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Alternative Management Systems for Fisheries**

**Alternative management models to deal with the
purse seiner crisis in Catalonia (Spain)**

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Abstract

In this paper we describe and analyse the different attempts carried out in the past few years in Catalonia, in the spanish mediterranean sea, to find alternative forms of management for the purse seine fishery, showing the myriad difficulties hidden behind each proposal, as well as the multiple problems that the adoption of any alternative measure will produce that implies changes to the role that the fishermen have traditionally played in the productive process.

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Fisheries management models for the Spanish Mediterranean have traditionally been based exclusively on the control of fishing effort. This is due to the multi-species nature of the fisheries and the large number of vessels spread along the coast which makes any attempt at alternative or complementary management through catch controls very difficult and costly.

The Spanish Government's fisheries policy in the 1970s prioritized the development of industrial fleets - trawls and purse seines - in detriment to the artisanal fleet which was considered marginal and in the process of dying out. From the beginning, a certain balance and complementarity was established between the trawl and purse seine fleets, possibly due to the type of species targeted by one or the other - demersal in the case of the trawl, pelagics for the purse seines - as well as the fishing patterns established - trawl during the day, purse seines at night. These characteristics have helped reduce the conflicts between them.

The purse seine fleet that targets small pelagics on the Catalan coast is having the most difficulty adapting to changes that are arising at all levels. Because of this, in the past few years attempts have been made to find new forms of management for this fishery, both by the traditional fishermen's organizations - the *Cofradías*, and the fisheries administration, although at the moment no solutions have been yet found that solve the problems of this fleet.

In this paper we describe and analyse the different attempts carried out in the past few years in Catalonia to find alternative forms of management for the purse seine fishery, showing the myriad difficulties hidden behind each proposal, as well as the multiple problems that the adoption of any alternative measure will produce that implies changes to the role that the fishermen have traditionally played in the productive process.

We have chosen the example of the purse seine fishery because we believe that it clearly demonstrates the way in which the application and general defense of a management model based exclusively on the control of effort (as in fishing in the Mediterranean) is beginning to prove to be unworkable. This is apparent, above all when it attempts to maintain the purse seine fleet, despite the many indicators that suggest it needs modifying, not only because in reality the purse seine is a monospecific fishery but also because it has no management element that allows for control of variables relating to the process of marketing of the catch, an essential element in this sort of fishery which is highly dependent on changes produced in the market.

Fisheries management of small pelagics in Catalonia

The purse seine pelagic fleet in Catalonia is second in importance to the trawl fleet.

Characteristics of the Catalan industrial fleet by fishing method. 1993 data

	TRAWLERS > 12m.	SMALL PURSE SEINERS	LONG LIGNERS	BIG PURSE SEINERS
Embarcaciones	335	168	54	4
TRB medio	53.20	30.08	12.34	102.39
CV medio	361.49	261.78	106.22	667.50
Eslora media	18.21	15.16	10.92	22.56

Source: DGPM, Register of the Fishing Fleet in Catalonia, 1994

The distribution of these vessels along the coast shows a certain concentration in the southern part of Catalonia, due, above all, to the richness of the area at the mouth of the River Ebro and also to the large cities such as Barcelona and Tarragona where the greatest number of vessels is concentrated.

Number of purse seine vessels. Average tonnage, power, length and crew by base port

Ports	N. of vessels	Mean GRT	Mean HP	Mean Length	Mean crew (*)
Port de la Selva	5	27.72	205.40	13.70	4.50
Roses	8	25.07	205.87	15.31	6.66
L'Escala	8	16.56	166.75	12.10	4.00
Palamós	8	28.38	354.37	13.41	12.30
Sant Feliu	11	38.62	269.27	15.79	8.46

Blanes	6	33.85	284.00	14.30	7.33
Arenys de Mar	13	30.08	258.15	17.04	14.83
Mataró	2	27.56	255.00	15.20	s.d.
Badalona	2	33.00	275.00	w.d.	7.55
Barcelona	48	27.23	248.77	15.58	13.60
Tarragona	26	33.18	291.61	17.23	12.46
Cambrils	5	30.34	310.00	s.d.	12.25
L'Ametlla	8	38.45	346.25	14.25	10.80

Source: DGPM, Register of Fishing Fleet in Catalonia 1994

(*) Source: Alegret & Nadal 1988

The main characteristic of this fleet is that it targets a monospecies fishery, alternating between two species of small pelagics: the sardine (*sardina pichardus*) and the anchovy (*engraulis encrasicolus*). They also occasionally catch other pelagics such as mackerel (*Scomber scombrus L*) and horse mackerel (*Trachurus Sp.Sp*) depending on the time of year and the abundance of the resource.

