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The Spanish Mediterranean fishing guilds (Cofradías): An example of collaborative management with a key role in sustainable fisheries

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# **Abstract**

The management of Spanish coastal fisheries is based on a mixed model where the centralised action of the Government is combined with the self-organisation of fishers in *cofradías* (guilds).

These institutions have economic and political functions, intermediating between the State and the fishing sector and mediating in the conflicts that may occur. They also have welfare and mutualist tasks. This original and traditional co-management model is part of the social capital of traditional Spanish fishing.

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The aim of this paper is to explore the possibilities of these Spanish fishers' organisations in order to improve the legitimacy of the fishery system and the sustainability of fisheries. Our hypothesis is that updating and adapting some aspects of the *cofradías* model could produce efficient forms of collaborative management and lead to improvements in the sustainability of fisheries. To validate this hypothesis the study analyses 69 face-to-face interviews in 21 Spanish—Mediterranean guilds. The analysis will focus on three core aspects: the control of fishing resources; the integration of fishing knowledge in the management system; and, finally, the guilds contribution to the legitimacy of the system in the eyes of the fishers.

#### Introduction

The crisis in the European Union (EU) fisheries reveals a management crisis. The uncertainty surrounding biological stock assessment adds to collapse in confidence in the centralized regulatory systems (Crean and Symes 1996; Suárez de Vivero and Rodríguez Mateos 2005; Raakjær 2009).

Traditional fishery management has failed—not always, but often—to provide incentives for those who fish to do so efficiently, thus provoking over-exploitation, detrimental fishing practices, and environmental degradation (Jentoft 2000; Khalilian et al. 2010; Stephenson et al. 2016; Pita et al. 2016).

Institutions and researchers are working to develop new models of fishery management in order to replace the top-down approaches with a broader and more complex management model that encompasses multiple disciplines and objectives (Cochrane and García 2009; Kooiman et al. 2005; Röckmann et al. 2012). Co-management (Pomeroy and Rivera-Guieb 2006), adaptative management (Artmitage et al. 2007), stakeholders theory (Mackinson et al. 2011), and community-based management (Pomeroy 1995; Cox et al. 2010), to name but a few, explore some of the alternatives and all of them claim that it is necessary to involve all relevant stakeholders—especially fishers and their representative organizations, but also institutions and agencies concerned with managing the resource, dependent industries, non-governmental organizations, scientists, etc. In

this paper, the term "collaborative management" does not refer to a specific management model but, instead, to the joint participation of the agents involved in the decision-making process. In any event, the knowledge, authority, and responsibility shared among stakeholders and government administrations have now become key elements in social and ecological sustainability (Kosamu 2015).

In this line, EU Common Fisheries Policy has introduced important changes into the fishing management structure. The 2002 reform introduced Regional Advisory Councils (RACs), looking for a greater stakeholder involvement. The 2012 reform highlights the need for prioritising increased comanagement and participation of fishers in the decision-making process. This is done by boosting local and regional strategies that respect the uniqueness of fisheries and stakeholders, while, at the same time, rejecting a single management model (European Commission 2013, 2014). The idea behind the establishment of the RACs is that it will attract a greater variety of interests and expertise from the field, connected to fisheries activities, thus giving the fisheries management greater legitimacy.

In particular, these initiatives focus on three points in which the fishery crisis manifests itself in particular: over-fishing, the integration of different kinds of knowledge, and the legitimacy of the system. Regarding the first point, suffice it to say that 80% of the world's fish stocks, for which information on evaluations is available, are already overexploited (FAO 2016). Regarding the second point, there is a lack of research integrating the knowledge of local stakeholders with that of the scientific community. However, different studies have found that knowledge devaluation and skepticism is mutual between fishers and scientists (Charles et al. 2001; Martínez-Novo et al. 2018). All this leads to the third point mentioned: a lack of legitimacy and credibility of the fishing system, which leads to local resource users not feeling represented and often resisting or obstructing administration initiatives (Jentoft 2000; Herrera et al. 2015)

In short, the European fisheries policies are failing to achieve the sustainable management of fish stocks from environmental, economic, and social viewpoints. One of the reasons for this shortcoming is an over-centralised and unresponsive "top-down" decision-making process (European Parliament 2012).

The main objective of this paper is to investigate the possibility that an historical institution, such as the Spanish fisher's guilds (*cofradías*), could contribute suggestions and initiatives that lead to mitigating the fishing crisis that we have outlined. Our hypothesis is that updating and adapting some aspects of the *cofradías* model could produce more efficient forms of collaborative management and achieve improvements in fisheries sustainability. For discussion, there will be a brief analysis of these institutions and the role they currently play in fisheries management. Next, the way in which the Spanish–Mediterranean guilds confront the three critical points mentioned above will be covered: the control of fishing resources; the integration of fishing knowledge in the management system; and, finally, their contribution to the legitimacy of the system. This is supported by a qualitative analysis of interviews with fishers and managers of the guilds.

