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## The fishery management institutions

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## CHAPTER 6- THE FISHERY MANAGEMENT INSTITUTIONS

François Feral<sup>1</sup>

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## INTRODUCTION

The objective of the present chapter is to provide fishery managers with some understanding of the institutions involved in fishery policy making and management with particular emphasis on the institutions and its linkages with the supporting legal framework within which the respective roles and responsibilities of the different actors are established. The chapter will often distinguish the management of the whole sector from that of individual fisheries which, while necessarily nested, may require different considerations.

Fishery management is institutionally complex. It is concerned with the selection, on the basis of scientific advice, of the fishing regime most appropriate to meet policy objectives. Its main difficulties, however, come from the regulation of human behavior, negotiation between diverging interests. As stated in Chapter 5, the rules applicable to fishing are usually established by the administrative authorities of the State or delegated by it. However, other rules set-up by other administrative sectors for regulation of the civil-society in general and not necessarily inspired by the principles of responsible fishing, may also play an important role and, together with the rules specific to fisheries, form the body of law referred to as fisheries law. The set of rules and organizational structures governing the fishing sector primarily aim to: (1) facilitate the core functions of the sector, e.g. control, production, servicing, decisions, checks and balances; and (2) ensure representation of interests groups, e.g. fishermen, ship owners, communities, wholesale traders, territorial collectivities, conservationists, and control and police administrations. They constitute the complex fishery institutional system within which fishery managers and the sector must operate. Its complexity has emerged from ad hoc solutions to successive crises and it affects management decisions and their outcomes.

Fisheries management cannot be separated from public policies and administrations which are its organic and functional framework. The Code of Conduct (FAO 1996) calls on States to adopt measures for conservation and sustainable use of fishery resources *through an appropriate policy, legal and institutional framework* (Article 7). Public policies are the responses needed for improved public action. They are also a way of approaching a problem, according to a political rationality and society options which lead to social, political and economic transformation (Ricker and Ordeshook 1973; Mény and Thoënic 1989).

Responsible fisheries management cannot either be separated from sustainable fishery development. managed to ensure sustainable development. The trend noted in Chapters 5 and 17 from industrial fisheries development to their sustainable and responsible use was inspired by the corresponding shift in general public policies. The effects are not felt only in fisheries but also in other economic sectors with which fisheries are in competition and bring their share of overriding and contradictory objectives and constraints<sup>2</sup>. In addition, the use of fishery resources falls also under the national legal systems regarding public property, labor laws and environmental protection, the ideological concepts of which might be quite far apart from the bio-economic principles of fisheries.

The Code of Conduct underlines the need for States to provide an effective legal and administrative framework. In most countries the sector is administered through: (1) a system of public organization that formally structures the sector and the relations with the actors of civil society; and (2) a system of public action that intends to control the sector, its dynamism

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<sup>2</sup> Poverty alleviation, coastal development, tourism, protection of Nature, commercial and port infrastructures, healthcare policies, application of labor law, etc... may sometimes be higher priority folders within highly constrained budgetary policies.

and performance. This system can be seen through fishery laws, i.e. the set of legal regimes applicable to assets, persons and activities involved in fishery policies (Chevallier and Loschack 1978). The fisheries administration is generally complex, heterogeneous, bureaucratic and (still often) centralized and sometimes over-developed (Féral 2002). Nonetheless, it has continuously evolved, changing methods of control, means of intervention, processes and structures.

This chapter should be read in conjunction with Chapter 5. In its first part, it will present the institutional environment within which the manager operates, with its diverse legal regimes and systems of rights, reviewing the actors duties and responsibilities and the implications for management. The second part focuses on the complexity of the institutional system underpinning the fishery management function and reviews key aspects of the decision process.

## **1. THE MANAGER IN HIS INSTITUTIONAL ENVIRONMENT**

The organization and implementation of fishery policies is a States' responsibility to be fulfilled within the international policy, institutional and legal framework. The State remains the true entity responsible for fisheries in the areas under its jurisdiction. However, this formal responsibility is not sufficient to define concretely who is in charge of public fisheries policies and management. The prime difficulty in implementing this responsibility comes from: (1) the large range of modalities to fulfill this responsibility and (2i) the complexity of the administrative organization in a mutating sector, facing repeated crises. Numerous and sophisticated legal formulas exist for delegation of the management action to public or private institutions or to the fishing operators. This delegation may even be implicit and this does not always help clarify responsibilities. Nevertheless, an institutional framework is usually in place that the managers needs to decipher in order to operate efficiently. The fishing manager, however, is himself a part of the institutional fishery system and as such he must find his own place within his institutional environment.

### **1.1. The diversity of fishery managers' legal regimes**

Depending on the country, the fishery manager, whether as the natural person or legal other legal entity invested by the State with the responsibility for fisheries management, will find different legal and institutional situations greatly depending on the States principles and practices and on the legal system shaped by jurisprudence, history and traditions. Chapter 5 describes the web of laws in form and substance that comprise the fisheries legal regime which in turn influences the fisheries management institutional structure. Some of the sources of fisheries law or aspects of the legal environment that influences the institutional framework are: (1) the fishery-specific laws adopted by the designated State authorities complemented by non fishery-specific laws of relevance to the sector, that are enacted to implement general public policy objectives e.g. in public property, labor law, environmental protection, town planning, tourism, etc; (2) the general rules of interest groups (e.g. fishing partners) that govern internal and inter-group relations;

The different models for monitoring and regulating fisheries are the outcome of many years of negotiations and institutional adaptation to changes in resource exploitation. The traditional economic organization of the enterprises, the nature of the resources and the environment, the acquired rights, the history of the fisheries, the evolution of the markets, etc., have all influenced the content of the legal framework and can explain the observed

differences in management systems. Three regimes can be distinguished: (1) free access and economic liberty; (2) State control through public administration; (3) and delegation of control to given actors or institutions. Most often, the system used to manage the sector or its fisheries is a combination of the three.

### 1.1.1 The regime of free access and economic liberty

The principle of the freedom of access to the marine areas and fishery resources has played a decisive role in the forming of pressure groups, the management of use rights and the acquisition of knowledge about the ocean. It was grounded on western liberalism, i.e. upon the tradition according to which nature belongs to no one and everyone may enjoy its resources<sup>3</sup>. In practice, since the LOS Convention, we have witnessed the receding of the freedom of fishing, including outside of the States jurisdictions. The States can still defend their citizens' right to fish on high seas but only on the condition that they exert the control foreseen in the framework of relevant international conventions. In any case, what is now provided by fishing laws and institutions is a conditional freedom.