Sardine is the species most targeted in Catalonia. In 1995, 25,053 tonnes were sold which made up 40% of total landings by the three fleets and 13.5% of total value of marketable catch. Anchovy is the second most fished species by volume of catch and the first in terms of value. The 10,135 tonnes of anchovy landed in 1995 made up 16% of the total value of catch marketed

Fishing for small pelagics has a long history in Catalonia. There are many references to this type of fishery in the Middle Ages using methods that initially used beach gears such as *encesas*, *bolitxos* or the *arts de platja*. There are also many references to the lotteries used to distribute access to fishing spots and beaches; as well as for the conflicts between the fishermen's associations (universities and brotherhoods) for rights over the same fishing areas. They were also used for problems that the fishing communities faced with the monasteries and the feudal lords for the payments of tributes relating to the catches carried out in their maritime jurisdiction, the *delme del peix* or the rights to lands - *el dret de ribatge* - or other problems that arise from the fishing activities carried out by the fishermen within the Lord's land.

Throughout the Middle Ages (16th and 17th Centuries) there are also abundant references to the importance of the sardine fishery as once of the basic foods for the coastal populations in Catalonia, as well as the anchovy as a product for the proto salting industry, forerunners of the current

preservation industries that have developed along the northern Catalan coast. During this era the use of mesh nets for fishing sardines became more common - *els sardinals* - that became the form of fishing gear most used on the Catalan coast until the middle of the 20th century which were then substituted by the presented gears of the purse seine or *Trenyines*.¹

The fishing of small pelagics with purse seine gears, as carried out in Catalonia at the moment, has its origin in the 1950s. It was then that fishing with nets - the *sardinals* - was uniformly abandoned in Catalonia to be replaced by more intensive gears such as the purse seine with lights.

One of the most important characteristics of the purse seine fleet when compared to other fleets is the sporadic nature of its catches, due, above all, to the migratory habit of the pelagic species targeted and the lack of patterns in their movement which makes it difficult to establish their whereabouts along the coastline. As a result, in the past few years, in common with technological development in other fields, the purse seine fleet has begun to use technology to help in the detection of shoals. Although the use of this technology has not caused a decrease in the randomness of captures, it has caused the almost total disappearance of the only specialised work that existed in the fleet - that of the fishermen charged with spotting the shoals - work that now falls to the skippers with the use of electronic instruments.

Another factor that has helped to change the process of extraction in the purse seine fleet in the past few years has been the mechanisation of the basic tasks of hauling the catch on board and recovery of gears. This has helped to improve the working conditions of the fishermen, although it has not enabled a sizable reduction of the size of the crews, a structural element that is both a determinant and condition of this fleet. As a result, the purse seine fleet currently continues to be the one with the biggest crews with an average of 10.3 crew per vessel compared to an average of 5.4 on the trawler vessels. (Data refers to 1995, Source: Instituto Social de la Marina).

The intense use of manpower that requires no knowledge or specialised skills together with the fact that work is carried out exclusively at night and with the uncertainty of weekly income is converting the work of the purse seine fleet into a very proletarianised activity. As a consequence it is attracting an important number of workers that could be considered, to an extent, as marginal workers within the labour market: youth without a history of work, part-time fishermen that only go to sea for short periods of time; and immigrants mainly from the south of Spain, such as the Maghribs, that find that this is one of the few alternatives open to them in the current labour market.

As a result of these phenomena, the purse seine fleet is rapidly becoming a barely competitive fleet, above all from the point of view of productivity by unit of effort, a factor that is worsened considerably if we look at the actual context of the free market in which it is produced. On the one hand it is unable to guarantee even a minimum salary to the producers, on the other hand it is obliged to compete in the same market - the EU internal market. It is in competition with the French fleet in the Gulf of Lion that catches the same species for the same market but using the pelagic trawl which is a more productive method than the purse seine and guarantees better working conditions and salaries as well as better levels of benefits for the owners than those received by the Spanish purse seine fleet.

An explanation for the maintenance of this unfavourable situation for the Spanish Mediterranean purse seine fleet in relation to the French pelagic trawl can be found in politics. The pelagic trawl carries political weight in France whilst the purse seine carries little weight in Spain; whatismore the failure of the EU Commission to definitively propose and apply a common policy for fishing in the Mediterranean that, among other things should include a solution to this problem also contribute to this situation.

The legal framework of the small pelagic purse seiner fishery in the Spanish Mediterranean

The legal framework within which the purse seine fishery develops in the Spanish Mediterranean is also not the most conducive for the adaptive evolution of the fleet. While the trawl fleet has a law that governs the extractive activity that it carries out specifically in the Mediterranean (Royal Decree (*Real Decreto* 679/1988) on the regulation of bottom trawling fishing in the Spanish Mediterranean) the purse seine fleet has one law that applies to all the national territory, in other words the same law applies to fishing in the Cantabrian sea, the Atlantic and the Mediterranean (Royal Decree 2.349/1984 of 28 November in which purse seine fishing is regulated in national fishing grounds). This means that from a strictly legal point of view none of the peculiar aspects of fishing in the Mediterranean are taken into account whilst they are taken into account for the trawl fleet.

