

## WORLD FISHERIES CONGRESS

ATHENS, GREECE

MAY 3-8, 1992

Theme 2: Fisheries Utilization and Policy

(Users participation in fisheries management)

## EXPLORING THE BLACK BOX

Decision making process in fisheries: the case of the French Mediterranean

Marion GALLE and Jacques WEBER

*ABSTRACT: This communication presents a simple methodology for analysis of fisheries management decision making process. For each type of decision, historical recorded informations for each actor are organized in tables which allow for mesuring distances between (i) initial legal prerogatives and acquired role, (ii) the messages delivered from a period to another. The crossed representations of actors in each others meetings are included in a second table which allow for analysis of the respective power and influence of each actor in the decision making process.*

*This methodology is tested in the case of French Mediterranean fisheries, for two types of decisions: (i) management of the three miles coastal zone; (ii) access to loans and subsidies. It is shown that beyond scientific models and administrative decisions, fisheries management is an evolving adaptive negotiation process among actors who have not an equal weight in a given period. An other result is the observation that the resource is not an actual stake, even if a proclaimed one, in the two case studies.*

IFREMER, 155 rue JJ Rousseau  
92138 ISSY LES MOULINEAUX CEDEX (FRANCE)  
Fax : (33) 1.46 48 22 76  
Phone: (33) 1.46 48 21 00

# WORLD FISHERIES CONGRESS

ATHENS, GREECE

MAY 3-8, 1992

## Theme 2: Fisheries Utilization and Policy

(Users participation in fisheries management)

---

### EXPLORING THE BLACK BOX

Decision making process in fisheries: the case of the French Mediterranean

Marion GALLE and Jacques WEBER

This paper presents a research on the Decision Making Process (DMP) in the context of the French Mediterranean Fisheries.

All the fleets are involved in artisanal modes of fishing: it means that the owners are embarked on their vessels and the fishing trips do not exceed the day. Most of the fleet is made of small vessels (REY, 1989). There are about 5,000 fishermen, among who 3,000 skippers and 2,000 crewmen. The annual landings are about 44,000 tons.(D.I.R.A.M, 1990)

The European Fisheries Common Policy (FCP) was first implemented in 1983, in the North Sea and the Atlantic. Since 1990, the European Commission (EC) decided to extend the FCP to the Mediterranean Memberstates. But it is not so easy to extend a policy from one context to another (WEBER, ANTONA, 1990) and the EC intends to take that into account. The main differences between Mediterranean on one side and Atlantic and North Sea on the other, are:

- (1) the Mediterranean fishery is mainly a small scale, artisanal one,
- (2) the market is much more valuable than in the northern parts of Europe. It valorizes the small sizes of fish,

(3) The northern and western European fisheries are centrally managed, by administrations and EC, as the Mediterranean are mainly self regulated by fishermen institutions<sup>1</sup> and agreements. Some of the institutions, like the *Prudhomies* are several centuries old (REY, 1990). The history of fisheries management in the French Mediterranean can be summarized by the state's will to diminish the prerogatives of these ancient institutions (ZARELLA, 1989). Recently, the *Prudhomies* obtained a new consideration when the national administration had to cope with the implementation of a decommissioning scheme. The benefits of self regulations were empirically rediscovered in that occasion.

The event of an extension of the FCP, as well as the richness of the institutional context pleaded for choosing the Mediterranean Fisheries Management as a field-case study of the decision making process. We present here the results of this study (GALLE, 1991).

Why study actual decision-making processes in fisheries Management?

The fisheries sciences, mainly biology and economics, have a common representation of the management process. They analyse the fleet-resources interactions (RARRUGIO, LE CORRE, 1986) and give their advices to what is supposed to be a unic level of decision for each type of problem : the administrators, or the Minister or the European Community, sometimes a fishermen organization. Their advice is assumed to be scientifically justified and considered as "good" by definition. On the other hand, the administration takes decisions which are efficient by definition, but only partly implemented, often with accommodations occuring along the process of implementation. At the end, it is always quite difficult for scientists to identify their advice as the origin of an actual decision.

On one hand, we have formal approaches and very nice models; on the other hand, actual decisions taking into account a lot of parameters which are not in the scientific models. Between the two sides, there is a decision-making process in which several groups of interest interact to produce a decision or an implementation scheme. This interaction of interest groups is the actual basis for fisheries management. Fisheries management is more a negotiation among fishermen groups, with participation of administration and scientists, than a formal process transforming "good" scientific advices into "efficient" decisions and automatic implementation. Fisheries management is a social organization, beyond its technocratic appearance A representation of the decision

---

1. We use the word *institution* for agreements between at least two individuals or groups which constrains more than these two individuals or groups. In that sense, marriage is an institution, but an administration is an *organization*. In the Mediterranean, the *prudhomies*, electing their *prud'homies* among the fishermen, and giving them a power on the whole fishing activity, is first an *institution*, secondly an *organization*. In this paper, we use the term of *actor* for any institution or organization involved in decision-making.

making system, as a social process, can be seen in appendix 1. This is the "black box" of fisheries management.

Scientists and central bureaucracy assume that fishermen constitute an homogeneous and quite unformal group : « THE » fishermen. By contrast, the diversity is placed in the fleet, which is understood as constituted by specific groups of vessels, each of them having technical characteristics and specific *strategies*. The conflicts are analysed as occurring between types of vessels, more than between groups of fishermen... The diverse components of the fleet are felt as having "strategies", when the fishermen are mainly assumed as "individualists" moved by the inescapable "tragedy of the commons".

The actual decision making process is the black box of fisheries management and needs to be explored in order to understand how fisheries are actually managed, more than to give new advice on how to manage them "better". An illustration, for instance, of the diversity of the user group's commissions at the port level is presented in appendix 2, which shows that there is actually more professional organisations (21), than men to lead it (6) : the theoretical problem of the multiplicity of commissions is solved in the practice.