### Materials and methods

The Spanish Mediterranean is characterized by having mixed, multi-specific fisheries with high commercial value (82,999 tonnes live weight worth €268,831 million in 2013), which encompasses about 29% of the Spanish national fleet and accounts for 30% of employment in the fishery sector. Over 55% of the ships are artisanal and work less than 90 days per year. The next most important vessels are: trawling (27%), purse seine (9%), and fishing line (MAGRAMA 2015).

Most of the fleet is made up of small family businesses. The skipper is usually also the boat owner, usually accompanied by two or three sailors who are almost always relatives. At the same time, they are all guild members. There are 67 guilds in Spanish Mediterranean with close to 5,500 workers.

The main body of the empirical material from our study is comprised of 69 face-to-face semi-structured interviews of skippers, sailors, managers and guild presidents (main skippers) in 21 guilds. Except for three female fishers, the interviews were conducted with men, which reflects the important gender bias in the sector<sup>1</sup>. For our sample, we have taken guilds of a size with between 5 and 89 boats. All of them have a fish market except one. Approximately 60% of the boats use traditional fishing gear, followed by trawlers, and finally a very small proportion of purse seine and longline fishing boats, in line with official statistics. The number of interviews is not determined by statistical significance, but by the saturation point of the discourse. The representativeness of the sample is confirmed when, from a certain number of discourses, one more does not produce new information relevant to the subject matter. In any case, guilds were selected to reflect the huge variety of guild size and fishing gear employed (Table 1)

Table 1:

Number of total guilds, guilds analysed and interviews performed on each region.

Regions	Guilds (total)	Guilds analysed	Face to face interviews			
			Managers	Main skipper	Skippers	Sailors
Catalonia	33	8	4	6	9	6
Valencian Community	22	7	5	7	6	5
Murcia	4	2	2	1	2	1
Andalusia	8	4	3	3	6	3
Total	67	21	14	17	23	15

<sup>&</sup>lt;sup>1</sup>Although female fishers can be found in the ports we analysed, their institutional presence is scarce (around 3%; MAGRAMA 2015) because traditionally they work unofficially and therefore are barely visible.

Figure 1:

Geographical location of the analysed guilds in the Spanish Mediterranean.



Semi-directed interviews (n=69) were conducted from March 2016 through July 2017. Informants were selected using snowball sampling methods: the researcher accesses informants through contact information that is provided by other informants, who in turn, contact other fishers, and so on (Noy 2008).

The interview protocol consisted of a list of topics to be addressed according to the objectives of the research and based on guidelines for a collaborative management<sup>2</sup> (Hoggarth et al. 1999; Ostrom 2009; Long et al. 2015). The interviews followed a pre-established scheme that was flexible enough to allow for the inclusion of additional fishers' reports. In addition to general questions about personal information (age, years working in fishing, fishing gear, role within the guild, etc.), questions focused on: stakeholders' fishery practices; their different relationships and

<sup>&</sup>lt;sup>2</sup> The term "collaborative management" does not refer to a specific management model but instead, to the joint participation of the agents involved in the decision-making process.

perceptions of other stakeholders; their perspectives and opinions about the fishing regulations and the management system; and issues directly linked to the guild (e.g. structure, operation, services, relations, problems, etc.). Such questions were used to identify and explore the possibilities and limitations that guilds and their members can offer for more sustainable management, and to provide a framework within which to examine the hypothesis.

All the interviews (each approximately 45 minutes long) were conducted in person and recorded and transcribed for the subsequent encoding of the data using the Atlas.ti5 tool (Friese 2012), which allowed for the pooling of quotations, assignation of codes and creation of families and networks. The responses were analysed with specific discourse analysis techniques (Weiss and Wodak 2003; Keller 2005.) In addition to obtaining direct information from the answers, it is intended to access the non-superficial register of the discourse, revealing the latent assumptions of the informants and their capacity to create new meanings. The meaning of a word is not only as defined in dictionaries, but is something open that only acquires concrete meaning when used in a certain way and in a certain context (Wittgenstein 1988). Thus, for example, a phrase as simple as "we are the guild, the fishermen" is not limited to giving a definition of what the guilds are, but also speaks of an identification—or absence of distancing—between the subject of the statement (the fisher) and the institution of which is spoken about (the guild). This is precisely a characteristic feature of the legitimacy of an institution. Therefore, the analysis of the discourses allows us to add a living description of what the guilds currently represent for their members and how the role they could play in fisheries management is understood by the fisher.

# The Spanish Guilds

Analysing the fisher's guilds, found along the Spanish Mediterranean coast, requires difficult and complex research, which has yet to be carried out due to a lack of studies and data as well as the great differences among the guilds. The wide variety of these guilds is due to their capacity to adapt to changes and different local political and ecological conditions that have occurred over time.

From the Pyrenees Mountains to the Rock of Gibraltar, current fisher's guilds have their roots in both religious and professional medieval institutions. Throughout the modern era, guild institutions suffered serious changes to their privileges and autonomous status (Shaw and Díaz 1988). In the 16th century, the fishing guilds adopted the structure of professional guilds and corporations. The 18th century saw the rise of a bigger state presence in the lives of the fishing communities. The guilds lost their exclusivity in managing fishing in their territories, giving rise to a type of co-management between guilds and the State. Throughout the 19th century, influenced by economic liberalism, attempts were made to limit or totally eliminate the fishing guilds, which were considered products of an outdated system, obstructing modernity and free competence. In 1873 guilds were finally abolished and became free associations of producers and skippers or charitable associations (Alegret, 2016).