The freedom of access to the sea has been recognized since the 17th century in international legal tradition. Within this concept, ocean spaces and all structures dependant on it were considered common resources (*res communis*)<sup>4</sup>. This means that, when there were no other rules or regulations on use and access, these spaces were, as a rule, under the legal regime of freedom. The freedom to navigate, catch fish, use, and occupy ocean space, was then recognized for anyone. However, this use of ocean resources did not constitute any real right, i.e. a right opposable to a third party. Today, this situation of freedom is exceptional because numerous management and policing rules have been adopted by the States. But on high seas, freedom still constitutes the basic principle upon which the manager must build the rules for the management of the right to fish (Russ and Zeller 2003).

Another principle of law that must also be taken into consideration in most countries is the economic freedom granted to persons. The freedom of trading and doing business imply that the individuals and the legal persons have "*the right to practice the economic activity of their choice, in any way they choose and to set up business wherever they see fit*" (Dreyfus 1976). Naturally, this right is regulated but it is still considered fundamental and has been reinforced by the international conventions on trade (e.g. the World Trade Organization or the European Union's economic principles) as well as the constitutional rights in the United States. In order to limit the exercise of such fundamental individual economic right, the manager will have to provide proof that the restrictive measures are necessary, proportional and enacted in order to fulfill legitimate objectives (Ruiz Garcia 2000).

### 1.1.2 The regime of public administration

The principles of economic liberty and freedom of access create difficulties for sustainable development and responsible fisheries management. The establishment of EEZs has transferred the responsibility of implementing these principles to the coastal States by recognizing the national character of their resources in a process sometimes seen as a privatization by the State (Beurier, 2006/07 Chapter 114; Charles 2000). The State can therefore legitimately exclude or limit access of the fishing vessels from other countries. It has also the power to supervise the exercise of freedom by its own users and to intervene in the resources development. The most usual approach to fishery management today is for a

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<sup>3</sup> The 1958 UN Convention on Fishing and Conservation of the Living Resources of the High Seas recognized the freedom to fish just after the liberty to navigate. The Montego Bay convention maintained this principle in its Article 87, but made it considerably more subtle (United Nation 1983; Levy 1980).

<sup>4</sup> *res communis* is a latin roman legal notion meaning the global common property of the ressources

State to entrust public administrations with the mandate to manage the spaces and the resources through unilateral measures of administrative policing or measures authorizing or prohibiting access. This is why fishing is referred to as an administered activity and a regulated profession. Within this system, the management of the individual fisheries and the general fishery policies are inextricably interlinked, giving rise to significant difficulties in decision making.

In order to define, implement and enforce fishing policies, the Governments designate a political authority to deal with the fishing sector, e.g. most often a Minister or Secretary of State (e.g. of Agriculture, Commerce, or Transport) who becomes the political and administrative authority with executive power to define and implement the fishing policies. In the State's name, this authority fulfills the necessary functions of: (1) representation, of the Government within the fishing sector and with other States; (2) development of the legal norms applicable to the sector (e.g. laws, rules, regulations and directives); and (3) management of the administrative services in charge of the supervision of the social and economic activities of the fishing sector.

However, very often, different political organs are put in charge of certain aspects related to fishing, within other missions. The fishery policy may therefore depend on several ministerial departments who share several functions related to the administrative supervision of: (1) certain activities which can affect fishing as an economic activity, e.g.: market control, shipyards, transport, the legal and fiscal regimes of the company, the social maritime regime, quality control of fishery products, navigation control, and port control. (2) certain assets of relevance to the fishing sector: statutes of the ship or of marine territories; regulation of the equipment needed for the production and trade, etc.

Under these conditions, it is frequent that a coordinating organ be set-up for decision-making (inter-ministerial committee or council). The authority in charge of fisheries therefore finds itself to be dependent on a coordinating institution which *de facto* exercises the function of governmental decision-making in the fishery domain. Within most developed countries, administrative traditions result in the fishing sector falling under the competence of several types of administrations such as: (1) a military maritime administration constituted in order to organize and control navigation for which the "fishing police" aspects are therefore often dominant; (2) the central administration of agriculture which, by analogy with its central responsibility will be better at tackling economic aspects of fisheries; (3) a specialized administration such as the Fishery Ministry or the Ministry of the Sea in which case the resource and industry issues may be adequately dealt with; (4) a fragmented system with different types of administration sharing out of the various competences.

The scientific administration of fisheries was established during the fishing industrialization period, when States created public scientific structures in charge of gathering scientific information on fishery resources. The purpose was to promote the use of these resources through diffusion of industrial production techniques, in conformity with the "productivist" model of agriculture. Nowadays, these scientific structures are required to conceive and to monitor the application of fisheries management and conservation in conformity with the guidelines of the International Community such as the FAO technical guidelines. In many cases, scientific administrations enjoy a legal status with a certain degree of autonomy. Their creation was encouraged at an international level in order to constitute a network of expertise and establish an objective knowledge base for fishery management and are the main scientific instruments assisting the State in decision-making.

### 1.1.3 The regime of delegated administration

Under this third management model, the State may de-concentrate its administration or delegate the administrative functions to the private sector.

Territorial de-concentration of the administration is the instrument for spatial redeployment of the central State. The delegated civil servants represent the central administrations on several levels of decentralized territorial circumscriptions. Most often, these levels correspond to the country's general administration levels: e.g. regions, municipalities, districts and rarely coincide with the territories that would be most relevant for fisheries management. *A contrario* the port circumscription can be pertinent criteria to identify the group that might be responsible for a particular fishery. The administrative actors responsible for these circumscriptions are put in charge of certain hierarchical tasks which are defined within the State or Government controlled bureaucracy, e.g.: authorizations to practice the profession; control of the investments and equipments; administrative policing of fishing operations; maintenance of a record of fishermen/sailors; security and safety control; registration of ships and their movements; control of landings; and resource assessments. The fragmentation of fishery functions between several Ministries mentioned earlier at central level can repeat itself at local level in such a manner that the users must work with several administrative interlocutors. As a result, the functions related to the policing of the production process, the status of ships or persons, the economic intervention, or the product quality control may fail to be integrated.

The creation of specialized structures depending directly on the State is the instrument for technical redeployment of the central State. These structures may fulfill administrative functions on its behalf. In this case, the representation of the State is either sectoral or sub-sectoral. The intermediate organs, created by the State and therefore institutionalized in the same manner as the delegated administrations, may include: a local fishery research centre; an *ad hoc* establishment for a port management; a fishery school; a center for maritime safety; and an administrative center for extension work, e.g. on fishing techniques.

The delegation of power to private or public persons put in charge by the State of certain technical missions lead to public service delegations or the public market holders, e.g.: (1) a chamber of commerce can be in charge of building and managing a fish auction house; (2) a bank may be subsidized to grant loans and promote maritime investments; (3) a university can be in charge of setting up a fishery resources observatory ; (4) an NGO can be put in charge of training fishermen's wives in business management techniques; and (5) an international organization (e.g. FAO) can be in charge of providing technical assistance within a specific program.