On the other hand, it seems to the authors that the study of *actual existing* decision-making processes may be one of the more relevant angle of observing the participation of the users groups in fisheries management (for a theoretical support to this perspective, see GALLE, 1990).

## I.- MATERIALS AND METHODS

The objective of this study is methodological. To understand decision making process, for given types of management decisions, means for the authors:

- identify the relevant actors of the decision,
- appreciate the relative "weights" of the diverse actors involved in the process,
- determine the nature, the genesis and the evolution of the actors relative weights,
- then, analyse the interactions among actors who have relative evolving weight, in the cases of a limited number of decisions,
- evaluate if the process is brownian, deterministic or adaptive.

Our purpose is to evaluate the feasibility of analysing all types of decision making with a single and as simple as possible method. Further, we intend to design tools for analysis which were expected to be comparable with those used by so-called "*hard sciences*". It means that the tools must allow for control and critic of both informations and analysis. We intend to show to our biologist colleagues that it is possible to work as "hardly" if not more, with sociological informations than with biological datas.

We also intend to verify the following hypothesis : the evolution of the relative powers in the decision-making process, and specifically the rise of personal powers among the user-groups, is inscribed - or at least made possible - in the institutional structures of decision.

There is a wide range of decisions taken in fisheries management: mesh size, time ,areas , gears and vessel limitations, including length, power and tonnage, funding, etc. We do not intend to take all the decisions into account, considering that the objective concerns the methodology.

We decided to focus on decisions related to:

- (i) cohabitation among "*métiers*" within the 3 miles coastal area. "*Métier*" is a concept which combines vessel, gears, exploited species, and fishing time,
- (ii) funding, subsidies, credit.

The first type of decisions deals with social issues, and involves regional and local organizations. The second is strictly economic, and is constrained by macro-decisions taken outside the region, by actors who are absent from the local debate.

The first designed table (table 1) presents three sets of information for each actor, over the time :

- (i) its statutory mandate
- (ii) the messages it has delivered in the past, from period to period,
- (iii) its actual role in the DMP for the examined decision. This role is evaluated by comparison between the statutory role and the actual positions taken in the DMP.

	LEGAL COMPETENCES	POSITION ADVOCATED	ACTUAL ROLE
ACTOR1			
ACTOR2			
...			
...			
ACTORn.			

*FOR ONE TYPE OF DECISION  
OVER ONE HISTORICAL PERIOD*

Shows distances between  
- official and actual roles  
- positions over the time

**TABLE 1. ROLES IN A DECISION MAKING PROCESS**

The second tool used for analysis is a matrix (table 2) showing the crossed participations of the actors in the decisions of the others. This table is given by a compilation of the records and minutes of the meetings in each organization, related to the selected decisions. Some actors are represented in all the others; some others are not represented elsewhere. The respective number of representations and its evolution over

the time allows for figures showing the hierarchy of power in the DMP; this hierarchy must be compared with the results of appendix 4 , as well as with other sources.

It would have been possible to complexify table 2 by qualifying the type of representation on the basis of its importance : this qualification may result from analysis of table 1. The crosses would have been replaced by numbers, let's say 1 or 2, according to the actual weight in the discussions. But this qualification introduces a part of subjectivity in the work and we explicitly intended to minimize the bias.

	ACTOR 1	ACTOR (...)	ACTOR n.
ACTOR1		X	X
ACTOR2	X	X	X
ACTOR(...)			
ACTORn.		X	

**TABLE 2. CROSSED PARTICIPATIONS IN DECISIONS OF THE ACTORS: A FICTIVE ILLUSTRATION**

The first step is to analyse the evolution of the macro-decisional context: the increasing importance of EC, mainly in funding and fleet capacity control in the case of Mediterranean, as well as the national legal framework's evolution.

The second step consists in the identification of the actors in the fisheries management system. 13 actors entered into a file containing, for each,

- (i) definition and genesis,
- (ii) structures,
- (iii) who and what it represents,
- (iv) official, legal objectives,
- (v) relations with other organizations,
- (vi) actual prerogatives, acquired over the time,
- (vii) problems and perspectives for the future.

Each file is discussed with the actors, for two purposes : to improve the quality of datas and to record the image they have of themselves and the others.

This information is put in the two types of matrix and allows for analysis

The way we intend exploit the different elements of these matrix, what we want them to say is illustrated in appendix 3.

## II. RESULTS AND DISCUSSION

### A. - the case of cohabitation with in the 3 miles coastal zone.

The following analysis leans on the elements of the matrix, which can be seen in appendix 4 and 5 at the end of the paper.

The Marine Affairs Administration (MAA) legal prerogative is to enforce the prohibition of trawling within the 3 miles zone. During the first period, 1964 to 1974, its message was very strict : the rule which prohibits trawling within the 3 miles must be fully enforced. Its actual role is to put an end to various existing derogations which allow for trawling.

MAA is supported by IFREMER<sup>2</sup> : for the biologists, nurseries and spawning areas are supposed to be mainly coastal and endangered by trawling. IFREMER is also in an expert position towards fishermen's organizations and towards justice : scientists speak on behalf of the resources.

Later, during the 1980-1987 period, the official role of MAA is unchanged. But its position is now that the law is no longer enforceable, because the administration is bearing strong pressures from fishermen. Its actual role is to accommodate, to bargain, to adapt the implementation of the rules, depending on the type of conflicts, as well as the type of actors.

IFREMER, still speaking for resource, is in trouble: a controversy about spawning areas and nurseries appeared in the middle of the period. Another change is the beginning of a shift from monospecific to multispecific studies, as well as the beginning of fisheries interactions analysis. The actual present role becomes a supposed-to-be "impartial" role, with more independence of administration.