During the first third of the 20th century, the State supported the existing fishing associations and even promoted the creation of new ones, recognizing the social welfare role they played (Florido del Corral 2002). Under the Franco regime (1939–1975), their role was redefined under the single trade union and political party at the time, which implied a loss of their independent and vindicatory attitude (Fernández 2008). Rather, they became simple social welfare offices. In the final third of the century, the guilds were incorporated into the general framework of the institutional and political democratization (Florido del Corral 2003). They were affected by two key events for the fishing sector: a radical reform in the way the State was politically and territorially organised (the new 1978 Spanish Constitution), going from being a centralised structure to a highly decentralised one (Autonomous Communities), and its entry into the European Community in 1987. The European institutions have assumed an important part of the State fisheries jurisdiction, and the Autonomous Communities have exclusive power to legislate the fishing guilds in their own territories. Therefore, fisheries are now subject to regulations, not always coherent, from many levels: local, regional, national, European.

The current Spanish Law 3/2001, of 26 March<sup>3</sup>, regarding State Marine Fisheries, recognizes the traditional implementation of fisher's guilds on the coast and, in Article 45, defines them as "non-profit public corporations representing economic interests which act as bodies for consultation and cooperation of the competent authorities on maritime fisheries and fishery management."

Spanish central and regional governments establish the general regulatory framework for the entire fishery management system while it is the fisher's guilds themselves that organise and govern resources as well as communicate their sector's requests and demands to the government (Alegret, 1999).

From this general framework, regarding the four Mediterranean regions analyzed in the study, some main legal differences among them can be pointed out. Andalusia regulates its fishing guilds by the decree 86/2004<sup>4</sup>; in this region there have been several attempts to instigate, with varying degrees of success, new corporative formulae, such as Groups for Fisheries Development, or previous attempts to boost the trade unions' role (Florido, 2008, Maya-Jariego et al., 2016). In Catalonia, the guilds are regulated by the law 22/2002<sup>5</sup>, which recognizes their role as associative entities. It establishes the possibility for the guilds to form producer organisations (PO)<sup>6</sup> within their structure, with the aim of involving the fishers in the commercialization of their products. In the Murcia region, the law 2/2007<sup>7</sup> regulates maritime fishing and aquaculture as well as the fishing guilds; the producer associations were regulated under a different article without establishing possible mutual relationships. Finally, the Valencian community has recently modified its fishing law (law 5/2017) that recognizes the existing guilds and requires some changes to their current charters. This law also

<sup>&</sup>lt;sup>3</sup>State Marine Fishery Law: Law 3/2001, of March 26th. BOE (State Official Gazette) number 75. Available: <a href="https://www.boe.es/buscar/doc.php?id=BOE-A-2001-6008">https://www.boe.es/buscar/doc.php?id=BOE-A-2001-6008</a>

<sup>&</sup>lt;sup>4</sup> Andalusian Decree 86/2004 of march 2nd, about Fishers Guilds and their Institutions. Available: https://www.juntadeandalucia.es/boja/2004/52/3

<sup>&</sup>lt;sup>5</sup> Catalan Law 22/2002, of July 12th of Fishers Guilds. «DOGC» n. 3684. Available: https://www.boe.es/buscar/pdf/2002/BOE-A-2002-15890-consolidado.pdf

<sup>&</sup>lt;sup>6</sup> Producer organisations are officially recognised bodies set up by fishery or aquaculture producers. They play an essential role in running the European Common Fisheries Policy.

<sup>&</sup>lt;sup>7</sup> Law 2/2007, of march, 12th, of Marine Fishery and Aquaculture of Murcia region. Available in

mentions producer organizations in a different chapter, referring to them as a complement to the "traditional reality" of guilds.

To summarize, the guilds are very heterogenic institutions both historically and geographically. These fishing associations have survived a multitude of historical events thanks to their ability to adapt, including the current attempts to transform guilds into producer organizations encouraged by the European Union (Alegret 1999). In fact, there are only 6 POs compared with the nearly 70 guilds found along the Spanish Mediterranean Coast. Despite all this, fishing guilds have survived up to present times, maintaining many of their original features while adapting others to ever-changing political, economic and ecological conditions.

In spite of their diversity, certain common characteristics with regard to their internal structure, functions, and economic resources can be highlighted (Table 2), but more than

Table 2. Spanish Guilds. Common Characteristics.