The reason for this comparative injustice is found in the idea that, from the point of view of fisheries management, it depends on one or another type of fishery. The trawl fishery is seen as a territorial fishery, that is, as a type of activity that is developed in a fixed and permanent form on part of the continental shelf which the fishermen, using various means, manage to collectively appropriate as their own. However, in the purse seine fishery, due to the migratory nature of the targeted species, it makes no sense to use the continental shelf as a territorial reference for fishing grounds. This is why fisheries management for the purse seine fleet is carried out through a law that affects the entire national fishing grounds in order to allow access to it for all Spanish purse seine vessels.

As a consequence of this form of regulation which allowed 'open' access to the resources for the small pelagics, the 1980s saw a considerable number of purse seine vessels with home ports in Cantabria, the Atlantic and the southern Spanish Mediterranean moving temporarily to the northeast Mediterranean from April to September to fish for anchovy in the Gulf of Lion and along the Catalan coast. This migration was motivated by the depletion that was occurring in some of the water usually fished by these vessels, such as occurred in the Alboran Sea anchovy fishery.²

The temporary migration to the ports of northern Catalonia of a considerable number of purse seine vessels has caused problems and conflicts between the Catalan fishermen and the outsiders, leading questions to be asked about the form of management that had been in existence up to that

point and had been agreed upon by the *Cofradías*. At the root of these protests were the demands for the political powers to change the legislation relating to the management of small pelagic resources. In this way, what had up to this point been a strictly fishing problem became a political problem. From this point onwards the Autonomous Government of Catalonia, defending their autonomous rights, intervened in the case proposing alternative management forms for pelagic resources that called into question the very concept of a national coastline, as well as the current legislation relating to the management of all fish resources.

The first proposals for alternative management of pelagic resources put forward from a politico-juridical perspective.

At the root of an order promulgated by the National Directorate of Marine Fishing of the Catalan Autonomous Government dated 24 April 1986 relating to the management of fish resources in the north of Catalonia a long legal-political battle opened up with Central Government in Madrid. This confrontation made reference to the alternative forms of management that the Catalan government proposed for the purse seine fishery which Central Government rejected from the outset taking it to the Constitutional Court. This conflict remained without solution for seven years until 1992 when the Constitutional Court awarded the decision to Central Government. It didn't have the solution to the problem so they had to carry on looking for another solution beyond the legal remit.

According to current legislation, all vessels authorized to carry out fishing in Spain, as well as having to have authorization to carry out a particular sort of fishing, have to be listed at a port that becomes their home port and from where they are registered. It is from these ports that the marine and fisheries authorities in collaboration with the Fishermen's *Cofradías* control fishing effort: entry and exit timetables, engine power, size and number of gears, etc. However, the purse seine vessels, because they target migratory stocks are obliged to move to areas far from their home ports in order to land and sell their catches, reprovision and have the mandatory weekly rest for their crew.

In order to attempt to control the arrival of purse seine vessels from outside Catalonia that are fishing on the Catalan coasts and in the Gulf of Leon and to solve the problems that result from this, the Catalan government promulgated, for the first time since 1982³ and 1984⁴ its own legislation in order to obtain power in marine fishing matters.

The Catalan government tried to solve the problem of access to pelagic resource for the fleet that originated outside Catalonia by proposing legislative changes that affected the temporary home ports that the vessels used in order to reach the fishing grounds, without altering the right that these vessels had to access those grounds based on the fact that they are national fishing grounds. This legislative proposal implied an important change in the method of fisheries management that was current at that time in Catalonia in that maintaining management through fishing effort, they proposed to control access to the resources from a logistic perspective, limiting access indirectly from land by controlling the granting of operational bases in the area's ports.

The order promulgated by the autonomous Catalan Government⁵ created two new fisheries management models the Operational Home Port and the Temporary Operational Home Port⁶ which were added to the elements that already existed to control fishing effort and which became the permits to fish in those waters.

Requests to obtain operational bases could come from all the state vessels with a license to purse seine fish, thus maintaining the formally open-access nature of the national fishing grounds. However, as far as the operational bases were concerned, the Catalan government proposed to take into account three variables: the characteristics of the vessels making the request - without specifying what those characteristics were; the capacity of the resources in the area - without specifying which scientific body would determine the state of the resources; and the existing infrastructure of the ports requested as home ports - size of the mooring quay, size of the auction house and the availability of services for the fishermen - information that would be requested from the *Cofradias* in these ports.

