

Fisheries Management Institutions: Perceptions of Economics Agents in Galicia (Spain)

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Abstract. The object of this paper is to sound out the perception of economic agents on the regulatory mechanisms presently in force, and on others which are possible (fishing rights), with the objective of analysing the questions posed in the case of Galicia, Spain. We characterise in the first place the agents and the rules in the Galician fishing regulation, and from this we design a questionnaire to obtain the required information. The questionnaire is given to a significant sample of fishermen and companies of the sector, and is contrasted with the opinion of the nearest regulator. In the conclusions, we emphasize some points of agreement, such as the necessity of controlling the fishing effort, the transferability of fishing rights and their multiannual duration, emphasising that the latter aspects have rarely been experienced in Galicia.

Keywords: Fisheries Regulation, Institutional Economy.

1. INTRODUCTION

The success of a regulatory system becomes more uncertain with the greater complexity of a fishery. In general, it is more difficult to regulate multi-species fisheries, resources with complex bio-ecological relations and multi-fleet fisheries. Complexity also increases with the size of a fishery and the number of its members, and with greater mobility both of resource and of fishermen. (Arnason 1991, 1994; Wilen 1989; Townsend 1990; Hannesson 1994; Bjorndal 1992).

But, also, the possibilities of success depend on the existing institutions and on the social and political interaction under which it is applied. It is advisable that fishing administration develops credibility among the fishermen, and that they feel they are participants in the decision-making and regulatory processes so that they are applied with a high level of legitimacy. (North, 1990; Ostrom, 1990; Schlager and Ostrom, 1992; Jentoft and McCay, 1995; Gallastegui and Chamorro, 1997; Guillotreau, 1997).

In this sense, if the fishermen carry out their activity with a high degree of uncertainty and think that in future they will not be able to continue fishing (either due to changes in fishing policy, or for the predatory attitude of other insufficiently controlled fishermen), they will have a less respectful attitude toward the natural resource. The involvement of the fishermen in decision-making, in the

regulation and control, is therefore of maximum interest. The fishermen will have the incentive to involve themselves in these processes so long as they are guaranteed that they possess fishing rights respected by the rest of the fishermen, by the economic agents and by the administration.

One possible way to advance in these indicated directions could consist of the progressive implementation of individual fishing rights, both over a portion of the resource (quota), and over the capacity to exercise effort (licence). The defining of these rights would have positive effects: to eliminate uncertainty over who has fishing rights, to simplify the regulatory rules and more deeply involve the fishermen in the rational exploitation of the resource. (Neher, Arnason y Mollet, 1989).

The objective of this study is to sound out the perception of the economic agents over the regulatory mechanisms in force and over other possible regulations (fishing rights in the sense previously mentioned) with the aim of analysing the questions posed by the particular case of Galicia.

2. QUESTIONNAIRE AND SAMPLE

To accomplish our objective we plan the enclosed questionnaire, separating in it the evaluation of measures in force (Table 1: question 1) and other new possibilities (question 2, in some cases only partially introduced in Spain). In each question there are two boxes referring

successively to measures which affect, respectively, the control of effort and the control of production. In each case segments of the fleet are separated in/by function of

the fishing arts. Four degrees are offered to respond to each question.

TABLE 1. QUESTIONNAIRE

<p>1. EVALUATION OF REGULATORY MEASURES</p> <p>QUESTION: 1.1. In relation to present regulations, in your opinion, how effective are the following control measures of fishing effort? MEASURES ABOUT: Tonnage, length or power of the ship, size of mesh, length of gear, days at sea. EVALUATION: No effectiveness, little, enough, much.</p> <p>QUESTION: 1.2. In relation to present regulations, in your opinion, how important are production control measures? MEASURES ABOUT: TACs per year, daily quota, size of minimum catch, period of closed season, closed areas, limited discards. EVALUATION: None, little, enough, much.</p>
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<p>2. EVALUATION OF POSSIBILITIES OF REGULATION</p> <p>QUESTION: 2.1. Licences: If the regulatory organizations were to propose a new system based on fishing licences, evaluate whether or not some characteristics that this system could have are favourable. MEASURES ABOUT: Annual duration, multiannual duration, transferability among fishermen, connection to the area, restriction of inputs, control of effort. EVALUATION: None favourable, little, enough, very favourable.</p> <p>QUESTION: 2.2. Quotas: Evaluate the characteristics that this could have on the system. MEASURES ABOUT: Annual duration of rights, multiannual duration, transferability among fishermen, connected to the area, restriction of inputs. EVALUATION: Not favourable, little, enough, very favourable.</p>

REGULATOR	2
MANAGERS	16
FISHERMEN:	
Purse Seine	17
Coastal.....	15
Lines and gillnets	14
Trawl (Fresh).....	11
<hr/>	
Pelagic Long-line.....	17
Gran Sol fleet (EU grounds)..	18
Freezer ships	11
TOTAL	121

Those relative to fishermen were answered by ship-owners, captains and crews of ships which carry out fishing activity in some of those segments that are specified.