In this period, the fishermen's organizations begin to be divided in their positions and actual roles. Some of the *prudhomies* short-circuits MAA and manage conflicts amicably : the commonly accepted rule is the reimbursement of endamaged gears by the author of the damage ("the breaker is the payer"). As long as the legal system do not reimburse the gears destroyed by trawlers, it is felt as ineffective and the fishermen manage by themselves. Some other *prudhomies* still call for administrative intervention and multiply the complaints. Over the period, there is no clear role played by fishermen leaders as individuals.

Then, new actors appear : leaders of large trawlers who argue that some artisanal gears are worse than trawl for the resource and support the self managed "breaker-payer" principle. Another new actor is the regional fisheries organization (CEPRALMAR),

---

<sup>2</sup> IFREMER: French Institute of Research for the Exploitation of the Seas. IFREMER is a public institute with a statutory role of scientific adviser for the french government and the EC. This institute employs 1200 scientists, covering all fields of marine research.

recently created. Its formal role is unclear ; its ambition is to share space and divide it physically by means such as artificial reefs. Its actual role is slight.

In the last period, 1987-1991, MAA, still with the same legal prerogatives, expresses the opinion that the "breaker-payer" principle is equivalent to a shadow market for fishing rights. Its actual role is to be a mediator between small coastal fishermen and trawlers.

IFREMER no longer speaks for resource, but for science. The common shared opinion of the biologists is now that trawling in the coastal zone is a cohabitation and a social problem, more than an ecological one. In its actual role, IFREMER becomes more and more independent from both administration and fishermen and balances its advices, playing with the uncertainty of the resource dynamics.

The short-circuit of MAA is now the rule for conflicts resolution. The "breaker-payer" system is accepted and amicably enforced by *prudhomies*.

The regional organization, CEPRALMAR, disappears from the debate. The leaders of trawlers still accuse other gears to be more destructive but manage a fund to face to the accepted "breaker-payer" system.

The analysis of crossed representations (see appendix 5) show that 3 actors have a key-role in the DMP and keep it over the time, although their messages have changed: the *prudhomie* of the main trawling harbour (Sète), IFREMER (the scientists) and the leaders of trawlers.

## **B.- Access to funds**

Subsidies to artisanal fisheries were introduced in 1974. In 1980, the system is managed by two regional organizations: the first (GRIPA)<sup>3</sup> controlling the adequacy of the project to EC and national rules and the second (COREMODE), designing the regional priorities for the selection of candidates.

At the beginning, investment subsidies were national, then European for the vessels above 18 meters. Over time, the Region obtained competence for all types of vessels.

At the end of 1988, France introduced a permit system, which made it obligatory to withdraw an equivalent amount of engine power for obtaining an allowance for a new vessel. This was not enough to obtain a reduction in the fleet capacity and a decommissioning scheme was implemented in 1991.

---

<sup>3</sup> . GRIPA: Regional Groups for Investment in Artisanal Fishery. COREMODE: Regional Commission for Modernization of the fleet.



The important facts are that, in the case of funding decisions, (i) the global rules and criterias are defined very far from the region, in Paris or Brussell and (ii) these rules and criterias are not stable. As a consequence, the more powerfull actors now are the EC, the General Direction for Fisheries, and the Maritime Credit Bank. Over time, Fishermen and bioogists seem to race for influence .

### **The matrix of roles and messages**

The matrix presented in appendix 6 show the increasing prower of the EC, which first gives orientations for subsidies and loans, then binds the funding with the respect of Multi-Annual Guidance Programs (MAGPs), and finally cancels funding in order to oblige France to reduce the fleet capacity.

The Fisheries Direction, at Minister level, moves from a proeminent to a subsidiary role over the period, becoming more and more an executant of EC's decisions.

Relations between State and Region evolve towards more autonomy for the second. Two organizations are crucial in this process regarding funding: COREMODE and CEPRALMAR.

Before 1985, COREMODE proposes regional orientations and select the projects to be funded. From 1985 to 1988, it loses it's orientation role and just gives an opinion on the projects. It has now a go-between role, transmitting informations from the upper levels and complaints and opinions from the lower ones. After 1991, funding is no longer possible, and the COREMODE has quite no more activity.

CEPRALMAR was created by the Region in 1983, in the context of the new competences given to them by the Law. It is the instrument of local politicians. In the field of fisheries, CEPRALMAR manages the regional subsidies and loans schemes. Over the time its influence decreases and it becomes more and more isolated.

European, national and regional organizations based their control of fisheries upon subsidies and preferential loans, which place the fishermen in a position of increasing dependence. When the main factor of control disappears, the organizations which have been created for its management lose their influence and do no more play their go-between role. At that time, there is a place for an increasing influence of fishermen leaders, mainly those who represent the interests of large trawlers.

The scientists, as in the case of the 3 miles, speak on behalf of the resource at the begining. After a period of quasi-silence, their influence grows in the last period, as they are associated to the preparation of a new MAGP which will constrain the investment in the fishery in the future.

### **Matrix and figures of crossed representations**

This evolution is confirmed by the crossed representations matrix (appendix 7), from period to period.

The figures drawn on the basis of these matrix (appendix 7, 8, 9) are illustrative of both influence and power of the actors.

If we account the number of presences of each actor with the others, we obtain an indication of their influence and independence and it is possible to represent it on Y and X axis. The more powerful actor is situated towards the top and the right part of the figure : the Fisheries Direction in the first period; the EC in the last. The « advisors of the prince » are situated close to the Y axis, and the higher they are, the higher their influence is : fishermen leaders and IFREMER are in this situation. An actor placed at the bottom, on the right part of the figure, has a technical dependent role: CEPRALMAR and Regional Direction of Marine Affairs are in this position.