Taking these variables as a reference point, the Catalan government reserved the right to grant operational bases to the vessels from outside Catalonia, which provoked an immediate rejection by Central Government which considered that the Catalan Government was acting outside its jurisdiction and as a result Central Government presented an appeal to the Constitutional Court⁷ which made its decision six years later, with a verdict in favour of Central Government⁸.

As a result of these verdicts from the Constitutional Court, all received in 1992, the basic jurisprudence that would govern the competency of the Spanish and Catalan governments was formally established from now on. The most significant aspect of these verdicts is that they created a new legal basis relating to the management of fishing resources, in establishing the legal distinction between the norms referring to 'marine fishing' and those referring to 'the regulation of the fisheries sector'.

This theoretical distinction was used to delimit the competencies of each government. Marine fishing was considered an exclusive competency of the state in all but marine waters, meaning all norms referring to the management of resources and fishing zones (bottom, bays, distances, quotas), the periods in which fishing can take place (closed seasons, timetables) as well as the form and means of carrying out the extractive activity in the sea (gears, methods of fishing etc). On the other hand the State and Autonomous Government shared competency in managing the fishing sector which involved everything other than direct extractive activity: organisation of the sector, determining who could fish, the conditions that they had to meet and the way they were organised. As a consequence, the competencies in this sector also referred to the professional conditions of the fishermen and other workers in the sector, the construction of boats, the official registers, the fishermen's *Cofradías*, the auction houses etc. Competency for the formulation of the basic norms was reserved for the state and the development of legislation and the execution of the basic norms fell to the Autonomous Government.

Attempts to put together alternative co-management proposals from the legal-politico perspective

Faced with the urgent need to find a solution to the conflicts generated by the increase in the number of purse seine vessels that had moved temporarily to ports in the north of Catalonia, in 1991 Central Government re-presented the initial proposal formulated by the Autonomous Government in their order of 24 April 1986 relating to the regulation of the changes of home port for purse seine vessels which had been annulled by the Constitutional Court's verdict.

The new management proposal went back to the model of the Temporary Operational Home Port, but now linked it to the new management model - a base list of vessels with the right to request the temporary change of port - unknown in the Mediterranean until then.

This base list should be seen as a new type of license that allowed the option of changing the home port and still made exclusive reference to management through fishing effort. It should also be seen as a creation of a maximum number of vessels with the right to fish in these waters but done without reference to the carrying capacity of the system, merely making reference to the historic fishing rights that certain vessels had. Despite this, the new type of quota-licence introduced co-management elements, sufficiently operational to receive the support of the fishermen's *Cofradías*. This is what led them to be applied so successfully.

This new management experience started with the Resolution issued on 27 July 1989 by the Secretary General of Marine Fishing in which fishing in the Gulf of Lion was regulated. In this resolution it was established that vessels with a home port in the province of Girona plus all the vessels that featured in the list included as an annex to that resolution, had permission to fish in the Gulf of Lion and adjacent zones during 1989.

Two criteria were used to make up the list. The first that limited the right to change temporary home port to those vessels that had home ports in the Spanish Mediterranean, excluding the purse seine vessels from the Atlantic and Cantabria. The second referred to the historic fishing rights acquired by those vessels that had moved to fish those water at least once between 1 January 1983 and 1 January 1989.

As a result of applying all the criteria, a list of 180 vessels was drawn up from the autonomous communities of Valencia, Murcia and Andalucía as well as those from Catalonia. This list included the purse seine vessels with a right to request a temporary change of home port in some of the northern ports of Catalonia. In this case, and given that there were only two ports generally requested: Port de la Selva and Roses due to their proximity to the Gulf of Lion, it was judged that they could allow a maximum of 70 temporary home ports simultaneously in one month for both ports, sharing these out according to their infrastructure: 42 for Rosas and 28 for Port de la Selva. In the other two ports in northern Catalonia: Llança and l'Escala, the authorizations for temporary operational home ports for vessels on the base list could be established according to the criteria of each *Cofradia* by direct petition from each vessel.

For the definition of the size of the place quotas, both the affected *Cofradias* belonging to the ports in the north of Catalonia and the Federations of *Cofradias* of the areas of origin were involved. In agreement with them, the number of vessel in each region to be included in the base list and the monthly lists was determined in the following form:

	Base List	Monthly List
Andalucía	36	11
Murcia	24	10
Valencia	36	9
Resto Cataluña	84	40
Total vessels	180	70

Number of vessels. Dates refer to 1994.

Source: MAPA Orden 29 July 1994, B.O.E. 5 September 1994

By including the participation of the *Cofradias* in the ports affected by the decision making process on the management of access to the fishing zones, its effectiveness was, to an extent, guaranteed,

as was demonstrated in the following years by the fact that this initial formula remained in use until today without the need for changes to be introduced.