## 1.2 The allocation of rights

The right to exploit the common property fishery resources is allotted to the States which are expected to administer them on behalf and in the interest of the communities they represent (custodial powers), preserving the collective property in a satisfying condition for future generations. This legal reality and the societal expectations influence the types of rights that a fishery manager can grant on spaces and resources, and the design of the mechanisms available for such allocation.

### 1.2.1 The limits of the rights

Ocean waters and fishery resources are considered public (*res communis*) and their use is part of public rights. As a matter of principle, the fishery resources belong to who catches them. The prime holder of harvesting rights is the generic user of the sea and of the related

public properties, and the State exercises its rights in his/her behalf in order to ensure public order. The harvesting act, even repeated for a long time, is not acquisitive (does not create a real right) because, most of the time, the ocean space is imprescriptible. The individual right to use the sea can therefore be described as the right to draw from it all the utility it can provide as long as this does not interfere with public use.

The right to use and manage these resources was extended in an exclusive economic zone, managed by coastal States under the 1982 Law of the Sea Convention (LOSC). However, when exerting their sovereign rights, e.g. when elaborating their fishery policies, States cannot totally ignore these general user's rights. The fishery managers' main difficulty will therefore be to enact a number of occupational rules, in accordance with the principle of *res communis*, while preserving the resource. The notion of sustainability equally authorizes making the most profitable use of the resources, as long as their renewal capacity is maintained for future generations. Managers have at disposal a number of instruments and measures allowing for resources management and control of the exploitation (see for instance Chapters 5, 7 to 11, 14, and 16). Their managerial powers are indeed stronger than in any other economic sector as the State detains the monopoly of fishery resources allocation and numerous opportunities to limit control and audit the fishing enterprises.

In most developing countries, the access to the fishing profession is free and even not yet legally defined. By contrast, in many countries, there is a statute of sea farers and more specifically a statute for fishermen. The fisherman is first and foremost a sailor and this differentiates him from the ship-owner who owns the ship and its equipment. This statute can be described as the legal and administrative regime applicable to the physical natural person actually exercising the profession of fisherman. In all, the status of fisherman confers a privileged right of access to the resource defined by the right to use certain equipment for the harvest, including ships, specific gear, etc. For the fishery manager, the status and the classification of fishing activities constitutes a means of regulation, used to influence the conditions of access and harvesting, for the implementation of fishery policies.

As mentioned in the first paragraph of this section, the freedom of access to aquatic resources has created *de facto* an occupation of many fishery areas and a monopolization of the resources but no "real right". However, privileged rights to use a fishery space or resource may be accorded by the State to a group or an individual, in contradiction with the *res communis* rule, for the following purpose: (1) to validate a precedent traditional and collective occupation; (2) to promote sustainable use (cf. Hardin 1968; Troadec 1981); or (3) to reduce the precariousness of fishing investments by improving the legal security to the enterprise providing operators with a guarantee acceptable by banks.

The State cannot, however, concede more rights than it actually has and it is difficult for it to transmit real ocean-property rights to the private operators. However, allowing fishing under certain conditions can be a factor of sustainability. The right to fish granted by a State is closer to a personal right than to a patrimonial right or real right<sup>5</sup> in the sense that the beneficiaries are included in an administrative system which confers them a personal status under certain conditions. These rights disappear when the measure is abrogated or when the people no longer fulfill the initial requirements. Therefore, fishing rights can only be recognized within a process of administrative legality by becoming an integral part of a

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<sup>5</sup> The real rights are exercised by the holder through a thing, and the real right is given with the thing when the property of the thing is transferred. A personal right is a debt of a person among another person. The problem in fisheries is that the thing (the fish before the capture) is undetermined and in common property: the fisherman has an authorization to fish, a debt among the public power, but he has not really the property of the resource before the capture.



management model. Such rights are not easily opposable to a third party (e.g. the general user of the sea) and could always be contested on the basis that the rights on the sea are in imprescriptibly<sup>6</sup>. Finally, it should be stressed that the transferability of these rights is a modality of their administrative status which does not confer them the nature of real rights.

### 1.2.2 The foundations of the rights

The rights recognized to private individuals to access fishery resources and spaces, are based on different recognition mechanisms guaranteeing their exercise to a limited degree:

- Implicit recognition. This is the case of the village communities, and the families of fishermen without formal statute. As long as these groups do not enter into competition with the other users of the spaces and the resources, the public authorities implement the rule of the first occupants upon a *res communis*. This is a de facto recognition<sup>7</sup>.
- Legal recognition of personal rights, to the benefit of an individual, a company, an establishment or a group of individuals, can find their origins either within the law, the rules and regulations. The source of the right to special occupation of the fishery spaces and the right to special access is a unilateral decision of the State. This procedure creates a legal statute for privileged access to the resource.
- Contractual recognition of the rights allows the increase of the user's responsibility. Public authorities may use the convention procedure, privileging the contractual mode. Licenses, concessions, or authorizations assorted with conditions, therefore provide the future holders with rights founded on the acceptance of the conditions formulated within the legal specifications.

### 1.2.3 The types of rights

The rights conceded to the civil society institutions can be distinguished by their content, precisely determining the nature and the extent of the operator's rights and, in particular, their limits and their opposability to a third party, e.g.:

- The authorizations for a privileged use of the fishery spaces. Most often, the systems of license are the authorizations to use, under certain conditions, certain equipments for fishing within determined marine areas. These authorizations may equally have as purpose the privatized occupation of a space in order to practice certain kinds of exploitation, e.g.: for the establishment of fish farming pens or the building of fixed fishing gear such as fish pounds, set nets, traps, barriers and fish pots;
- The allotting of resources where the purpose of the concession is the capture of a certain quantity of resources (quota) fixed beforehand by the administrative authorities. These administrative authorizations may often be transferred (e.g. through auctions) on the private market<sup>8</sup>;

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<sup>6</sup> Ex: the conflict opens in Iceland by the villages' fishermen among the exclusive concession given to industrial fisheries companies.

<sup>7</sup> But certainly not a protection: village communities are regularly dispossessed of their spaces and resources, to the benefit of other operators (for industrial fishing, aquaculture, tourism or urban development).

<sup>8</sup> This does not change the nature of the rights, the number of which, and associated constraints are determined by the State which can revise them. The auctioning serves only to determine the identity of the holder (most often in exchange for a fee).

- The concessions of fishery management and police, whose purpose is to transfer, by convention or unilateral rule, all or part of the States management and regulation responsibilities, into the hands of a delegated institution. The concessionaire is therefore subrogated in State rights: the concession can be accorded to a professional corporation, a community, a company, a consortium, a cooperative, or to a private individual<sup>9</sup>.