Globally, it is shown that:

- the European level of decision takes progressively the proeminent power, whereas the national level falls under control,
- the influence of fishermen grows over the time and go beyond the influence of scientists, both being in a position of "advisors of the prince",
- the Marine Credit (the fishermen's bank), which is in a position of being a dependent technical tool in the first period, acquires more and more influence on the whole DMP,
- despite the initial goals of the local politicians, CEPRALMAR has a light effective power in the DMP, and it means that in the case of fisheries management, there is no regional intermediate between fishermen organizations and central national or European levels. This role of fishermen advocates is partly taken by scientists in the diverse scientific committees in Paris or Brussels, and partly by the Marine Credit, well introduced in the same places;
- locally, the influence of the leaders is more and more important. It has no counterweight, in the absence of *prudhomies*: dealing with men and cohabitation among users, the *prudhomies* are not actors in the decision making process on funding.

## CONCLUSION

This study has purely methodological objectives: evaluate the feasibility of a simple formal approach to study actual DMPs. It seems to the authors that this main objective is reached: the tools we tested allow for finding the main hidden rules of the game in the DMP, and display the evolution of relative positions among the actors.

It is therefore necessary to recall that an important work in data collection and validation is needed before using the matrix. It is furthermore important to stress that the matrix has no analytical power. By presenting the data in a way which facilitates the observation of distances and evolutions, they are tools *for* analysis and *not analytical tools*.

Only two decisions have been studied. The two decisions, cohabitation in the 3 miles and funding, were chosen as two extremes of the decisions range. Cohabitation problem is at the crossroad of social and biological problems (MEURIOT, DREMIERE, CAPELLE, 1987) ; funding is generally perceived as a bio-economic issue (CATANZANO, GILLY, LANTZ, DURAND, 1988). It will be interesting to use the same methodology for other types of decisions, more biologically oriented, such as gears and fishing time limitations. It should also be interesting to analyze DMPs in other fisheries, in Atlantic or the North Sea.

In this study, fish and ecology are absent ; they have no voice in the DMP despite the fact that many actors pretend to speak on behalf of them. For many scientists, it may be an unexpected (?) conclusion of this exploration of the black box that ecology and biology, always invoked, are not the actual stake of the decisions in fisheries management. This short exploration recalls that fisheries management is, first, a negotiation problem among users groups.

## Bibliography

Direction Régionale des Affaires Maritimes, 1991 : Monographies 1990 des Quartiers des Affaires Maritimes.

Catanzano J., B. Gilly, F. Lantz, M.H. Durand, 1988 : « *Analyse des résultats et des comportements économiques des entreprises de pêche* ». Paris, IFREMER.

Farrugio H., Y. Le Corre, 1986 : « *Etude pour une gestion optimale des pêcheries interactives dans le Golfe du Lion* ». Sète, IFREMER.

Galle, M., 1990 : « *Le processus de décision en matière de pollution. Une étude du jeu conflictuel comme mode de résolution* ». Thèse pour le Doctorat de Sciences Economiques, Univ. de Paris I, Panthéon-Sorbonne.

Galle, M., 1991 : « *Les mécanismes de décision dans la gestion des pêches. Le cas d'un port méditerranéen* ». Rapport final Paris, AIDA-IFREMER.

Meuriot, E., 1986 : « *La flotte de pêche française de 1945 à 1983* ». Paris, IFREMER, coll. Ressources de la Mer.

Meuriot, E., P.Y. Dremière, J. Capelle, 1987 : « *Le chalutage en Méditerranée : le port de Sète. Evolution économique* ». Paris, IFREMER, Rapports Econ. et Jur., N° 3.

Meuriot, F., P.Y. Dremlère, 1987 : « *Les licences de pêche : le cas de la Méditerranée française* ». Paris, IFREMER, Rapports Econ. et jur., n° 2.

Rey H., 1989 : « *Etude économique de la pêche aux petits métiers en Languedoc-Roussillon* ». Paris, Direction des Pêches et Cultures Marines.

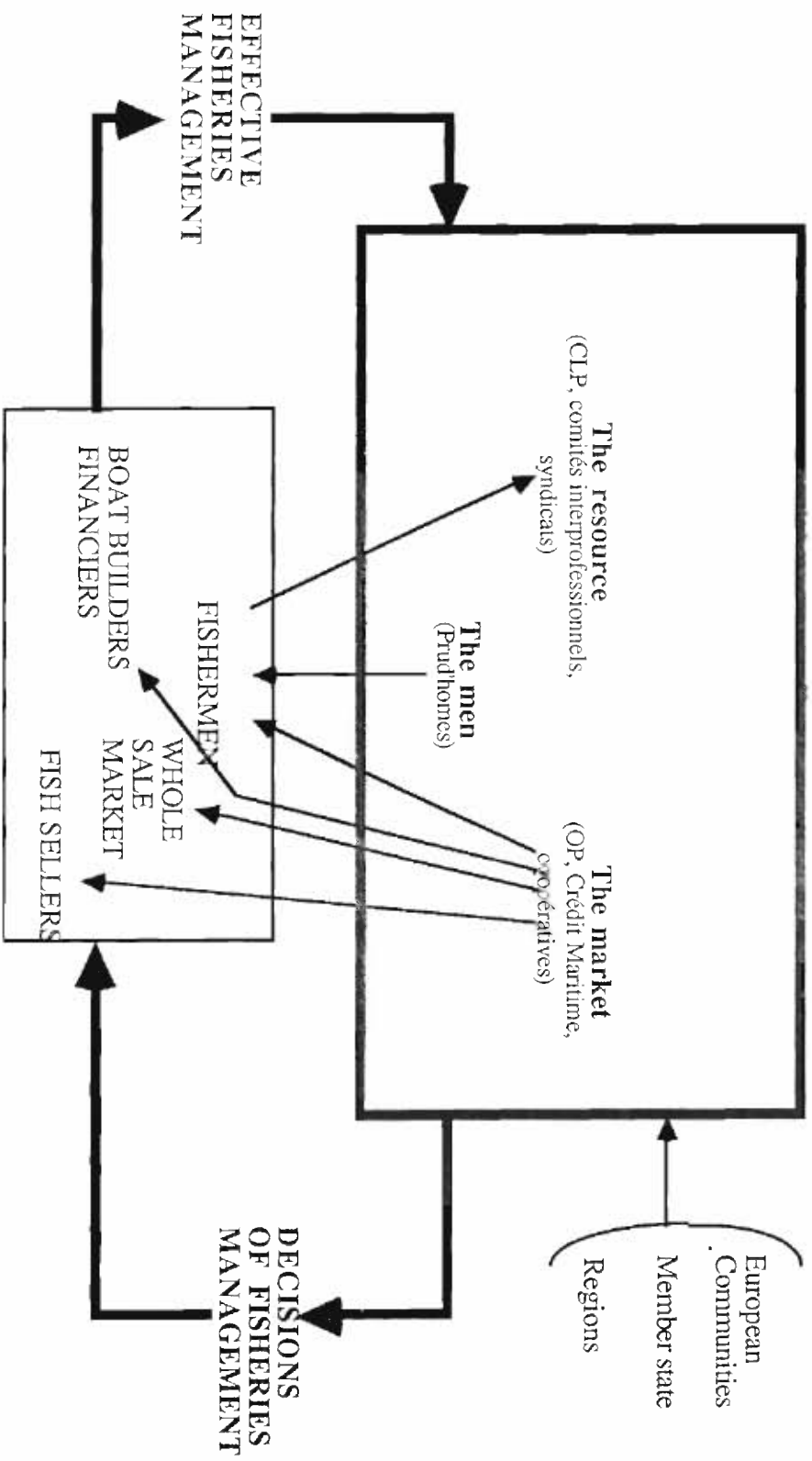
Rey, H., 1990 : « *Synthèse de la réglementation des pêches en Méditerranée* ». Unpubl.