Thus, a substantial change in the management policy for small pelagic fisheries was produced that is still relevant today. Even though legal instruments were first used to limit access to certain fishing zones in national or international fishing grounds, by having the participation of the *Cofradías* to help implement them, their viability was guaranteed although this did not solve once and for all the problem of fisheries management for small pelagics in Catalonia.

New management alternatives for pelagic resources

Despite the fishery administration's application of all the above mentioned measures to solve the problem of the temporary visits of purse seine vessels from other regions of Spain to the north of Catalonia, the problems that arise from the depletion of the resource, the fall in prices and the restructuring of the market as a result of Spain's entry to the EU, have worsened the situation of this fleet and its inability to find a solution to the problems.

One of the factors that explains the worsening situation, despite the measures already taken, is that the system used to manage this fishery continues to be based exclusively on the control of fishing effort with no catch controls, and as a result does not control any of the variables that impact upon the market and the prices, important factors for this type of fishery.

Current Spanish legislation that regulates the fishing of the purse seine fleet contemplates the possibility of introducing catch quotas⁹. However, despite all the problems year-on-year that arise in relation to the fall in prices neither the autonomous government, nor Central Government have adopted any initiative in this direction.

Initially, to solve the problem of the fluctuation of prices, the EU had foreseen the use of special funds to finance withdrawal prices for species that were subject to fluctuations. However Fish Producers Organisations, the only association that can legally use these funds, have not been set up in Catalonia.

From a strictly legal point of view, and taking as a reference Spanish and Community law, the fishermen's *Cofradías* do not meet the legal requirements in order to be recognised as Producer Organisations because, although they meet the conditions laid down by Council Regulation (EEC) 105/1976 regarding the level of economic activity and legal status, they do not meet the other condition of non-discrimination according to nationality or place of establishment.

Council Regulation (EEC) 3796/1981 establishes that Producers Organisation will be set up on the initiative of the producers, however, the *Cofradías* are Public Law bodies, set up on the initiative of the law and have members that represent both owners as well as fish workers (bearing in mind that workers are not producers under community norms).

As set up by Council Regulation (EEC) 3796/1981 (Art. 5) the objectives of Producers Organisations are "to have powers to adopt measures in the areas of extraction and marketing that are obligatory for their members" and should establish "a specific definition of the products dealt with by the association". On the other hand, the *Cofradías*, as they operate at the moment, only have a consultative function within the administration which is the body that takes the final decisions. The Producers Organisations operate within the remit of determined products, while the *Cofradías* have a territorial environment relating to the zone in which their members operate. Producers Organisations protect the interests of their members and the products of their association, however the means adopted by the Administration, after consulting the *Cofradías*, responds to the general fishing interest or communal interest of the sector.

As a consequence of purse seine fishing organisation - fishermen's *Cofradías* and their federations - do not meet the legal requirements that would allow them to be recognized as Producer Organisations, this means that they cannot make use of the same legal instruments, nor use the same financial resources that other countries within the European Union can make use of to adapt their products to the vagaries of the market.

From March to June 1996 in order to solve the serious problems arising from the fluctuations in catches and prices of small pelagics, without creating Producer Organisations, the purse seine fleet of the two provinces of the north of Catalonia - Girona and Barcelona - opened an informal discussion and decision making process, restricted to their *Cofradías* with the aim of finding alternative and/or complementary management formulas that would allow a management plan to be drawn up for the fishing of anchovy and sardine in their respective regions.

The main innovative element that this discussion process introduced was that, for the first time, the purse seine fishing sector recognised explicitly the need to take into account other factors beyond the control of fishing effort, to define the means of pelagic resources management. In this sense, for the first time formulas for the application of a mixed management system that would simultaneously take into account the control of catch and effort were begun to be put forward . These were from the perspective of co-management that is, the agreements that the *Cofradías* arrived at would be translated into proposals to the government so that these could be transformed into laws.

The most important point here is the change that it assumed among the fishermen by recognising that the current situation had changed in such a way, that it was necessary to include new management elements relating to the marketing of their catch with the aim of being able to adapt their actions to the new production and marketing conditions. It was in this way that they started to propose the use of new management instruments such as catch quotas for vessels or, the

guaranteed minimum prices, generating a long and intense debate that despite all efforts ended without agreement.

The proposed changes put forward to improve fisheries management centred on two points: fishing effort and catch limits.

In terms of fishing effort, the proposals put forward made reference to the need to arrive at a general agreement for real compliance with the current laws given that it is well known that this does not happen. In order to arrive at a general agreement that would be subscribed to by all the *Cofradías* some changes were proposed that only affected the length of gear¹⁰ and the lighting power¹¹, leaving the rest of the measures unchanged.