	Members	- Ship-owners			
		<ul><li>Fishers</li></ul>			
Structure	Governing bodies	<ul> <li>General Board or Assembly: this body is comprised of an equal number of workers and ship owners chosen through free and anonymous universal suffrage of its members. This board chooses the members of the council, agrees on its liquidation or federation, modifies bylaws, agrees on the transfer or purchase of real estate, approves annual budgets and determines fees and special levies.</li> <li>Council or Permanent Commission: chosen by the General Board, the purpose of this entity is to maintain equality between ship owners and workers. It is the guild's management and administration body.</li> <li>Main Skipper: this figure is chosen from and by the General Board members. They manage the guild and preside over the different boards.</li> </ul>			
Functions	<ul> <li>Distribution, control and first sale (via Dutch auction in fish markets) of every fish caught in their area.</li> <li>Management of labor and administrative procedures of their members. Applying self-imposed measures on their fishing resources, gear, schedules, etc.</li> <li>Ensuring compliance with regulations.</li> <li>Providing other services: diesel, ice, social services, health services, etc.</li> </ul>				
Economic Resources	<ul> <li>Fees or special levies from their members (between 3% and 5% of the market sales).</li> <li>Income and benefits from their assets.</li> <li>Gifts, bequests, grants and subsidies.</li> <li>Contracted or arranged services (renting of their facilities, marine tourism, etc.).</li> <li>Grants or allocations from the State's General Budget (Ministry of Agriculture, Fisheries and Food, through the General Secretariat of Marine Fisheries).</li> </ul>				

their structure or function, for the propose of this paper, it is interesting to note that guilds, under the general laws (at a European, national, and local level), can establish their own rules to control their specific area of influence (control of fishing seasons, banning of fishing gear, acceptance or suspension of members, systems of penalization of transgressions, etc.; Franquesa 2004; Frangoudes et al. 2008). In the following sections, some of these initiatives, more closely related to the aim of this paper, will be analyzed.

# Results and discussion

Although some progress has been seen in the move towards a more integrated planning and coastal management approach, little progress has been made in solving the ecological and social problems that arise (Soriani et al. 2015; Ariza et al. 2016). In this sense, guilds could take action on the underlying causes of the three critical points, as mentioned at the beginning of this paper: (1) fishery over-exploitation and control of access to resources, (2) disassociation of information and knowledge from decision making, and (3) discrediting the fishery system. For each of these issues, the fishers' perception has been analysed and the contribution the guild could offer, with regards to a possible solution, is discussed.

The excerpts shown below reflect some of the ideas that are repeated over and over again in the interviews, as well as those that, although more exceptional, could point towards certain tendencies not yet crystallized in the collective. In the excerpts, transcribed literally, we highlight in bold those expressions and / or words of the interviewees which are key to their analysis<sup>8</sup>.

### Control of access to fishery resources

Overfishing is the main cause of the fishery crisis. In fact, fishers recognize the importance of resource conservation in addition to implementing measures aimed at ensuring this conservation.

Resources must be appreciated, and the fishing sector needs to be prepared to reject short-term benefits in order to ensure long-term profits. Control of access to fishery resources is customary within guild practises such as setting minimum sizes, quotas, closed seasons, fishing hours, etc. In an interview, one skipper said the following:

<sup>&</sup>lt;sup>8</sup> We are aware of the difficulties involved in translating into English forms of expression typical of fishermen's language; we have tried to keep as closely as possible to their literal expressions in order to be able to proceed with a rigorous analysis of the discourses.

"Because then [25 years ago] there is [sic] plenty. We thought it was a good idea to set a quota, because we used to crash the market and, among us, the guilds, especially the one here in Gandia, it is the one that decided to set a catch quota and worked for us at that time because we got the same money for less kilos without exploiting resources" (Skipper-small scale 5<sup>9</sup>).

Another skipper commented:

"We have limited hours. If they go out earlier (because we have a guard from the guild at the departure point), they get a fine. And if you are back later than half past five, the next day you start later. That means we control us ourselves. We don't need anybody. Do you understand?" (Skipper-small scale 20).

The above fisher does not mean direct economic sanctions when he uses the word "fines", but rather an internal social sanction that could sometimes have economic effects.

"If there is an agreement and one fisherman breaks it, that Board tries to take a remedial measure strong enough so no one does it again. Then, if someone fails to comply with it, the sanction is quite serious. For instance, with jellyfish. There is a jellyfish problem here. Every summer we have a raffle to assign the boats that are to take charge of collecting tasks. So, if you break any of the agreements about any fishery, one of the sanctions is, for example, that you won't be able to access the jellyfish and that affects your economy" (M- 12).

Since collecting jellyfish is remunerated and although the guild cannot impose a fine in this case because "jellyfish trading is legal," it can, however, choose to not include a captain in the raffle "and this affects your economy." Thus, the guild can circumvent the law and keep its internal

<sup>&</sup>lt;sup>9</sup>When mentioning each interviewee, we refer to their position in guild: Manager (M-1, M-2...) or President (P-1, P-2...). Fisher's quotations are identified by the gear they usually use.

autonomy and cohesion. Nevertheless, their sanctioning capacity (direct fines) is, in fact, very limited:

"The guild can impose sanctions, but it is a bit complicated. To impose sanctions a meeting must be held, the guy has to be sanctioned, a consensus has to be reached there, it has to be taken to the National Federation of Guilds<sup>10</sup>. It is a bit difficult, complicated, for the guild to sanction directly itself." (Skipper-trawler 9)

In the instances when social sanctions are not effective, they ask for the government to intervene. In these cases, guilds appreciate the need for cooperation. They can provide information and the administrations can carry out the measures:

"But they have laughed at the guild. (...) The administration must do something. When there is a problem, the guild reports it to the administration: listen, look, this boat is going over there...! It has been told once, twice, 'hey listen, don't do that...' and the third time, if you are laughing at us we call the inspector and..., you know, if he catches you...he goes after you." (P-16)

Guilds indicate that EU policies have developed these types of rules based on those the guilds themselves have already established to control access to fishery resources. However, they do not boast about it but rather they denounce the perverse effects that follow turning their precautions and restrictions (which are local and temporary) into laws (which are general and permanent).