Weber, J., M. Antona, 1990 : « French fisheries regulation schemes in the EC's context : towards fisheries adaptive management ? ». *Vith. IFET International Conference*, Santiago, Chile, December 3-6.

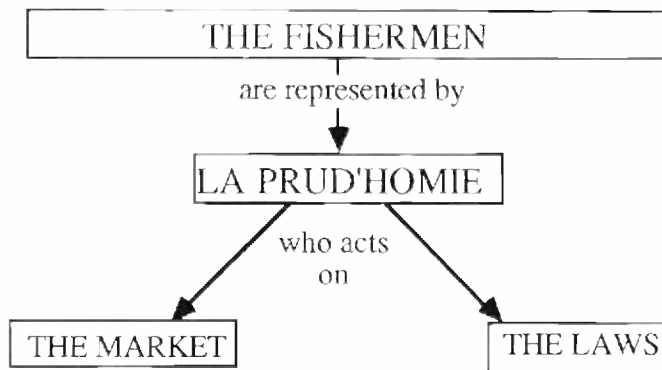
Zarella D., 1989 : « *Nature et représentativité du Comité Local des Pêches Maritimes. Analyse d'une institution d'origine étatique* ». Mémoire pour le DEA, Montpellier, Fac. de Droit.

# APPENDIX 1

## DECISION MAKING IN FISHERIES : WHO SPEAKS, FOR WHAT ?



APPENDIX 2 - THE SYSTEM AT THE PORT LEVEL



Economical organisation of the fisheries (oligopolistic logic)			Institutional structure of the fisheries regulation (corporatist logic)		
Organism name	Type of organism	Person	Organization name	Type of organism	Person
ASSIDEPA	Boats technical agreements	X Z	Prud'homie	Local representation	X Y Z
OP Thon Rouge	Producers Organisations	X	Comité Local des Pêches		X Y W
CI Sardine		X Y Z	Synd. La Coquille	Trade-unions	W
OP SATHOAN		X Y Z	FFSPM (syndicat des patrons-pêcheurs)		X Y Z
ANOP		Z	Comité Régional des Pêches	Regional representation	W
Commission de la Criée	Auction Place Commission	X Z	Comité Reg. des Conditions de Travail		X W
Commission Nautique	Port commission	X Z	CEPRALMAR	Regional politic organiz.	X Y Z W
Coopé. des Chalutiers Sétois	Selling coopératives	Z	CO RE MO DE		fundings
Conseil d'Adm. du Crédit Maritime	Mutual Fishermen Cooperative Bank		CCPM	National representation	X W
Group de Gestion des Pêcheurs Sétois	Fishermen's accounting organization	X Y Z	Commission ad hoc (Bruxelles)		European repr.

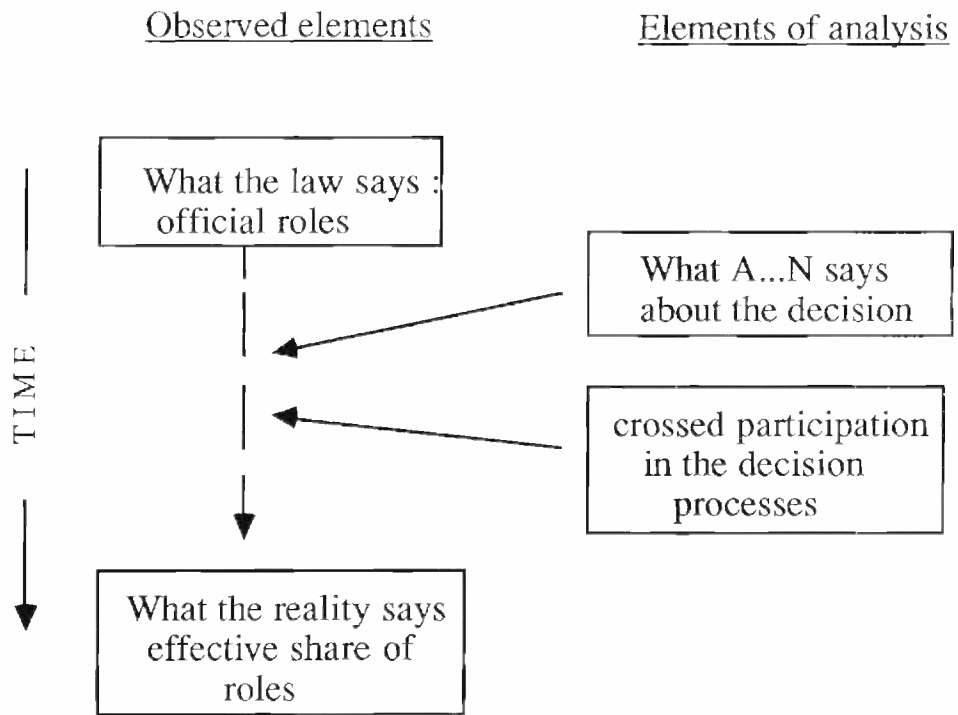
X,Y and Z are some fishermen leaders, owners of trawlers, and Prud'homes.