A concession is a contract by which the State authorizes an individual to exploit, for himself or on behalf of the State, the common resources, or to occupy public spaces, or to undertake building work or public services on behalf of the community. The concession may be granted to, inter alia: a person, a group of people, a commercial or industrial company, a public or a private collectivity, a union, a cooperative, a municipality, a corporation, and a village. These regulatory authorizations are, today, the most widespread method used to regulate access to fishery resources and territories. This maritime activities are rarely established on private properties: a regime of administrative authorization is very often used for the installation and exploitation of fishery or fish farming infrastructures. The license to fish is a type of concession, authorizing a limited number of people to use certain fishing gear or to harvest certain quantities of fishery resources on the basis of a unilateral administrative decision. The concession can also refer to all or part of the State's servicing or policing activities through concession for public work or delegation of public service.

Because of their characteristics, concessions offer none of the guarantees of land property. They most often rests on unilateral authorizations which are both precarious and revocable. This underscores the precarious nature of the fishery or fish farming concessions, the related investments, and the amortization and remuneration of these investments. Numerous legal developments exist in most countries to mitigate this precariousness e.g.: (1) transferability of the right of access to spaces and resources that allows companies to remunerate their non tangible right on an authorized activity; (2) compensation of the company in the case of revocation of the concession or difficulty in the exercise of their access rights; (3) the taking charge of investments, provision of subsidies, or guaranteeing of loans; (4) the reduction of suppression of taxes, in particular regarding national traditional fishing activities; and (5) the limitation of the right of access, therefore creating de facto a group of privileged actors.

### 1.3 Duties and responsibilities

When the Code of Conduct refers to “responsible fisheries” it evokes explicitly the concept of responsibility. However, since its adoption, there has been little progress with regard to imposing an efficient responsibility regime in fisheries. In law, the notion of responsibility establishes the obligation made to a subject of law e.g. a natural person, to repair the prejudice caused by his or her fault or as a result of his or her activity. In the context of this chapter on the institutional frameworks, the focus would be on what institutional mechanisms, if any, are established to enforce an allocated responsibility or duty. Several questions arise:

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<sup>9</sup> The convention provides the legal foundations of the delegated authority. The delegated concessionaire exercises a dual power (of internal discipline and external police) opposable to a third party and guaranteed by the conceding State. When the delegated institution is a small-scale fishery community, this option seems to be most suited to guarantee the community's rights and ensure the internal discipline of the group (FAO 2004).

### 1.3.1 Who is legally responsible for unsustainable fishing?

The Code of Conduct is wide in application and calls on states, RFMOs and other fishery bodies, governments and administrations and agencies, NGOs, the private sector and individuals to ensure responsible fisheries. Thus responsibility may be allocated to States, State authorities, the economic operators and the consumers but the assignment of responsibility and the mechanisms to enforce this should be founded in law.

- The States are the most general recipients of the Code of Conduct recommendations (e.g. Article 8). The Code encourages States to organize and set up appropriate policies according to explicit principles. In the international sphere, however, it would be difficult for one or several sovereign States to enforce implementation against another State unless the States concerned are parties to a binding agreement which sets out an agreed dispute settlement mechanism. Enforcement of “responsibility” under a voluntary instrument such as the Code of Conduct however is not possible. The State, within its own jurisdiction, could be subjected to the duty to implement the requirements of the Code of Conduct only if such requirements and the right to challenge the State are expressed as commitments in national legislation.
- The authorities or institutions to which fishery management authority has been delegated act on behalf of the State. They are therefore responsible due to the delegation of competence and powers they have received. In the domestic sphere the authorities could be subjected to challenge for not fulfilling the States duty if this is stipulated in legislation.
- The economic operators identified as perpetrators of irresponsible exploitation of the fishery resources bear the responsibility. It is before the States in charge of implementing the measures for sustainability that the operators shall have to answer for such irresponsible behavior or for their part in such behavior. The State or authorities could also enforce responsibilities in the forum or through the process designated in law.
- The consumers may also have a responsibility as, through the act of purchase, he or she provides the incentive for excessive fishing. They benefit from a scarce resource and the under-valuation of such resource by the market is to their advantage.

### 1.3.2 Who are the victims?

Only persons or entities that suffer direct and real injury arising from “unsustainable and irresponsible fishing” can lodge claims against the perpetrator of the act (or omission) that caused the injury. However, there could be problems in establishing real injury in connection with the notion of sustainability which suggests that acts that promote or designed to achieve sustainability are for the benefit of collective groups including the world’s populations and the future generations. This fuzziness is very prejudicial to any legal action, since only truly identified victims -or their formal representatives- may ask for reparation for present and actual damage. In the future, systems for representation of the victims could, perhaps, be institutionally recognized and would therefore be able to start legal actions. For example, environmental NGOs might be recognized to act in the interest of the public and the users, or of the communities who are victims of irresponsible fishing. The process of representation would also allow the emergence of the notion of collective damage, which exists in certain countries and within different special laws.

### 1.3.3 What damage and what prejudice?

As stated above, only damages for present and actual injury can be claimed. It is difficult to evaluate the present and actual injury that the law generally considers as warranting reparation. The hypothetical damages and the future damages are not recognized by law. The oil slicks have supplied us with examples where only the assessable prejudices of the legal persons and natural persons were recognized by international judicial fora. These were limited to the restoration expenses, including some loss of sales only with much reservation. The demonstration of a collective prejudice is therefore necessary in order to be able to take irresponsible fishing to courts. By analogy, the consumer and labor laws supply interesting models of collective prejudice and institutional representation (Bourgoignie 2004).

### 1.3.4 What fact generates damage?

The general law on responsibility provides that, in order to be imputed to a person, the damage must be caused by a fault due to the risks inherent in his/her activity. For example:

- The State: assumptions can be made regarding the culpability of the State for not taking the measures necessary to ensure sustainable fisheries in accordance with Article 8 of the Code. However, establishing a detrimental fault is not an easy matter in practice. For example failure of a State to exercise control over the ships flying its flag, does not, for the time being, give rise to the States automatic legal responsibility.
- A delegated authority. The delegation of fishery management responsibility to an authority to act on behalf of the State (i.e. as subrogate in the States' actions) implies that the same principles of imputation applied to States can be applied to the authority, unless the delegating State did not supply the means necessary for the exercise of such delegation.
- Other actors. The fault is easier to attribute to other actors. The measures taken by the States for protection and restriction within the fishery sector defines the field of responsibility of the actors while the fault is non compliance with. But these are most often a penal responsibility, which indicates that the fault is an administrative one.

