrations share management and responsibilities (see Table 1 Figure 1).

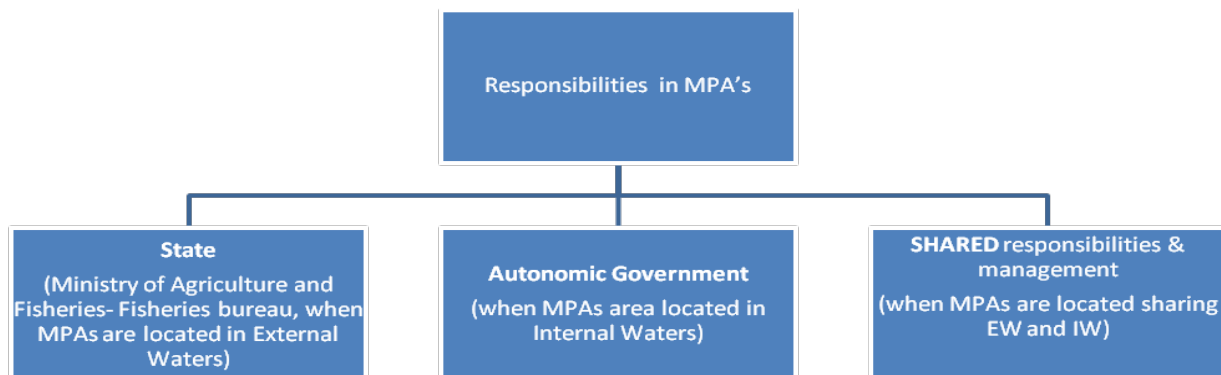


Figure 1: Responsibilities in Spanish MPAs

In the Canary Islands, there are 3 MRFI which have been implemented. In all cases, artisanal fishers were involved in their implementation in some way. Some advantages of MRFI, as perceived by fishers include:

- Restricted use of the territory by new entrants (e.g. recreational fishers)
- More difficult for professional fishers from other areas to access the reserve area
- Increased surveillance
- Increased catches
- Creation of new job opportunities in the area

The disadvantages of MRFI as perceived by artisanal fishers include:

- Increased restrictions on fishing techniques and fishing areas
- Competition for resources and space with tourism activities (MR will attract more tourists)
- Immigration in the area due to tourism development

All MFRI on the Canary Island have no take zones, where only professional tuna fishing is allowed. This shows the importance of the tuna fishery in the areas affected by MRFI implementation. In the multiple use areas of the MRFI, angling and Scuba-diving are permitted. In La Graciosa, sport fishing from boat is also permitted.

Name	Extension (Has)	Creation	Internal waters	External waters	No take zone	Buffer zone	Multiple uses areas	Professional fishing	Angling from the shore	Recreational fishing from boat	Scuba-diving
La Palma Island	3.719,1	2001		*	*		*	*	*		*
La Restinga (El Hierro Island)	750	1996	*	*	*	*	*	*	*		*
Graciosa Island	70.700	1995	*	*	*		*	*	*	*	*

Table 2 MRFI in Canary Islands general description

MPAs are being embraced in the Canary Islands for reasons which include fishing, ecological restoration, conservation and also tourism. As a result there are new proposals and projects being discussed, from different promoters and drivers.

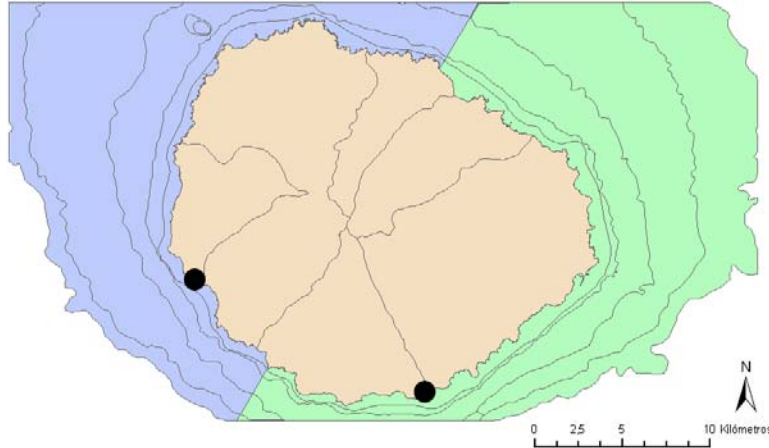
Name	Location	Date proposed	Potential managers	Promoters
Anaga	Tenerife island	2004	National & Autonomic Government	Insular Government (IG) (Cabildo) of Tenerife
Teno	Tenerife island	2004	National & Autonomic Government	IG (Cabildo) of Tenerife
El Confital	Gran Canaria Island	2006	Autonomic Government	Canarian Autonomic Government
La Gomera	La Gomera Island	2003	National Government (Fisheries bureau)	IG (Cabildo) of La Gomera & researcher group from ULL
Fuerteventura	Fuerteventura Island	2007	National Government	IG (Cabildo) of Fuerteventura