"They [the administration] have basically taken our rules [from the guild] and have made laws. Because we decided to raise the size of clams and tellinas (little shells) so they can be more sellable. Then, they took it as a rule and it's become the obligation of

<sup>&</sup>lt;sup>10</sup> The National Federation of Guilds includes the majority of the Spanish guilds and acts as a conduit between them and the Spanish Administration with regard to sea fishing.

making them the size they impose on us. What happens now is that, for some time now, since clams are not only caught here but they also come from Italy and the Adriatic, there the European Community has set some sizes, a minimum size, (...) there it is 22, that is what they use, 22 mm from the axis. Here, for whatever reason, they aren't so big, because the sea here is more enclosed. Here, most of them are 20 more or less, but there are more of them." (P-4)

What began as an internal agreement inside the guild, which was in line with the local variations of the resource, the regulations now "come" from outside and become general "obligations" that ignore the specific conditions of each location: "here the sea is more enclosed".

To summarize, fishers provide many examples of their own control over resources via the guilds. Moreover, they feel that public policies regarding this area are often inspired by measures previously tested by the guilds. Nevertheless, they denounce that, paradoxically, when their local rules are translated into general laws, self-control becomes hetero-control and loses effectiveness or even causes results opposite from those that were expected. Since those controls that fishers respected before, when "we controlled ourselves", are considered to be illegitimate ("they are imposed on us"), they now feel that circumventing and disobeying rules (Herrera-Racionero et al. 2015) that were once accepted is justified<sup>11</sup>. One fisher expressed his opinion with regard to EU imposing such regulations:

"Laws, laws, inspectors, Civil Guards... then what do they [fishermen] do? They put out more net and in some cases they are going overboard. (...) But it's very difficult to catch them, very difficult. And the guild hasn't... it's not their job. It can legislate on fish, but not on nets and all this, and of course, although I knew it... Everyone does it, absolutely

<sup>&</sup>lt;sup>11</sup> The fishers do not try to shirk from their responsibility with regards to over-exploitation. Even though they consistently refer to what "others" do, non-compliance appears in all the interviews carried out. See Herrera-Racionero et al. 2015.

everyone. Here we all know each other. It is assumed that there are rules to follow, but there aren't any means to enforce them." (Skipper-small scale 18)

However, this gap between those two different types of institutions does not prevent fishers from demanding cooperation between them. Thus, they see certain measures such as increasing and facilitating the guilds' sanctioning powers and/or coordinating the execution of this power by the Administration with inside information about breaches that the guild is aware of positively.

## Integrating fisher's information and knowledge into the decision-making process

The long-lasting survival of the guilds is largely due to the fact that they are the collective keepers of local fisher's knowledge. Through the guilds, this accumulated knowledge becomes shared knowledge, establishes a collective memory, and passes down through generations.

Traditionally, this knowledge has been ignored, if not scorned, by other stakeholders who saw scientific, biological, or economic knowledge as the only true and useful knowledge, hindering a true dialogue. By integrating both scientific and traditional knowledge with regards to the decision-making process, greater interest is generated (Raymond et al. 2010; Corral-Quintana et al. 2016; Jentoft 2017). Scientists, managers, and even the fishers themselves have expressed the need to link their respective knowledge.

Local fishing knowledge encompasses very different but strongly interconnected records: the space in which to fish (benthic and pelagic routes, places identified by names, benchmarks, resources, seasonal conditions, exploitation rates, etc.); different species of fish along with their behaviour and environment; meteorology related to navigation and the fishing calendar, etc. The practical and locational dimension of this local knowledge gives fishers a remarkable level of control over a complex and ever-changing environment that cannot be found in scientific knowledge.

"The sea is a mystery. Because it's influenced by the environment, the plankton, by everything! Biologists come for two weeks, three weeks, to the sea...But what about the tuna? And I say, let the biologists come and see it! And then, I can be told 'you are a liar, you are lying,' but show me! However... do you know about the slaughter there was? Tuna was endangered. Now it's just the opposite, now there is too much. What happens? That the tuna eats the fish we catch. The sea is infested with tuna, and we are losing squid and mackerel, and we have our theory, the sardines are so skinny because they are always running away from the tuna. And it isn't understood." (Skipper-small scale 22)

Daily observation provides fishers with privileged knowledge about changes in the sea.

Furthermore, this knowledge interrelates behaviour among species (tuna and sardines, in this case) as well as with the environment. According to them, these features differentiates their knowledge from "the biologists" knowledge. The ironic reference to "our theory" about "sardines are so skinny because they are always running away from the tuna" shows both the group dimension of their knowledge ("our theory") and a certain implicit recognition that their practical knowledge is insufficient and needs to be completed with scientific knowledge: "let the biologists come and see it!" because it's something that " isn't understood".