The difficulty of assessing the connection between the likely causes (e.g. State authority's incapacity, actors' offences and delegates deficiencies) and their likely consequences (the observed damage) remains and is complicated by the interference of natural environmental variability, the impact of which is always very difficult to separate from human effects;

### 1.3.5 What sanction for the obligation of responsible fishing?

There is no international court, tribunal or other fora specifically charged with sanctioning unsustainable fishery policies or fisheries management by the State<sup>10</sup>. The policies can be right but the implementation or compliance can be wrong and we have seen above that it is difficult to set up an efficient institutional framework based on legal grounds to sanction this responsibility. However, a number of mechanisms could still progressively emerge. The difficulty regarding sanctions is the most obvious at State level. But, through international frameworks, some solutions may exist at other levels:

- Fishery bodies: within the framework of the fishery management organizations, the international community's pressure should progressively improve the degree of responsibility in fisheries. Obligations have been formulated for the States parties to

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<sup>10</sup> Specially, the international fisheries institutions have not legal power among their members

apply the agreed conservation and management measures. However, this cannot directly sanction the adoption of an inappropriate policy and only aims at “bending” these policies in the right direction;

- Aid programs and bilateral collaboration: through these bilateral or multilateral relationships, it may be possible to contribute to a correction of policies considered to be inopportune, but only in the countries asking for assistance or collaboration.
- Commercial and trading agreements: through these frameworks, it is agreed that measures restricting the commercial exchange can be founded upon considerations of sustainability while remaining compatible with the World Trade Organization treaty<sup>11</sup>. With regard to these sanctions, we may remember the boycotting by certain trade operators from the Northern hemisphere of fishery products considered as harvested under non-ecological conditions.
- At State internal level, one can imagine that action could be engaged against the administration for its deficiencies and its incapacity to exercise its responsibility in control, police, or poor management of the user’s resources. New Zealand was sued by Greenpeace for inadequate management of the orange roughly. These actions remain very marginal or even hypothetical, even though, by analogy, similar actions already exist in Europe within health, consumer, labor and public safety law (Sousse 1997).
- At actors’ level. We have seen above that their responsibility could be engaged on the basis of breaching measures for control or protection through fishing or trade activities. However, we can note that this repressive aspect is never accompanied by a plan for damages/compensation for the degradation caused to the environment. Nonetheless, this type of sanction is likely to be among the most effective in developing true awareness about sustainable use.

## 2. INSTITUTIONAL ENVIRONMENT AND DECISION MAKING

The fishery manager is part of an institutional system of relations quite different from the usual socioeconomic relations of the market and he/she faces organized actors whose socioeconomic situation depends on their administrative decisions.

### 2.1. The fishery management institutional system

Because fishery management is also concerned with the regulation of human behavior and the satisfaction of diverging interests, it has to deal with a set of rules and organizational structures which are not necessarily inspired by the principles of responsible fishing. The mix fishery and non-fishery rules and structures is elaborated by the collectivity and either voluntarily accepted by individuals (self-adhesion) or imposed on them by constraint. It constitutes the fishery institutional system within which fishery managers and actors must act, which influences decisions and management interventions and their outcomes. In the following sections we will briefly look at the systemic nature of the fishery sector and at the implications for the system of institutions governing it.

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<sup>11</sup> WTO has not clearly accepted the principle of banning imports of aquatic products fished with methods considered unsustainable but the agreement to examine the request and assess the measure means that it could be compatible with the treaty. Cf. Rosiak P., 2004.

### 2.1.1. The fishery “system of systems”

The notion of management is applied in a confused manner to two different subjects, both complex, but of a radically different nature: (1) the development and implementation of the fishery sector policies and (2) the bioeconomic management of individual fisheries.

The fishery sector is a sector of global economy, divided into as many national fishing sectors as there are sovereign States. This sector is subject to public fishery policies defined and conducted by the different State members of the international communities. This sector is also subject to international public fishery policies conducted within the United Nations framework and of which the FAO is the specialized agency for fisheries. The content of these policies can vary a great deal depending on the level of development of the countries, the nature of the resource, the professional history and tradition, the nature of the markets, etc. However, the principles adopted by States are now entrenched in the Code of Conduct, even if this does not automatically ensure that they are implemented. The fishery sector includes a number of very heterogeneous activities and professions only unified by the harvesting of fishery products and which objectives are in competition and contradiction. The organized actors pressurize the public authorities to reinforce or defend their own interests (Muller et al. 1987; Wilson et al. 1994). The national, regional or international fishing sectors can therefore be seen as different and interconnected “fishery systems”.

A single fishery is a delimited segment of activity within the fishery sector to which specific management measures may apply, in addition to those relevant for the whole sector. The criteria used to define a single fishery can be: (1) political: e.g. national, regional or straddling fisheries; (2) biological: e.g. the bluefin tuna fishery; (3) geographical: e.g. the Gulf of Lions fishery in the western Mediterranean; (4) anthropological: e.g. the N’Guendar fishery in Senegal; (5) Socio-economic: e.g. industrial, artisanal, recreational, or traditional fisheries; (6) Technical: e.g. purse seine or trawl fisheries, gleaning; or a combination of any of these criteria, e.g. the artisanal bluefin tuna driftnet fishery by Caro fishermen in the Gulf of Lions. Experience shows a great sense of pragmatism in the definition of the fisheries but the political opportunity criteria are probably the most important (Bonzon 2000). Within a public policy framework, fisheries are often defined so as to resolve political, economic or social crises, and in order to justify the management interventions (McGoodwin 1990).

The fishery sector is therefore a nested system of systems of a high degree of complexity, numerous components, large number of interrelations, functional complexity, feedback loops, a capacity of self evolution and innovation, a degree of unpredictability, etc. (Garcia and Charles 2007). A systemic approach to fishery institutions is therefore necessary (Easton 1965) in which the institutional system can be seen a social, economic and political organization of interacting and interdependent groups, and organs, connected by doctrines, ideas, and principles, serving a common purpose<sup>12</sup>: the regulation of the use of fishery resources. Being part of this system, the fishery manager is very rarely in the position of a company manager with a real power for directing and commanding. He/she can be better described as the principal regulating actor in the fishery sector or a specific fishery.

### 2.1.2 Institutional complexity

The legal competencies of the manager in charge of a particular fishery are much less extensive than these of the person in charge of the entire fishery sector policy. But in the bureaucratic tradition, and in many countries, the manager of the fishery sector is also the manager of the various fisheries operating in his area of competence. The management of the

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<sup>12</sup> Merriam Webster online dictionary: <http://www.m-w.com/dictionary>

various fisheries is, in theory, of the sole responsibility of the department in charge of the sector. Conventionally this was done in a bureaucratic and centralized manner. Nowadays, one of the tasks of the manager is to determine and establish the best possible system of delegated management responsibilities.

The fishery institutions are heterogeneous. The States are the basic institutions from which ensues the legitimacy of all the other institutions intervening in fishery management. Public institutions are instruments of the State public policies and ought to serve the interests of the national collectivity. Other (non public) institutions express the economic short-term interests of a small number of people, or of a social or economic pressure group.