As can be deduced, the changes proposed by the *Cofradías* relating to the length of gear and light power did not represent substantial changes to the current management methods on fishing effort¹² in that the rest of the proposals were not questioned thus maintaining the implicit acceptance of the minimum vessel size fixed at 20 tonnes, the maximum motor power at 450 hp, the height of gear at 80m, the mesh measurement at 14mm and the obligatory 48 hour weekly rest period (Royal Decree 2349/1984).

However, there was an important discrepancy that prevented a final agreement. This was the innovative proposals designed to introduce catch quotas and minimum guaranteed prices as new elements of fisheries management for small pelagics.

If we look at a summary of all the proposals and counterproposals as well as the changes of position that occurred with some *Cofradías* in relation to the issues of the fixing quotas and guaranteed prices it is interesting to note the following:

- all the *Cofradías* implicitly accepted the need to establish new management instruments that would be complementary to the control of fishing effort and take into account catch limits.
- all the *Cofradías* agreed that the easiest instrument to put in place would be the fixing of maximum daily catch quotas for vessels
- in terms of the fixing of quotas, there appeared to be some confusion with regard to the use of conservationist and economic arguments. There were proposals that simultaneously argued for the need for quotas to protect prices, resources and excess catches but without relating one to the other.
- the elements used to establish the maximum catch levels did not take into account scientific reports on the state of the resource. The proposals were based both on the fishermen's perceptions on the state of the resource and the interpretation that they themselves made on the evolution of prices.

For example, in the three meetings held they arrived at an agreement to establish a maximum level of catches for sardines at 315 boxes per vessel, while a quota of 210 boxes was set for anchovy. They also agreed that if any vessel exceeded the set quota of 210 boxes for anchovy the excess could be transferred to a vessel that had not fulfilled its quota. Moreover, they agreed that if on Monday the price of anchovy dropped below 3000 pts a box on Tuesday catch quotas per vessel would be automatically reduced to 105 boxes until such time as the price per box rose above the 3000 pts mark.

Despite the initial agreement reached in the first meetings, the criteria used to determine the size of quotas and the guaranteed prices differed considerably between the *Cofradías*. The arguments used by those at the meetings, in general, reflected the personal and local perceptions of the representative more than a consolidated and forward looking vision of the fishery as a whole. Moreover the only data they were based on was empirical evidence from fishermen and had nothing to do with real knowledge of the evolution of the market and prices. It is therefore not surprising that this agreement did not stick and that by the third meeting a decision was taken to abandon any

attempt to establish catch limits despite the fact that the representatives continued to recognise the need to move in this direction.

However, the reason agreement was not reached is found in other factors beyond the representative structure of the sector such as the continued refusal by the majority of the fishermen to recognise the need for their participation in the marketing process.

At the moment, the representative structures of the purse seine fleet are concentrated in the *Cofradías* and their Regional Federations through the formation of sectors within them (Alegret 1990, 1995, 1996). The problem lies in the fact that these representative bodies are dominated by a local perspective of the problems and the excessive personal interest of some of their representatives. The manifest inability to apply a decision making process to subjects that require that collective supra-local agreements are arrived at and are obligatory for all their members is also a reason. In this sense, the representatives of the *Cofradías* insist that they do not have sufficient power to comply with agreements, arguing that, given the state of things at the moment, this is a task for the government rather than for the *Cofradías*. They have asked for intervention from government without realising that by doing this they are considerably undermining their own power and legitimacy as Public Law bodies with a recognised ability to solve all types of problems within the sector.

Once again we find that the purse seine fishing situation continues to demand urgent solutions and that the proposals for alternative management that are put forward fail to break the inertia of the system that is resistant to all types of change.

Abandonment of the alternative formula and the return to the original position of formal co-management

At the beginning of 1997, given the repeated failure to find solutions to the purse seine fleet problems and given the need to continue searching for new alternative management proposals, the Autonomous Government of Catalonia, through its General Directorate of Fishing, took the initiative and proposed a new path for discussions in order to attempt to solve the problems. It created of an *ad hoc* working group to study and make proposals on the purse seine fleet problems.

Up to the present moment, the interventions by the Autonomous Government in relation to the purse seine fleet crisis, just as with the other fleets, have been limited to the political environment, because any other type of general solution previously required competency in marine fisheries matters. It was in this context that the frustrated attempts to achieve a General Law for the Regulation of Catalanian Marine Fishing should be explained. Although approved by the Catalan Parliament with law 1/1986 of 25 February through which all fishing policy in Catalonia was to be controlled it never become legal because it was definitely annulled by the Constitutional Court in 1992.