The following two quotes elaborate on the local importance of this practical knowledge based on collective memory while, at the same time, extending the extent of their relationships:

"Well, that has always been known; it's known. There are always more fish the closer you are to the mountains under the sea. Then, there are places where we have always fished, grandfathers have passed them on...we call them 'senyes,' there are signs..."

(Sailor-small scale 2)

"I went with my father and my father told me: let's hang there, at *llit de l'Alguer*. And well, ok. And we have gone and you say, 'Why don't we go tomorrow?' and he says, 'Because it's already dark, because the moon has already gone by (...) And then they don't want to go there any more (...) It seems that yes, you catch fish when the moon is right phase.' " (Skipper-small scale 23)

Fishing by signs, which depend on the topography of the seabed or the influence that moon phases have on species behaviour, connects them with geological and astronomical knowledge that expert information usually keeps strictly apart. But there are other behaviours that are beyond the holistic capacity of interpretation, typical of local knowledge:

"Fish have now ... the climate change; the fish you know that in winter are in their place, [now] you don't catch them [because they aren't there]; and in summer [now] you catch them in hot water. And fish go crazy. Cuttlefish lay eggs in spring; well, we have seen cuttlefish eggs in September or November, already hooked on the net. Come on, we can't be guided by written rules, we go behind the fish as they swim, and such." (Skipper-small scale 18)

In addition to corroborating the importance given to carefully detailed observation found in their knowledge, the extract above indicates another basic difference between it and the underlying fishing regulations. Along with its previously mentioned holistic character, the fisher's knowledge is locational and adapts to changes: "We go behind the fish as they swim". This is consistent with their way of communication: oral transmission of conversations among themselves allows for continuous review and updating. On the contrary, for them, the expert knowledge and regulations that are guided by it are much less adaptable to change. Therefore, "we can't be guided by written rules." However, fishers themselves acknowledge that the flexibility and adaptability of their way of knowledge has its limits such as, for example, what happens when "fish go crazy."

Once the basic differences between traditional fishing knowledge and scientific knowledge and the presumed complementarity between them have been confirmed, considering the need to integrate both with regards to the decision-making process gains greater interest. In fact, we have detected an evolution of the fisher's attitude in this area. From general rejection just some years ago (Herrera-Racionero et al., 2015), fishers now seem to be more open to a certain level of cooperation. This can be seen in the previous quote in which the fisher refers to a "climate change" which is beyond his practical knowledge. Moreover, it can also be noticed in the following complaint in which the biologist did not reciprocate the cooperation offered by the fisher (see Martinez-Novo et al. 2018):

"Some biologists have come with me, we've taken samples of sand, I went to the *tellinas* (little shells) and they've taken *tellinas* to analyse. I've brought them water to analyse from different areas ... What's the problem? They don't tell you anything.

Now...I would have liked if they had told us something." (Skipper-small scale 5)

If this change in the fisher's attitude were confirmed, in addition to their willingness to integrate their information, knowledge, and own resources with what experts and technicians can provide, guilds could be appropriate institutions to initiate a dialogue between the local knowledge of the fishers and the scientific knowledge of expert maritime knowledge centres (universities and research centres). This dialogue is essential for an effective collaborative management, without prejudice extending to the other stakeholders involved.

#### **Legitimacy Contribution to the Fishery System**

Along with controlling access to fishery resources and contributing valuable specific knowledge, let us consider now to what extent guilds' activities can help provide legitimacy to the fishery system. In order to analyse this point, Max Weber's (1978) conceptualization of the nature and the features that characterise a legitimate authority is fully valid. Power over others can be

exercised, according to this sociologist, by resorting to force or appealing to the support of those upon whom this power is exercised. This support or legitimacy can be achieved from three different sources or types of motivation. *Charismatic* legitimation comes from confidence in an individual leader to whom the group attributes special features (charisma). *Traditional* legitimation is motivated by an attachment to "customs and practices" from the past by which the community has been traditionally inspired. *Rational-bureaucratic* legitimation appeals to abstract rational arguments that lead to a respect of the law and a trust of a bureaucratic system in which such rationality is materialized. These three types of authority avoid the need to resort to brute force, which, if exercised, would reveal a lack of legitimacy found in certain types of power.

The problem of the legitimacy of the Spanish fishing system is played out in terms of the conflict between two basic forms of legitimacy: the traditional/charismatic legitimacy, to which the fishers appeal and which they identify with their guilds, and the rational-bureaucratic legitimacy, to which fisheries policies aspire.

The legitimacy that guilds have among fishers is, in an almost paradigmatic way, a traditional legitimacy. In our interviews, expressions such as those seen in the aforementioned extracts are constantly reiterated: "grandfathers have passed on..." "my father told me...", "that has always been known; it's known", "we say...", "we leave...", "we decide...", "we control us ourselves", "...fish we catch", "we can't be guided by...", "we, guilds".