The institutional system depends on the particular history of the various fisheries and the administrative traditions of the different States. The evolution of these institutions and their effectiveness result from the synergy between the lives of the social groups of the sector and the modalities of the public authority interventions. The resulting fishery institutional environment is often unstable. The number of its institutions tends to increase with time while their performance decreases.

Institutions tend to proliferate. Because of the multiple crises and the mobility characterizing the sector, the institutions constantly reconfigure themselves by multiplying the specialized organs in charge of resolving difficulties and making decisions (Easton 1965). The States have created numerous specialized organs in charge of regulating, informing or controlling, e.g.: scientific institutes, offices, fishing committees, maritime chambers, fishermen villages, and management agencies. The industry has also created numerous structures for representation and management, e.g.: consortiums, professional unions, cooperatives, professional or specialized associations. The pressure groups of users of spaces and resources exploited by fisheries have also been constituted, e.g.: associations for the preservation of the environment or certain species, the users of natural spaces, as well as recreational navigation and fishing groups. Most often, these institutions accumulate as obsolete institutions are rarely dismantled<sup>13</sup>, resulting in an institutional system increasingly difficult to understand, control or predict

Institutions tend to change. Demonstration is done that specialized institutions, quite naturally, seek autonomy from the structures which have established them (Chevallier and Loschack 1978). Sooner or later, these institutions tend also to exceed their initial functions. Paradoxically also, large institutions seem to have problems in smoothly adapting to change. The people in charge and the staff may strive towards satisfaction of their personal or group interests<sup>14</sup>. As a result, they may totally lose their representativeness and utility, without however abandoning the socio-political field, functioning only on the basis of their legal status and their capacity to influence decisions (Crozier and Friedberg 1997; Muller and Surel 1998).

## 2.2 Typologies of fishery institutions

Considering the complexity of institutional systems a typology would be useful. However, each country has its own institutional system as well as fishing and legal traditions. Nonetheless two typologies can be proposed, based respectively on the functions and nature of the institutions (Féral 2002).

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<sup>13</sup> For example, in the Kingdom of Morocco, the Maritime fishing Chambers created in 1999 did not substitute the fishing committees and associations of fishermen but rather “added” themselves to the representative organizations.

<sup>14</sup> Therefore a scientific fishery administration whose function is to advise a Minister of fisheries, may accumulate means and develop activities that may have no connection with its initial mission.

### **2.2.1. Functional typology**

The organization of the fishery sector can be presented as a group of organs acting in interaction so as to accomplish the socioeconomic functions necessary to the sector. Most of these institutions tend to accumulate several functions that the manager must identify through their statutes and activities.

#### **Resources harvesting**

Harvesting is the central function and can be subdivided in two secondary ones: (1) the economic function of collecting the capital and (2) the technical function of harvesting fishery species (including fitting out operations). Nowadays, the function is generally ensured by a private enterprise and rarely by a public (State-owned) one. The juridical status of an enterprise depends on the composition of its capital and its owners. The modern model of an enterprise is that of a commercial firm, formed through a contract binding several people to form a distinct legal entity. Its role is to collect capital to invest in a profit-making activity. For instance, the role of the fitting out companies is to acquire and equip the vessels for fishing. The harvesting operations *sensu stricto* stand apart from capital setting, forming a separate function and profession. However, due to their traditional origins, a great majority of the fishing enterprises are composed of individual companies incorporated by the will and the capital of a single person in charge of all of the functions: work force, direction, capital setting, and know-how. In many developing countries, these companies are very often informal, and not legally identified. Examples of institutions involved in harvesting are: a fitting-out company, a fishing company, a fishermen's village, a household, etc.

#### **Commercial or collective servicing**

The fisheries need numerous servicing enterprises: e.g. ship equipping, ship-building, catering, ship chandler, on-land services, wholesale fish trading, packaging and value-adding. The investments are generally made by profit-making groups of interest in the form of private and (sometimes) public companies. In order to have access to specific services, artisans and individual enterprises often join together to establish a collective (cooperative) services institution. The difference is that the cooperative institution is founded on the "one man one voice" principle whereas the sharing of power in a commercial company depends on the shares of the social capital. The collective sector often receives States incentives such as public loans and regulatory advantages. The archetype of these institutions is the cooperative for service, the aim of which is to propose advantageous services to their associates in order to accomplish a particular operation: fish auction halls, transport, distribution of fuel and materials, legal advice, bank loans, infrastructure management, etc. The Italian system of enterprise consortium can also have as objective the providing of common services. Fitting-out cooperatives exist, the setting-up of which has often been encouraged by the State so as to build up the fishing vessels and gather the crews in a phase of promotion of industrial fishery development (e.g. as in Morocco or Tunisia in the 1960s). Finally the professional chambers bind the group of professionals within the framework of private administrations. These corporatist establishments can equally provide collective services: infrastructure management, training, legal advice, social assistance, etc. The artisan chambers, the chambers of commerce and industry, the maritime chambers, the Spanish *cofradías* (brotherhoods) and the French *prud'homies* (industrial tribunals) come under this category (Féral 2002).

#### **Interest groups representation**

Fishing involves competition between the actors of the civil society, organized in interest groups, to monopolize the resources and obtain privileged access from the State as



well as grants, subsidies, rules and regulations which favor their projects and positions. The position of a group can be strengthened by the setting up of a collective representation organ to speak in the name of the group, presenting claims, defining objectives, and elaborating a common line. To better influence the decision-making institutions, it must build his representativeness, uniting the maximum numbers of members and synthesizing their claims with minimum internal conflict despite the spirit of individual competition of the members.

One can distinguish the representation institutions from the professional and non professional groups of interest. The professional union is the archetype of the organ for professional representation. Its particular status often supplies a legal and institutional recognition which allows it to automatically sit in on decision authorities. One cannot deny the existing difficulties regarding the representation of the individual companies within this particular context: the weight of the large commercial companies often imposes itself as model of representation and complicates the negotiation with the fishery manager<sup>15</sup>. The non profit-making association<sup>16</sup> (also called NGOs), generally considered of public utility, constitutes the legal status generally recognized by the public authorities for the non professional groups of interest, subject, sometimes to approval or authorization procedures. They may receive subsidies. In both cases, the State's role in the institutionalization of the association is often very important. Sometimes, the status of the professional union is not very well defined, complicating the public authority's authorization, and a better defined non-profit association may take the role of representation.

### **Negotiation and co-management**

The representation by professional and non-professional institutions in claims or protests is only one of the aspects of these institutions. Their objective is to penetrate the circle of political decision. This entails participating in the management of the fisheries in such a way as to ensure that it serves the interests of the group. Under pressure from the representation institutions, the public authorities are led to create institutions for dialogue, negotiation and co-management to harmonize the different pressure group's points of view and facilitate decision-making. The selection of the institutions authorized to sit in on these institutions is carried out by the State in accordance with its objectives and its representations. The efficiency of the groups in gaining recognition is therefore very important. These institutions have the tendency of progressively substituting themselves to the State institutions so as to confiscate control of the sector to the benefit of the best organized groups (e.g. the boat owners). The perfect examples are the professional associations or professional unions.