W is a représentative of small-scale fishermen, respected in the community but not Prud'home anymore (he's retired).

One can see that for 20 existing representative commissions, 4 person actually lead (once as director, once as president of these commissions) the professional representation.

APPENDIX 3

WHAT THE MATRIX SAY



APPENDIX 4 : ROLES MATRIX-1

Trawling in the coastal zone

1964-1974

ACTORS	OFFICIAL ROLES	EXPRESSED POSITION	EFFECTIVE ROLE
Quartier des Affaires Maritimes	Enforcement Administrative sanctions	The rule of no trawling in the coastal zone has to be strictly applied	Stop the increase in derogations Dissuading illegal actions by severe administrative sanctions
Tribunal d'instance			
Comité Local des Pêches Maritimes			
Prud'homie de Sete-môle	Mandated to notify infractions in the sea		
Prud'homie d'Agde	as above	Prud'homies in general :	make the cohabitation
Prud'homie de Palavas	as above	Dividing the maritime space in two zones contradicts the cohabitation principle but trawling is not compatible with fixed nets in the coastal zone	between two fisheries possible
Prud'homie du Grau du Roi	as above		
ISTPM/IFREMER	Scientific advice on resources and alternative technologies Consulted on administrative decisions	The coastal zone is a reproduction zone, threatened by trawling, and has to be protected Substitutive fisheries have to be found for the small trawlers	Official consulting for administrative decisions Effective consultant for the other actors (fishermen, tribunal,...)

For the need of a clear presentation, only the informations about the three main actors are kept in the tables, and only two main periods are presented here.



APPENDIX 4 - ROLES MATRIX-2      Trawling in the coastal zone  
1980-1990

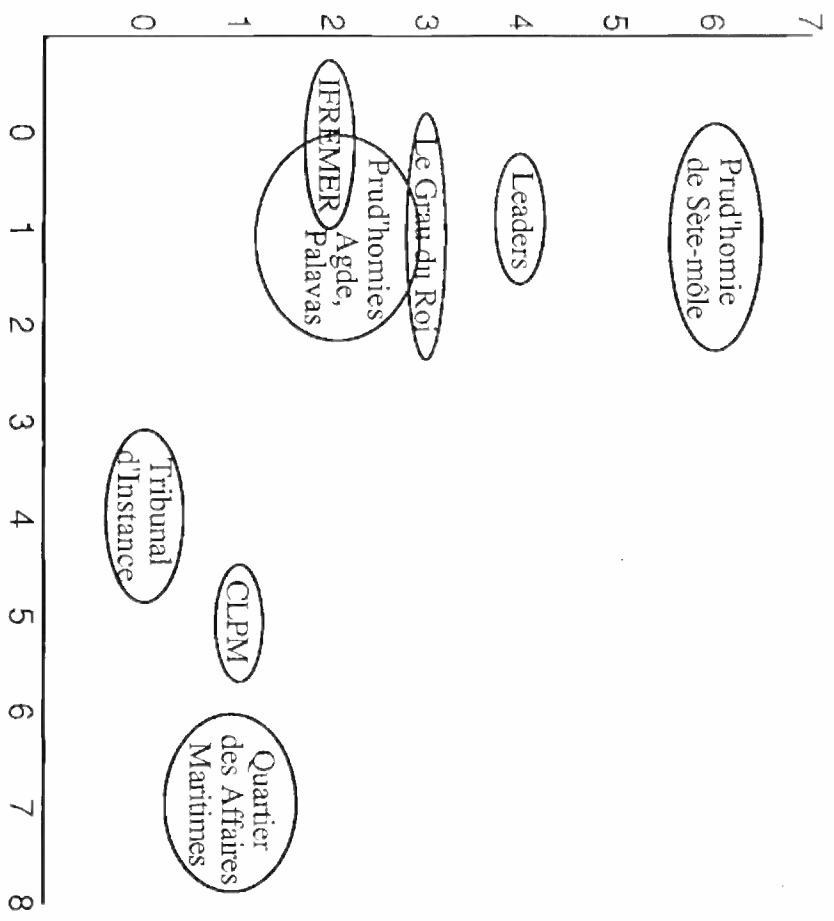
ACTORS	OFFICIAL ROLES	EXPRESSED POSITION	EFFECTIVE ROLE
Quartier des Affaires Maritimes	Enforcement	The law is not applicable in the actual situation, where the Administration is under pressure by the trawlers Coastal trawling is implicitly recognized by the Prud'homies, who encourage an illegal way of resolving the conflicts	Indulgence. Administrative authority is contested by all the actors
Tribunal d'instance			
Comité Local des Pêches Maritimes			
Prud'homie de Sète-môle	Mandated to notify infractions in the sea	Conflicts are resolved by direct negotiation between men, following the principle : "the net breaker is the payer". The administration is inefficient.	short-circuits the administrative authority by supporting a non official mode of resolving conflicts, where the destruction of the biosystem is not taken in account
Prud'homie d'Agde	as above	Conflicts have to be resolved by the fishermen.	
Prud'homie de Palavas	as above		
Prud'homie du Grau du Roi	as above		
ISTPM/IFREMER	Scientific advice on resources Consulted on administrative decisions	Expert controversies : the threaten on the biosystem and the fish in the coastal zone is no more evidence for the biologists. The trawling problem is more a social problem of cohabitation, than an ecological problem.	Increasing independance of the administration, in order to keep a neutral position in the debates
Leader chalutier			
Leader syndical du Grau du Roi			
CEPRALMAR			

**APPENDIX 5**  
**CROSSED REPRESENTATIONS MATRIX - Trawling in the coastal zone**

There is a cross in the intersection each time the actor in the first column is consulted, or institutionally participates in the decisions taken by the actor in the first line.