The transmission from grandparents to parents and children encompasses a tradition that eventually disregards specific subjects (grandparents, parents, and children) and solidifies into an impersonal passive construction ("it is known"), the presence of which is anchored in the mists of time ("it has *always* been known"). The new collective subject, arranged in this way, is referred to using the "we", reiterated over and over again. Moreover, that "we" is gradually and metonymically condensed into the different subjects to which it is updated: fishers in general ("we can't be guided by ..."), fishers from some coastal area ("we say..."), the guild ("we control ourselves "," we, guilds")

or the crew of a particular boat (" we leave ... "). This makes up the identity of each individual fisher and guides their practices and values. Additionally, within this network, the guild plays a key role. The guild is both the physical space and the symbolic place that links the fisher to the tradition that makes them what they are as well as to the different layers of "us", with which they are identified from time to time. The following fisher expresses it categorically, "Without guilds this will sink... And the guilds are us, fishermen" (Skipper-small scale 13).

If guilds have almost a seamless legitimacy among fishers, the management authorities, however, suffers from an extreme lack of legitimacy. Nonetheless, this discredit is attenuated by the progressive proximity of the institution (e.g. European, national, regional, and municipal administration). Rational-bureaucratic legitimacy appealed to by the different administrations not only does not garner support among fishers, but actually often leads them to an almost total rejection:

"It's easier to struggle with the sea than with the administration. Because we understand and see the sea, we have a lot of respect for it. Even if sometimes we head out with a lot of bad weather, but you know what to expect, you're used to it. But this, the administration... you feel tremendously helpless, because if an inspector comes and he isn't having a good day, he really sticks it to you! you can't do anything about it" (P-9).

The warlike framework in which this fisher places his relationship with the administration would be unheard of within any guild. The perception of this relationship as a struggle expresses the most extreme lack of legitimacy; resorting to power by force and the consequent feeling of helplessness in the governed. Moreover, the analogy established here between the struggle with the sea and the struggle with the administration is significant.

Although both share the same warlike framework, the first is perceived as being a noble struggle, a power-to-power fight; there is an understanding with the sea ("we understand it"), proximity ("we see it") and recognition ("we have a lot of respect for it"). By analogous opposition, it is implicitly deduced that there is no understanding, proximity or respect found in the struggle with the administration. It is not even a power-to-power fight: "you feel tremendously helpless (...), you can't do anything" (see Herrera-Racionero et al. 2015).

In some of the above quotations, the reasons fishers use to explain the Administration's lack of legitimacy can be seen. One of them comes down to the distinction between rules (issued by the guild) and laws (enacted by the Administration). "Our rules" are seen as legitimate (for the reasons discussed above). However, when the Administration "has made them laws" the fishermen no longer see them as their own because the laws' general nature overlooks their local unique elements and becomes an "obligation" that "they impose on us" coercively. This distinction between rule and law is materialised in their respective ways of being issued. A Law is a "written regulation" and the static nature of writing does not allow it to adapt to changes of the "fish as they swim". The guild's rules, on the other hand, that emerge from the fisher's experience is verified orally every day and can indeed be permanently readjusted to the continuous changes of the marine environment.

Other fishers feel that the administration's express hostility toward them is the cause of that illegitimacy:

"We get slaps everywhere. The administration is interested in our extinction. They aren't interested in us working; the wharf is working for the foreign fish. It's all about the Mediterranean diet... but in restaurants the fish [comes] from California. I am willing to wake up every day at 4 am to be a thief" (Skipper-Trawler 22).

The conviction of this fisherman that the administration's interests are opposite to their own is extended with ironic comments about a Mediterranean diet based on Californian fish. Moreover, it ends with a firm declaration of disobedience ("I am willing (...) to be a thief"), which is the greatest

expression of illegitimacy. Additionally, a manager from a Barcelona guild implies a complete warlike strategy against guilds within supranational fishery policies (EU policies) and international strategies (Food and Agriculture Organization of the United Nations [FAO]):

"That's part of the Brussels' game, and we swallow it as if we were tuna reaching for bait, to divide the fishery sector and cause confrontations. And that is being done in recent years, they are managing to make small scale fishermen [with trawling and seine] confront each other and they are told you are artisanal and that's amazing, artisanal is the future, FAO says it, Brussels says it and so on. And here you have the division between us all messed up..." (M-14).

Our study was indeed able to detect the occasional existence of divisions and conflicts within guilds in particular ports. Nevertheless, it is noteworthy how these conflicts immediately "disappear" when any agent from outside the guild arrives. Before the researcher who inquires about it, the fisher tends to minimize the division and, in any case, attributes it to that other external agent, which is metonymically concentrated in Brussels.

However, the fisher, who feels protected by their guild, feels that they are at a disadvantage against the rational-bureaucratic institutions. Therefore, apart from some emotional and fleeting "declaration of war," as we have just mentioned, he never stops expressing continuous demands calling for listening, negotiation, and understanding. This fisher's "I want" is one of many examples of it:

"I want our representation [the guild's] in Europe to listen to us; not politicians, who have not a damned idea of what this is. And that's what there is, we have no representation and those who represent us have no damned idea" (P-16).