3. RESULTS

The results obtained acquire more significance when gathered under specific segments, according to the criteria already mentioned. In this way, given the type of questionnaire and the design of the sample, the general results will have significance in situations of a high level of consensus and unanimity, but not throughout the averages obtained in each response. For the presentation of the results we have established, therefore, three principal sections: regulators (Table 3), managers (Table 4), and fishermen in general (Table 5).

The sample is of 121 questionnaires, according to the composition in Table 2. The questionnaires of regulators correspond to those responsible for political and technical aspects of the fishing administration of Galicia. The questionnaires of ‘managers’ include directors and representatives of fishing associations.

Table 3: Regulators**1. Evaluation of regulatory measures****1.1 Control of effort**

	Type of ship	Mesh size	Length gear	Days at sea
Gillnet	B/M	B/M	B/M	B/M
Trawl	B/M	B/M	B/M	B/M
Purse-seine	B/M		B/M	B/M
Pelagic-longline	B/M	B/M	B/M	B/M
Demersal-longline	B/M	B/M	B/M	B/M
Coastal				

1.2. Production control

	TAC	Daily quota	Minimum size	Closed season	Closed area	Discards
Gillnet	B/M		B/M	B/M	B/M	B/M
Trawl	B/M		B/M	B/M	B/M	B/M
Purse-seine	B/M	B/M	B/M	B/M	B/M	B/M
Pelagic-longline	B/M		B/M	B/M	B/M	B/M
Demersal-longline	B/M		B/M	B/M	B/M	B/M
Coastal						

2. Evaluation of possibilities of regulation

		Annual duration	Multi-annual duration	Transferability	Connected to area	Restriction of inputs	Effort
Licences	Gillnet	N/P	B/M	B/M	B/M	B/M	B/M
	Trawl	N/P	B/M	B/M	B/M	B/M	B/M
	Purse-seine	N/P	B/M	B/M	B/M	B/M	B/M
	Pelagic-longline	N/P	B/M	B/M	B/M	B/M	B/M
	Demersal-longline	N/P	B/M	B/M	B/M	B/M	B/M
	Coastal						
		Annual duration	Multi-annual duration	Transferability	Connected to area	Restriction of inputs	
Quotas	Gillnet	N/P	B/M	B/M	B/M	B/M	B/M
	Trawl	N/P	B/M	B/M	B/M	B/M	B/M
	Purse-seine	N/P	B/M	B/M	B/M	B/M	B/M
	Pelagic-longline	N/P	B/M	B/M	B/M	B/M	B/M
	Demersal-longline	N/P	B/M	B/M	B/M	B/M	B/M
	Coastal						

B/M: enough or much

=: equal/the same

N/P:none or little

Table 4: Managers Of Ownership Associations**1. Evaluation of regulatory measures****1.1 Control of effort**

	Type of ship	Mesh size	Length gear	Days of sea
Gillnet	N/P	B/M	B/M	N/P
Trawl	B/M	B/M	B/M	B/M
Purse-seine	-	B/M	B/M	B/M
Pelagic-longline	B/M	B/M	B/M	-
Demersal-longline	B/M	B/M	B/M	B/M
Coastal	-	-	N/P	B/M

1.2. Production control

	TAC	Daily quota	Minimum size	Period of closed season	Closed area	Discards
Gillnet	B/M	N/P	B/M	B/M	B/M	N/P
Trawl	B/M	N/P	B/M	B/M	B/M	N/P
Purse-seine	N/P	B/M	B/M	B/M	B/M	N/P
Pelagic-longline	B/M	N/P	-	B/M	-	N/P
Demersal-longline	B/M	N/P	B/M	B/M	B/M	N/P
Coastal	N/P	N/P	B/M	B/M	B/M	N/P

2. Evaluation of possibilities of regulation

		Annual duration	Multi-annual duration	Transferability	Connected to the area	Restriction of inputs	Effort
Licences	Gillnet	N/P	B/M	B/M	N/P	B/M	B/M
	Trawl	N/P	B/M	B/M	-	B/M	B/M
	Purse-seine	N/P	B/M	B/M	N/P	-	B/M
	Pelagic-longline	N/P	B/M	B/M	N/P	B/M	B/M
	Demersal-longline	N/P	B/M	B/M	N/P	B/M	B/M
	Coastal	N/P	B/M	B/M	N/P	N/P	B/M
		Annual duration	Multi-annual duration	Transferability	Connected to the area	Restriction of inputs	
Quotas	Gillnet	N/P	B/M	B/M	N/P	N/P	
	Trawl	N/P	B/M	B/M	N/P	B/M	
	Purse-seine	N/P	B/M	B/M	N/P	N/P	
	Pelagic-longline	N/P	B/M	B/M	N/P	B/M	
	Demersal-longline	N/P	B/M	B/M	N/P	-	
	Coastal	N/P	N/P	B/M	N/P	N/P	