ACTEURS	QAM	Tribu- - nal	CLP M	Prud. Sète	Prud. Agde	Prud. Palav	Prud. G d R	IFRE- MER	Lea- ders	TO TAL
Quartier des Affaires Maritimes	=	X								1
Tribunal d'instance		=								0
Comité Local des pêches Maritimes	X		=							1
Prud'homie de Sète-môle	X	?	X	=	X	X	X		X	6
Prud'homie d'Agde	X		X		=					2
Prud'homie de Palavas	X		X			=				2
Prud'homie du Grau du Roi	X	X	X				=			3
ISTPN/IFREMER	X	X						=		2
LEADERS	X	X	X	X					=	4
TOTAL	7	4	5	1	1	1	1	0	1	21

APPENDIX 5  
CROSSED REPRESENTATIONS GRAPHIC - trawling in the coastal zone



**APPENDIX 6**  
**ROLES MATRIX 1 - financial aids**

1980	OFFICIAL ROLES	EXPRESSED POSITION	EFFECTIVE ROLE
Commission Européenne			
Direction des Pêches	Financier Choice of the attributions criteria	Fisheries have to be technically modernized, and better organized.	Making the rules
Direction Interrégionale des Affaires Maritimes			
Conseil Régional CEPALMAR			
Crédit Maritime Mutuel			
COREMOD/GRIPA	Attribution of aids case by case, controlling conformity and applying regional priorities	The profession has to be structured : prior choice to the fisherman belonging to a producers organisation.	Relay between the central government and the local actors Local interests (politics, leaders' own interests) are weighed in case by case
Elus locaux			
Représentants des professions	Members of the COREMOD commission Consulted on the boat performances and the fishermen's abilities	Trawlers have to be more powerful They have to conform to an agreed type	Pressure or opposition in individual cases, discussion on the criteria of choice
ASSIDEPA			
IFREMER			

For the need of a clear presentation, only the informations about the three main actors are kept in the tables, and only two main periods are presented here.

APPENDIX 6  
ROLES MATRIX 2- financial aids

1988	OFFICIAL ROLES	EXPRESSED POSITION	EFFECTIVE ROLE
Commission Européenne			
Direction des Pêches	Restrictive criteria for financial aids, according to the new european directive	constructions have to be stopped in order to conform to the european plan	Power reduction imposed
Direction Interrégionale des Affaires Maritimes			
Conseil Régional CEPRALMAR	Financier and decider for specific regional aids	Problems of fishing power in France are not located in the Mediterranean where it has already been controlled, but in the Atlantic. Aids for new constructions must continue.	Propositions for a specific mediterranean plan. Financial aids case by case
Crédit Maritime Mutuel			
COREMODE	Functioning in a simplified procedure (mailings)	Aids are too low to justify regular meetings of the commission	Stand by
Flus locaux Représentants des Professions	Consulted in the CEPRALMAR, regional commission of aids	Stopping construction is not just. It threatens the international competitiveness.	Pressure, lobbying Obtaining regional aids
ASSIDEPA			
IFREMER			

APPENDIX 7  
THE CROSSED REPRESENTATIONS MATRIX  
Subventions attribution

There is a cross in the intersection each time the actor in the first column is consulted, or institutionnaly participates in the decisions taken by the actor in the first line.

First period : 1974-1980

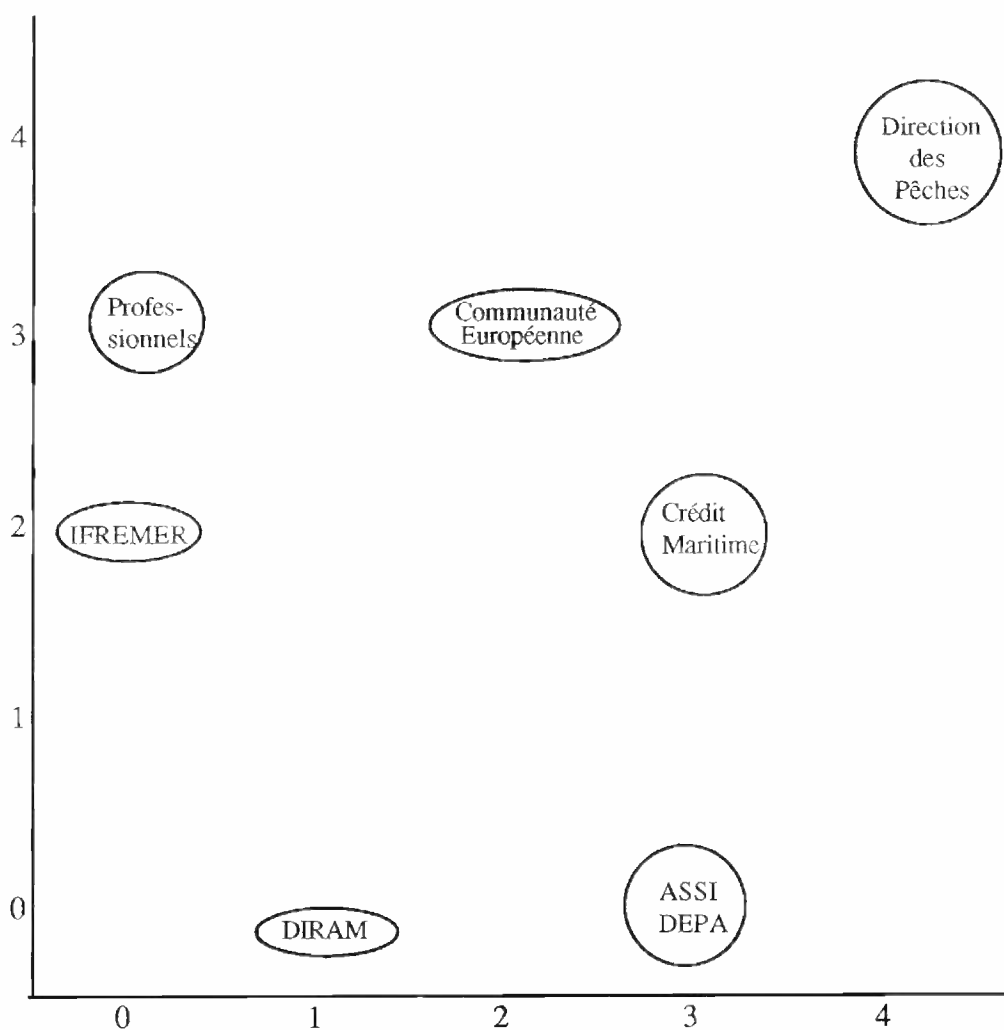
1974-1980	Com Eur	Dir Pêche	DIRA M	Cred. Mar.	Repr Prof.	ASSI DEPA	IFRE MER	TOTAL
Com. Europ.	=	x		x		x		3
Dir. Pêches	x	=	x	x		x		4
DIRAM			=					0
Cred. Maritime		x		=		x		2
Repr. profess.		x		x	=	x		3
ASSIDEPA						=		0
IFREMER	x	x					=	2
<b>TOTAL</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>14</b>