This conflict between the traditional (guilds) and rational-bureaucratic (administration) legitimacy seems to be reversed in the only case we have analysed so far where a guild has been integrated in a PO. The manager of a PO from Almeria discredits the former guild on behalf of a business rationality that is the only source of legitimacy for him:

"It's this sector's idiosyncrasy right? Er... sometimes... the ship owner hasn't... understood yet the figure of the businessman, that the boat is a company. Nowadays, the ship owner is the skipper and he is just another worker on the boat. Then in this coastal fishing they don't have that businessman concept yet, right? They haven't come to terms with it. It's considered just another worker and this might be the mistake in many places. The ship owner has no sense of being a businessman, when what he owns is a company, because as I said, the boat...is a boat, a fishing boat as a company as such" (M-10).

The egalitarianism that has characterized the guilds from their inception has, according to this manager, made the "mistake" of not distinguishing between the ship owner (business owner), the skipper, and fishermen working on the boat. These three traditional figures are still resisting the hierarchy of roles and status that neoliberal policies are requiring from them: in these coastal fisheries, the "sense of being a businessman" does "not yet" exist.

However, it is very significant that this PO is the only example of a case in which we have found a fisher who discredits his local association:

"Almeria's fishermen guild...disappeared due to economic problems and such...so it disappeared. And in fact, well, then the association [PO] was set up and stays... publicly in this harbour, right? It represents ship owners' interests and I understand that the worker is also still a bit helpless because he hasn't got anyone to defend him. Because, before he had the guild, so... it worked" (Skipper-small scale 23).

It seems that the local fisher's association, when seeking out sources for their legitimacy within the legal-rational bureaucracy, pays the price of being discredited by their own fishers. This assumption, however, requires further verification. In any case, it is a paradox that the apparent opposition to state institutions does not prevent fishers from demanding the government's role in monitoring and enforcing the law in the face of diverse issues and conflicts. This is the case when conflicts arise from external agents and from within the collective, such as the following:

"And the poachers come out, they catch four kilos of fish, they sell them in a restaurant and, if they sell €60 or €70 worth, then it's money under the table for their house, without any expenses. There's where the police has to come in" (Minor art).

"The recreational fishers have never had any surveillance and have continued to work as they pleased. We get tired of asking Madrid for it" (Manager).

"There are more controls and I think it's a good idea. You don't deploy so many nets and then, little by little, you notice the difference. And in trawling, which is also the most destructive, there are many controls with noticeable effects..." (Minor art).

However, we can also observe in these cases the difference of attitude. When the fishermen consider that the damage comes from outside the group, their attitude is more resounding and aggressive; whereas when the conflicts are inside the guild, many of which in fact derive from the different fishing techniques they work with, the group perceives itself as having its own identity against that of the rest of the stakeholders (Herrera et al. 2015). In this way, the group reinforces its cohesion vis-à-vis the exterior, an exterior against which it tends to downplay its internal problems.

#### **Conclusions**

The fishermen's guilds are an institution with medieval roots but today they still have a leading role in the Spanish fishing system. In fact, the discourse of the interviewees seems to support our hypothesis that guilds can play an important role in fishing sustainability and in the legitimization or delegitimization of the policies that affect the sector, as demonstrated through the following:

- (1) As organizations, that are adapted to local environmental conditions, exercise effective control of access to fishery resources, guilds contribute to both adjusting and making general regulations more effective and to informing about the results observed from their own practices of self-monitoring.
- (2) As an institution where fisher's information and local knowledge is focused, verified, and disseminated, the guild may be the most appropriate interlocutor to complete and check expert knowledge, as well as being an important data source for the decision-making process carried out by higher political and administrative authorities.
- (3) As practically the sole organisation in which fishers have confidence and respect, guilds can transmit this legitimacy to the fishery system, as well as to hierarchically higher institutions provided that fisher's distrust in such institutions can be successfully eroded.

However, the potential contributions guilds can offer will only be possible if these organizations see recognition and provision of their valuable support. In other words, if the management of Spanish coastal fisheries is based on a real collaborative management, then the guilds have a key role to play. Regarding the control of resources, it would be advisable to strengthen the guilds' authority with regards to exercising their own self-monitoring. A more receptive attitude towards their demands is needed by the authorities. As for the guilds' contribution to knowledge and information, it would be helpful if the vast amount of knowledge and experience they have gathered and verified was effectively recognized. In relation to the established

legitimacy shown among fishers, the individuals who actually carry out fishery policies could consider possible ways to institutionally integrate traditional sources of legitimacy. Here we have focused on checking the possible contributions of the guilds without paying attention to the shortcomings and difficulties that could also arise. The empirical material obtained offers examples of possible shortcomings that will be the subject of a complementary study to this one.

Along the Mediterranean, the guilds' structures and dynamics can be a source of inspiration for the development of collaborative management models in the fisheries. In areas where similar institutions already exist, even if there are fewer of them and they are less dynamic, it may be productive to establish an institutional dialogue among them. To do so would require significant general research in order to detect and compile all possible information on the subject. Where no local fishing organisation exists, the possibility of adapting the guilds' models to local practices and conditions could be studied, thus providing an effective institutional mediation between fishers and other stakeholders.

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