Table 3: MPA proposals in the Canary Islands

La Gomera Island

La Gomera Island is located 69.9km/ 43.4m from Los Cristianos Harbour in Tenerife Island. Over the last century it hosted several fishing factories for tuna. In La Gomera there are no internal waters, as a result fisheries management is conducted by the Ministry. Historically, fishers have been neglected from the autonomic fishing administrations.

Artisanal and recreational fishers from La Gomera, but also from Tenerife, are the main users of the coast of La Gomera. There are two *Cofradías* on the island: Playa Santiago and Valle Gran Rey. Fishers recognize that the relationships between the two *Cofradías* are not the best. But they share some resources in order to organize the trade for fish products and have promoted some restrictive measures against Tenerife artisanal and recreational fishers. These initiatives have been unsuccessful.



Map 1: Location of *Cofradías* in La Gomera

Cofradía name	Valle Gran Rey	Playa Santiago
Ship owners	18	11
Sailors	6-7	4-5
8- 11 meters boats (length)	3 (some of them only temporally because they come from Tenerife eventually)	4 for tuna fisheries
6-8 meters boats (length)	15	3-4 for demersal fisheries
Fishing target	Demersal fisheries with hook & line	Tuna fishery combined with shrimps fishery using the same boats Demersal fisheries with hook & line using the 6-8 meters boats
Selling	The <i>Cofradía</i> has first sale point, but must send the tuna catches to <i>Playa Santiago Cofradía</i>	<i>Playa Santiago Cofradía</i> has not first sale point, but concentrates all tuna unload.

Table 4: Fishing activity in La Gomera *Cofradías*

La Gomera MR proposal

Since the 1980's, a group of researchers from the University of La Laguna (ULL), in Tenerife, have worked on the creation of several marine reserves in Canary Islands, including La Gomera Island. The Hermigua coast, in the northern part of the Island, was identified as an interesting area for conservation, attending to the geomorphologic, botanical, biological and landscape values. In 2010, this area has been identified as the target area for the future MPA establishment by researchers from ULL and the Spanish Oceanographic Institute, although ecological studies have not concluded.

Ecologically, the proposed area is favorable for the reproduction of species with lower growth rates, such as limpet (*Patella crenata*), and it is also an ideal area for the recruitment of species such as the parrot fish (*Sparisoma cretense*). In other canarian MRFI recovery of stocks of these species has been relevant. The capacity of the Hermigua area for biomass export has been proposed as the principal or key benefit of this reserve for fisheries management and ecosystem recovery. This has been strongly promoted by researchers and others stakeholders based on conservation arguments.

Who are the advocates of the La Gomera MR proposal?

The Insular Government (IG) the Cabildo of La Gomera and a research group from ULL have been promoting the implementation of the La Gomera MRFI. They have been the main advocates for the project. However, because the area is located in external waters, the Ministry and professional fishing sector of La Gomera are responsible for deciding about the future and any management of the area. In order to encourage MRFI in the fishing sector, the promoters (IG and research group) have introduced territorial arguments to support the proposal. The MRFI appears as an important tool to prevent Tenerife fishers (recreational and professional) entering the area.

The IG has assumed leadership of the MPA process. They proposed the MRFI to the State Government, organized and informed local agents, and began a direct relationship with the researchers of the University who prepared the projects of MR.

Which arguments and images they defend?

The IG and researchers from ULL argue that the MRFI will provide a relevant management and surveillance tool, to help mitigate marine degradation and competition over resources between local, foreign and recreational fishermen. For the researchers, a fishing displacement phenomenon has been detected from the west coast (and W-SW) to the North of the island, the IG and researchers have used this displacement to justify the MRFI to fish harvesters. The IG has additional objectives for the MPA which include tourism and employment related opportunities. These objectives can be linked to the perceived success of tourism in other MRs in the Canary Islands.

And, what about the local fishers?