From the time that the Constitutional Court clarified the legal framework within which the legal proceedings of the autonomous government should move, it was still some time before it began to take initiatives in this new context. It was obviously being restricted by it, but had undeniable possibilities of acting within the framework for managing fishing activity. It is in this context that the government's initiative, to create a specific working group with the objective of coming up with what was previously called the 'Catalonian purse seine Plan for 1997-1999' approved on 13 June 1997, should be viewed.

The working group was set up by the initiative of the Autonomous Government and in distinction to previous attempts put forward in the exclusive environment of the *Cofradías*, this time the Council of Purse Seine Vessel Owners, Unions in the sector and the Merchants Guild were invited to participate alongside the *Cofradías* and their federations. Inviting all of the above signaled a very significant change in the form in which, until now, fisheries management in Catalonia had

developed, although in order to do this the leading role of the *Cofradias* was transferred to other associations that until now had had a minor role to play in the process.

The implicit objective of the Plan was to make itself into the widest possible platform from which some minimum agreements on purse seine fishing management could be reached that would help them get out of their current situation, would be applicable to all Catalonia, and, above all, would be approved and complied with by all parties. Thus, the plan was born with a clear spirit of consensus between all signatories and with a vocation of obligatory compliance on the part of everyone.

If we analyse all the different parts in the plan, the first and most significant to point out is that it has no real innovative proposals for management such as have been developed up to this point. It is limited, instead, to a compilation of methods already in place, as well as proposing methods that could be applied when they have the necessary financial resources.

The agreements reached were translated into a series of points that form the Plan and make exclusive reference to subjects related to the control of effort. In summary, they include the following:

- willingness to reduce the size of the purse seine fleet
- place quota system for the purse seine fleet with a base in Catalonia
- authorisation of exclusive access to the Gulf of Lion for vessels from outside Catalonia
- requiring reports from the *Cofradias* of the origin and destination of homeport changes
- establishment of a maximum of 12 lights per vessel (500 wats each)
- calling for the strict compliance with the current law on gear length (300+30m)
- willingness to establish a minimum, paid temporary stoppage of 2 months a year
- willingness to reach a minimum size for anchovy of 11 cm
- limiting each vessel to one landing per day
- respect for the uses and customs of the home ports

- willingness to follow up and evaluate fish stocks during the lifetime of the Plan
- willingness to improve marketing networks: identification, packing and advertising

However, the most surprising thing about the Plan's agreements is that they contain no reference to catch controls when this had been one of the central issues in the discussions and the agreements reached initially by the *Cofradías* in their attempts to propose alternative management methods. It can therefore be deduced that the main objective of the Autonomous government in proposing the Plan was initially to attempt to recoup the initiative in an area in which the *Cofradías* in the north of Catalonia had shown their inability to arrive at an agreement, while these same *Cofradías* continue demanding that the administration intervene to solve the current problems.

Possible explanations for the lack of innovative proposals in the Plan can also be due to the non-existence of specific studies -biological, economic and social- necessary to establish alternative management methods based on catch quotas, withdrawal prices etc (Salz, 1997:22) subject to the necessary transformation of the *Cofradías* so that they can act as POs and use the instruments and resources that community law offers them in this sense.

Conclusion

The purse seine fleet in Catalonia, just as in the rest of Spain, finds itself in a situation of crisis that requires the rapid intervention of the bodies involved.

From the point of view of fisheries management, the current system in place respond to a long tradition that has proven its practicality and legitimacy while maintaining the conditions that gave rise to it. These can be summarised as maintaining the stocks exclusively through the control of fishing effort and a semi-closed market that allows demand to exceed supply ensuring that prices do not experience large falls. However, this long experience in the management of small pelagic fisheries

based on fishing effort is now showing its limitations in that it cannot provide answers to the changes that are occurring in this sector.

The changes that came about as a result of Spain's entry to the EU require that the purse seine fleet competes in the same market for the same species with fleets that use far more productive fishing methods and it has to do this without recourse to the necessary management instruments such as the financial resources that exist to regulate catch and prices which are available to the rest of the European fleet dedicated to this type of fishing. All this causes a situation that doubly marginalises the purse seine fleet which needs an immediate solution before it becomes a major problem.

Given the strong dependence on the market and the high randomness of the catches, this fleet cannot continue to be regulated exclusively by management instruments limited to the control of fishing effort, despite the fact that a long tradition of this type of management would suggest otherwise.

On the other hand, the very structure of the *Cofradías* as Public Law bodies offers the sector a organisational and management potential that is unique within Europe but which is not be used to its full potential in order to adapt to the new situation in which the sector finds itself.

The reasons for the inability of the *Cofradías* to come up with an answer to confront the current problems are many, but one of the prime ones is their strong corporatist or unionist tradition that pushes them into maintaining some management systems that are too concentrated in productive-extractive activities and very reactionary to introducing management elements outside this orbit. The *Cofradías* therefore need to prioritise a change in the mentality of their members to change them from fishermen to business-fishermen and thus enable the introduction of a system of co-management in which the related elements of the marketing of the catch is as important as fishing effort.