### **Piloting, control and professional discipline**

Because of the conflicts and crises within the fishery sector, numerous institutions aim at exercising power of control, discipline, sanction, and organization upon some of the actors of the fish production chain or on their own members. Legally or informally, they exercise a function of order and regulation and are often integrated into the fishery administrative system. One can distinguish several secondary functions within the function of discipline: (1) regulating fishing operations, fixing the general rules concerning the harvest: e.g. time and area closures, banning of certain gear and practices; (2) regulating access to resources: control of access of the profession or of certain practices; (3) control of operations, watching compliance with professional norms; (4) jurisdiction: judging and sanctioning the people who

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15 The "ship owners" may tend to confiscate the representation of the "fishermen", de facto depriving the artisanal fisheries people of representation (e.g. in Morocco, Tunisia and France).

16 Often called "non governmental organization", they are also considered "foundations of public utility" or non profit-making institutions.

do not comply with the profession regulations; and (5) arbitration: resolving of the disputes between the members of the professional group.

The function of discipline is usually exercised by the State which has a monopoly on the sanctions and coercion upon its territory and over its nationals. Its bureaucratic machinery often performs all of the regulatory missions, in particular of those pertaining to fishing operations. However, these functions are often exercised in the State's name by corporations, companies, delegated authorities, and fishery managers. The Spanish cofradías and the groups of producers recognized by the European Union authority are two examples of the institutions for regulation and control of the profession.

## 2.2.2. Sociopolitical typology

The institutions are also the organs attached to the systems of power and interests, with characteristics that cut across the functional aspects identified in the preceding section. The State institutions conflict and collaborate with the institutions of the civil society (Chemillier-Gendreau 1993, Benoit 1995) and the public/private separation of powers and interests is important even though it is progressively blurred through the creation of hybrid institutions set-up to modernize fishery governance.

### Corporative institutions of the civil society

The corporation is defined as a constituted group of interest. The institutions of the civil society play an important and even decisive role in fishery policy and management. Their influence is founded on their technical competence, representativeness, capacity of intervention in the sector functioning, material and financial means. Corporative institutions have external and internal political functions. Externally, the interests groups organize structures to represent them and put pressure on the circle of decision, public opinion and the media. They develop a common discourse reflecting the general interest and the public objectives. They formulate their legitimacy in terms of economic interest of a profession, demographical influence, social impact and, nowadays, sustainability. Their representatives participate in the preparation of the decisions and negotiate with the public authorities about advantages and constraints (Wilson 1990; Hecquart-Thérond et al. 1996). Internally, the corporatist institutions mobilize the group towards obtaining material and legal advantages through the use of pressure of all kinds on the public authorities, including public demonstrations, strikes, obstruction of the infrastructures, and other confrontations. The institutions also help inform and train the members so as to increase their capacity for action and standardize their collective behavior. They contribute to the disciplining of the group regarding negotiation or confrontation strategies and create a professional culture with its values and representations. Lastly, these corporatist institutions allow the gathering of innumerable technical, scientific and socioeconomic information regarding the fishing sector (Olson 1965).

### State institutions

The State institutions are organized on the hierarchical bureaucratic model<sup>17</sup> based on the powers and technical competence of the top offices (Timsit 1985). During the fisheries industrialization phase, the public fishery authorities have constituted the central and scientific administrations as systems for command and expertise to support them in their missions. These administrations constitute the institutional foundation of the fishery

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<sup>17</sup> The term is not a pejorative; it refers to the model of the State pyramidal centralized and hierarchal administration considered by Max Weber (1923) to be the "science of administration".

bureaucracy and technocracy (cf. Glossary, this volume). They reorganize the government decisions in this economic sector and supervise it, inspiring the content of public action, finding solutions and elaborating rules. The political influence of the bureaucrats and technocrats rely primarily on their legitimacy (respectively legal and scientific) and their control of the recruitment of civil servants with the same background, language and political representations (Chevallier and Loschack 1978).

These organs are under the authority of the State government. They are organized as a hierarchical pyramid of specialized directions and offices covering all the questions that the fishery administration may raise. Resulting from the administrative tradition and the various political changes, the logic behind their composition, relations (flow chart) and responsibilities is often difficult to see. In theory, the tasks of the centralized administrations are to: (1) gather and process the necessary information for State decision; (2) coordinate the actions of the different administrations involved in management decisions; (3) reorganize the political decisions in the form of formal legal acts (conventions or unilateral acts); (4) enforce the instructions and directives formulated at political level; (5) command to the services; and (6) to supervise and control the different segments of the fishery sector.

### **Delegated and hybrid institutions**

The confrontation between the interest groups and the public administration has generated the creation of numerous hybrid institutions to which management and decision making are delegated. Their growing numbers over the last decades does show the difficulty encountered by the States in conducting the policies through unilateral and centralized bureaucratic procedures.

The inter-professional institutions aim to organize the fishery sector along the economic production chain, integrating the different professions of the sector for coordinated action in accordance with the public authorities' policies. Many of the State decisions are prepared within this framework which allows also some disciplining the profession. The State administration participates in the work of these institutions, synthesizing the different points of view to define the content of public action.

In very many fisheries, the functions of control and discipline are delegated to a professional institution such as a consortium or group. This helps raising the actors' awareness of their responsibility and to organize management at the fishing area level. It is believed to reduce management costs and improve compliance. However this delegation may undermine the State authority and lead to confiscation of common resources by one of the professional categories (e.g. industrial fishers). The public administration's supervision of these delegated institutions should also be a guarantee for transparency (making decisions public) and equity (charging fees to counterbalance privileges).

Independent fishery management institutions have sometimes been established under the control of the political representation (i.e. the institution reports to the Parliament or the Ministry in charge of fisheries) but not under the hierarchical authority of the public administration. The legal statute of such agencies ensures their independence as well as the publication of the details pertaining to their activities and the mechanisms ensuring transparency are a condition of their efficiency (Clarke and Mc Cool 1996). The agency has its own independent experts and is shielded from political pressure. Its public statute avoids the dispossession of the collectivity and outright conceding of the resource exploitation to the professionals.

Lastly, it should be remembered that there are almost fifty international institutions in charge of different fisheries on straddling stocks, highly migratory species or regional fishing

areas. These authorities rarely have enough legal powers to efficiently manage the fisheries and the decisions, requiring consensus, and implemented by the member States themselves. These bodies are, therefore, more diplomatic fora than management institutions *stricto sensu*, and their performance in terms of resources conservation is a source of controversy.