In general there is a sense of rejection towards artisanal and recreational fishers from the South of Tenerife who use long-lines and fish traps in the North of the island, while local professional fishermen use primarily hook and line. This situation is aggravated by the historical ineffectiveness of surveillance in the area. Previous attempts to regulate the harvest of fish with traps and loglines have failed, which is in part associated with this lack of surveillance.

Researchers from ULL and IG use these examples to promote MRFI as a means to obtaining a capable surveillance service in the area.

The *Cofradía* from *Valle Gran Rey* support the MRFI initiative. Approximately 12-14 boats go to Hermigua from the *Cofradía*, for hook and line fisheries, and they hope to reduce the competition with fishermen (professional and recreational) from Tenerife.

The *Cofradía* from *Playa Santiago* are worried about the MRFI proposal impacts this many have on their livelihood. They are concerned because Hermigua is the best bait catch area, and other MRFI implemented in the Canary Islands have placed restrictions on bait fishing.

The experiences from other islands are relevant in the images and goals present in the step zero for different stakeholders, but their detailed knowledge of these experiences is usually vague. Meetings have been held to inform fishers and local residents about the project. But, when

fishers have expressed their concerns, such as those in Playa Santiago, they have not been recognized by administration who replied: “(You) cannot create hypothetical problems before the creation of the marine reserve”.

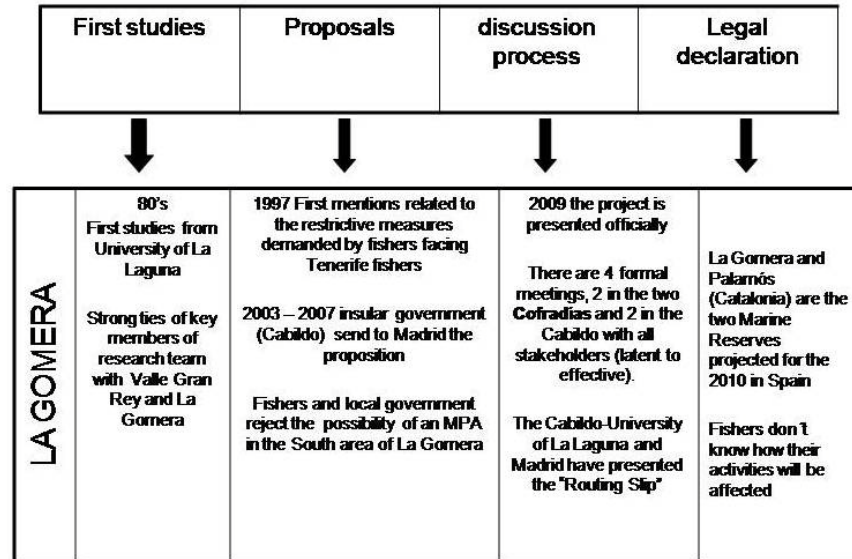


Figure 2: Some milestones in the process of La Gomera MR proposal

Conclusion

In Spain many stakeholders of the coastal zone are demanding MPAs. Sometimes it is assumed that the only objectives of MPAs are ecosystem preservation, however, they may also be considered as preemptive strategies to diminish the entrance of other users into the area or as tools for tourism development, fisheries management, or academic research.

MPA proposals in Spain are usually accompanied by ecological or ecosystem studies, however, they often lack consideration for social, economic, or cultural issues in the proposed area. Too frequently initiatives in the step zero phase follow a top-down model with minimal involvement of local stakeholders, and usually the information available to the local inhabitants on the process is minimal. Also, in many cases the effort to include them in the institutional building process is nil. There are some relevant exceptions, where the local involvement has been strong and the initiatives have been bottom-up, but these are rare. These facts severely affect the images (Svein Jentoft, Chuenpagdee, Bundy, & Mahon, 2010) shared by the local population on MPAs and the level of acceptance by artisanal fishers.

As the Spanish cases show, the role of the State in the creation and implementation of MRFI, as well as other forms of MPAs, is vital for the empowerment of some stakeholders as opposed to others. We need to take into account the relationships that stakeholder groups maintain from the early stages of proposed MPAs, including the State role in the process, their ability to influence or facilitate the process, and their capacity to influence other user groups with different levels of power, urgency, and legitimacy (Mikalsen & Jentoft, 2001). In this sense it is also necessary to

take into consideration the linkages that may arise between stakeholders in order to analyze the governability of an MPA.

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Corresponding author:

Raquel De la Cruz Modino, Instituto Univeritario de Ciencias Politicas y Sociales, Universidad de La Laguna, Tenerife, Spain.

Telephone Number: + 34 687 478027.

E- Mail: raquelmodino@gmail.com