\* Second period : 80-84

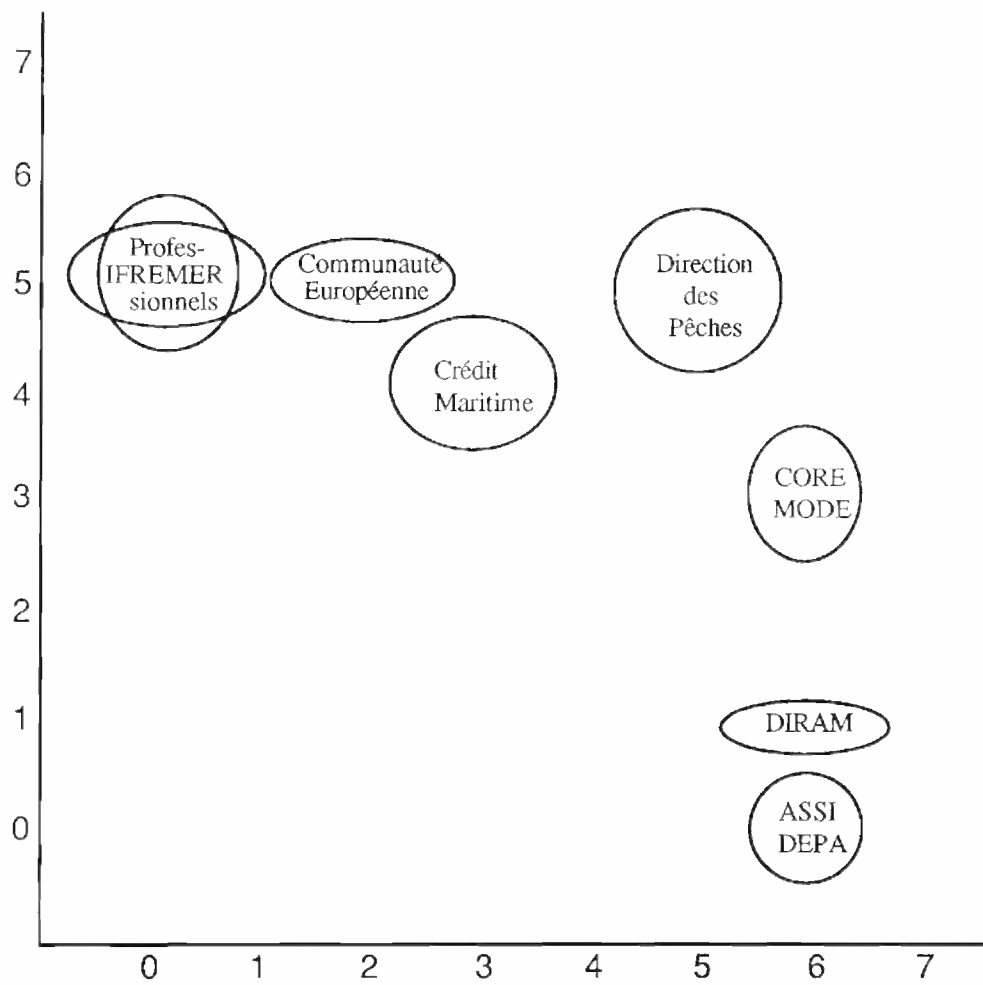
80 - 84	Com. Eur.	Dir. Pêche	DIR AM	Cred. Mar. Mut.	CO RE MOD	Repr. Prof.	ASSI DEPA	IFRE MER	TO TAL
Commission Européenne	=	X	X	X	X		X		5
Direction des Pêches	X	=	X	X	X		X		5
Dir. Interrég. des Affaires Maritimes			=		X				1
Crédit Maritime Mutuel		X	X	=	X		X		4
COREMOD		X	X				X		3
Représentants professions		X	X	X	X	=	X		5
ASSIDEPA							=		0
IFREMER	X	X	X		X		X	=	5
<b>TOTAL</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>28</b>

APPENDIX 7  
CROSSED REPRESENTATION GRAPHICS : VISUALIZING  
THE POWER POSITIONS  
Subventions attribution

1974-1980



1980-1984





1984-1991