If this change from within the *Cofradías* does not present itself, the changes to the system itself will redefine the role played by these institutions to the point that the structural changes make it possible for other social agents to take over those roles that they can no longer perform. To an extent this is what has started to happen with the Purse seine Fishing Plan that the Autonomous Government has been obliged to put in place in order to force a way out of the situation of inactivity in which the *Cofradías* find themselves. From this point of view the base of legitimacy on which the new management methods are based could result in negative consequences for the entire fisheries co-management process which day by day is being shown as one of the most solid in Europe.

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Notes

¹¹ [Translator's note] Italics indicate Catalan words. *Encesas* is a term from the middle ages referring to the lighted torch used over the side of the boat to attract fish, *artes de bolitxos* is a type of PANO net, *artes de platja* are beach gear, *delme del peix* is a medieval expression meaning the tribute paid to Lords or Monasteries for the right to fish their property, *dret de ribatge* tribute paid for the right to land rish, *trenyines* (literally 'spider's web) generic term still in use today to describe purse seines that fish at night with light - the descendents of the *encesas*.

² This fishery is, at the moment, totally collapsed from a fishing point of view and there are no possibilities of it recovering because an opportunistic species, the boar fish (*Capros aper*), has occupied the ecological niche left by the anchovy, thus preventing its return.

³ Royal Decree 1965/1982 of 30 July 1982 on the transference of competency of fisheries matters in internal waters, shellfisheries and aquaculture to the Generalitat of Catalunya.

⁴ Royal Decree 665/1984 of 8 February 1984 on the transfer of state fisheries functions and services to the Generalitat de Catalunya.

⁵ Order of 24 April 1986 of the General Directorate of Marine Fishing on changes of home ports for purse seine vessels in Catalunya

⁶ The Operational Home Port is the port generally used during a minimum period of 3 months and a maximum of 6 by purse seine vessels alien to the port. Temporary Operational Base is the port used, on a temporary basis by purse seine vessels from another home port during a period of no more than 15 days (Art 1 of the aforementioned order)

⁷ Positive Conflict of Competency pressed by the council for the state against the Order of the Department of Agriculture, Farming and Fishing of 24 April 1986 on the regulation of the changes of temporary home ports of purse seine fishing boats. The verdict came 5 years later and in its legal grounds it stated that 'given the peculiar nature of the problem, the authorisation of changes to homeports of vessels is a measure that has a supra-autonomous dimension *for territorial reasons* and the autonomous competence cannot divide national fishing grounds, *given their economic and legal unity*, and the mobility of fishing resources, as such the regulation to change the home port is outside the autonomous competency of legislative development (the italics are ours).

⁸ The verdict relating to the conflict on the changes of home ports was one of the four verdicts in which the Constitutional Court treated the different conflicts of competency relating to marine fisheries management in Catalunya. These verdicts were the following: Verdict TC 1471/1991 of 4 July 1991 on the regulation of the Purse seine fishery. Verdict TC 44/92 on the Law of Marine Fishing of the Generalitat of Catalunya. Verdict TC 57/1992 on the regulation of fishing effort. Verdict TC 149/1992 of 19 October 1992 on the regulation of changes to temporary home ports of purse seine vessels from the coastal ports of Catalunya.

⁹ In Royal Decree 2349/1984 of 28 November in which purse seine fishing is regulated on national fishing grounds (BOE no. 5 of 5 January 1995) states in article 3 'The Ministry of Agriculture, Farming and Food, though the General Directorate of Fisheries Management, can determine maximum catch quotas according to vessels and days, for each company, in agreement with the reports of the Spanish Oceanography Institute, the Autonomous Communities, the Federations of Cofradias, producers organisations and central unions affected.'

¹⁰ The length of fishing gear is currently established at 300+30 m. Some Cofradias propose that this be maintained whilst others that it should be increased to 400 or 450 m.

¹¹ This is a form of night fishing that uses powerful lights to attract the shoals of fishes to round them up into nets. It is proposed that the power of the light does not exceed 12 lights at a maximum of 500w each, taking into account that the current legislation established no rules in this respect (Royal Decree 2349/1984 of 28 November, regulating purse seine fishing on national fishing grounds).

¹² the eight *Cofradias* of the provinces of Girona and Barcelona with purse seine fleets met on 6 occasions between March and May 1996. At the last meeting on 18 May in Blanes the proposed changes of fishing effort that failed to gain unanimity were the following: 4 *Cofradias* agreed to maintain gear length at 330m while 3 proposed to increase it to 450m. and two to 400m. With regard to light power, 3 *Cofradias* proposed establishing a maximum of 12 lights while the rest proposed to maintain the current 9.