B/M: enough or much

N/P: none or little

-: imperceptible difference

Table 5: Fishermen**1. Evaluation of regulatory measures****1.1 Control of effort**

	Type of ship	Mesh size	Length gear	Days at sea
Coastal	B/M	B/M	N/P	N/P
Gillnets	-	B/M	B/M	B/M
Longlines	N/P	N/P	B/M	B/M
Trawl	B/M	N/P	B/M	B/M
Purse seiners	B/M	B/M	B/M	B/M
Pelagic longline	B/M	N/P	B/M	B/M
Grand Sol Trawl	B/M	B/M	N/P	B/M
Grand Sol longline	B/M	N/P	B/M	B/M
Freezers	B/M	B/M	N/P	B/M

1.2. Production control

	TAC	Daily quota	Min. size	Period of closed season	Closed areas	Discards
Coastal	N/P	N/P	B/M	B/M	N/P	N/P
Gillnets	B/M	N/P	B/M	B/M	B/M	B/M
Longlines	B/M	N/P	B/M	B/M	B/M	N/P
Trawl	N/P	N/P	B/M	B/M	B/M	N/P
Purse seiners	B/M	B/M	B/M	B/M	N/P	N/P
Pelagic longline	B/M	N/P	B/M	B/M	B/M	N/P
Grand Sol Trawl	B/M	B/M	B/M	B/M	B/M	-
Grand Sol longline	B/M	B/M	B/M	B/M	B/M	-
Freezers	B/M	B/M	B/M	B/M	B/M	B/M

2. Evaluation of possibilities of regulation

		Annual duration	Multi-annual duration	Transferability	Connected to the area	Restriction of inputs	Effort
Licences	Coastal	N/P	B/M	B/M	N/P	N/P	B/M
	Gillnets	B/M	N/P	B/M	N/P	N/P	B/M
	Longlines	B/M	-	N/P	N/P	-	B/M
	Trawl	B/M	B/M	N/P	N/P	B/M	B/M
	Purse seiners	N/P	N/P	N/P	N/P	N/P	N/P
	Pelagic longline	N/P	N/P	N/P	N/P	N/P	B/M
	Grand Sol Trawl	B/M	B/M	B/M	N/P	-	B/M
	Grand Sol longline	B/M	B/M	B/M	-	B/M	B/M
	Freezers	N/P	N/P	B/M	N/P	-	B/M
		Annual duration	Multi-annual duration	Transferability	Connected to the area	Restriction of inputs	
Quotas	Coastal	N/P	B/M	B/M	N/P	N/P	
	Gillnets	B/M	N/P	B/M	N/P	B/M	
	Longlines	B/M	-	B/M	N/P	B/M	
	Trawl	B/M	B/M	N/P	N/P	B/M	
	Purse seiners	N/P	N/P	B/M	N/P	N/P	
	Pelagic longline	N/P	N/P	N/P	N/P	N/P	
	Grand Sol Trawl	N/P	B/M	B/M	N/P	N/P	
	Grand Sol longline	N/P	B/M	B/M	N/P	B/M	
	Freezers	N/P	B/M	B/M	N/P	N/P	

B/M: enough or much

N/P: none or little

-: imperceptible difference

At the same time, we have established some sub-sectors with a series of fleet segments (purse seine, pelagic long-line, demersal long-line, trawling, coastal fishing, Gran Sol fisheries-EU grounds-, and freezers) obviously distinguishable technically and economically.

4. CONCLUSIONS

The traditional regulatory mechanisms (mesh size, ship and tackle characteristics, TAC and days of fishing) are effective instruments from the perspective of the regulators. The fishermen, in general, recognise their necessity or effectiveness but understand that they may be discriminatory and that they limit their business strategies.

In general it is admitted that licence and quota transferability may be a favourable mechanism for the regulation of fisheries.

Control of effort (in the case of licences) is a requisite evaluated positively.

Multi-annual fishing rights (licences and quotas) is considered a favourable factor.

Other possible characteristics or rights (linked to an area or restriction in inputs), regulators and managers regarded favourably, while among the fishermen there is a diversity of opinion depending on the fleet segment.

There is a notable degree of consensus among the different agents, especially in view of new possibilities of regulation, based on a greater definition of fishing rights.

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