## 2.3. Institutional analysis of fishery management

Fishery development is an activity of direction and command whose legitimate nature depends on the States authorities and responsibilities. A very great number of institutions claim to intervene in the sector and vest in the field of decision in order to defend their own sectional interest or to provide a specialized function. The manager must understand the characteristics of each potential partner institution in order to decide on its place in the decision process (Young 1982; Authier 1981; Balle 1990).

### 2.3.1 Characteristics of institutions

When considering their involvement in fishery management, the manager ought to have the answers to the fundamental questions listed below, particularly the first three:

- Representation. Which sectional interests does it represent? What main institution or social group created the institution?
- Function. What is its main function? Is the social purpose of the institution to provide a service? To represent the interests of a group?
- Competencies. Which are its legal capacities and administrative competences? What are its institutional powers of internal and external discipline?<sup>18</sup>
- Genesis. What is the genesis of the institution? Since when does it exist? How was it created? By whom? Why? How has it evolved? What are its main activities?
- Nature. How real is it? What is the effective composition and dynamism of the institution and its leaders? Is it a formal legal representation or a real social representative? The activity, the composition of the organ and the demographical characteristics of the group must be documented;
- Autonomy. What are its ties and degree of autonomy from other institutions? Is it indeed the representation of: a group; an individual; a public administration; a dominant company; a State?
- Spatial ascendancy. Is it a local, national or international institution?
- Legal regime. What are its statutes, internal rules of procedures, legitimacy, and legal and regulatory frameworks?
- Capacities. What is its capacity to discipline its founders and those giving it his mandate? For collective action in public opinion? To penetrate the circle of political decision?

### 2.3.2 Hierarchy of management institutions

The manager must clarify the relative importance of institutions to organize their hierarchical place in the decision-making process. Different types of decision, taken at different levels may call for different institutions or for the same institutions but in different roles.

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<sup>18</sup> Numerous so-called fishermen's associations or unions are in reality associations of ship-owners or wholesale fish traders with little or no control on fishing operations and who may not be in a position to truly discipline the behavior of the fishermen.

## **National management**

The State administrations make decisions to organize the sector according to management strategies, using instruments such as licenses, quotas, authorizations to fish, vessel regulations, fishing or protected areas, fishing or closed seasons, and gear specification. The Ministerial departments or the administrative heads generally have the legal competence to limit the actors' freedom. Hopefully, as provided by the LOSC and the Code of Conduct, these decisions are based on scientific assessments provided by national or international scientific administrations or institutions, established or recognized by the State.

The content of management decisions is often a synthesis between, on the one hand, the scientists' recommendations and, on the other hand, the professionals' and pressure groups' claims. Furthermore, the Code of Conduct and good governance principles require involvement of the actors in the assessment, decision and implementation processes. The degree of representativeness of the partner institutions must be verified. The operation may be delicate but essential to reassure the manager of the legitimacy of the partners and their ability to forward down the rules of conduct. The creation of numerous institutions have been encouraged by States to promote the dialogue between the administration and the actors, e.g. professional unions; groups of producers, or cooperatives.

## **Supranational management: the European Union**

At the highest level of political integration, an international authority exercises all or part of the State's sovereign rights on fisheries and therefore makes the main decisions concerning the sector. The model for supranational management is the organization of fisheries within the European Union (EU), where the waters under the State member's sovereignty are classified as "community waters" subject to decisions adopted at the EU level. Since October 1970, a common fishing policy (CFP) has been established which imposes equal access and exploitation to all the ships under a State member flag, a common regime for control, a common fishing license, a common organization of the markets, and a common conservation and management policy. In this supranational set-up, the State members keep only a residual competence, even within the 12 miles limit. However, EU members are principally responsible for implementing these policies in waters under their jurisdictions, integrating the community management measures into internal right, with controls and sanctions. The European Union also negotiates, in the name of the States, the international fishing agreements with third-party countries in order to obtain new fishing zones for the ship-owners of the community. The Union's competences therefore cover the whole sector, over all community fishing areas as well as the areas conceded by third party countries according to a process of integration.

## **Intergovernmental management**

The international conventions encourage the States to cooperate, particularly in marine fisheries. This cooperation entails the creation and functioning of numerous (presently 49) international institutions often created under the initiative of FAO which has significantly contributed to their establishment.

On a lower level of integration, FAO has multiplied the creation of regional fishery bodies under Article VI of its constitution as institutions of dialogue, information and scientific advice. These authorities are subsidiary organs of the FAO and their legal authority is very limited compared to that of the States themselves. Their main characteristic is that of being open to all interested States and their broad agenda covering all aspects of fisheries (e.g. statistics, assessment, management, development, trade, and MCS) within and outside

national jurisdiction. Despite being only advisory mechanisms, they have played a fundamental role in the development of the international relations in fisheries. These organs have contributed to a global awareness by creating the “virtuous circles” within which the States, without being constrained by the treaties, must face the international community’s disapproval in the eventuality of a serious breach of their obligations.

On a higher level of integration, one may find the regional fishery management organizations (RFMOs) and other international arrangements created by bilateral or multilateral agreements (e.g. a constitutive treaty) to manage a fishery region (e.g. the Asia-Pacific Fisheries International Commission, APFIC<sup>19</sup>) or a group of species (e.g. the International Whaling Commission, IWC) on behalf of the signatory States, without, however, having all the pertaining powers. The organs’ general assemblies are composed of State members and have the exclusive power of recommendation and resolution. The management decisions are usually taken by consensus and member States are committed to implement them unless they have formally objected to them. Legally speaking, these organs do not therefore effectively exercise the States sovereign rights on behalf of their members. But they participate in the regulation of activities and are a fundamental framework for negotiation which has strongly modified the parameters of the world exploitation of fishery resources. The fact that, with very few exceptions, these bodies have not been effective is clearly indicated by the generally poor state of the resources. A general assessment of their performance has been recently recommended at the UN level.

### 2.3.3 Institutional participation

The involvement of the sectoral actors of the fishery resource exploitation, in fishery management procedures, is now considered unavoidable and necessary even though the institutions of the civil society form a galaxy, difficult to identify and *a fortiori* to control. Various aspects of the question are examined in some detail in Chapters 3, 11, 12, and 15.

The Code of Conduct recommends that, when defining and implementing public policies and management strategies, the States organize an effective dialogue with and among the main actors of the fishing sector for several reasons: (1) improving the information basis of the decisions, particularly regarding the resources and the socio-economic implications of management measures; (2) facilitating implementation, increasing the understanding and sense of responsibility of the actors; and (3) improving cost-efficiency through decentralization or devolution of responsibilities (FAO 1999). Two aspects are of particular interest in this chapter and are elaborated on below: (1) the increasing diversity of powerful and organized pressure groups that the manager must deal with and (2) the growing international dimension of some of them.

#### A growing diversity of actors

In addition, fishery policies and management are integrated into hierarchically superior national policies which the manager must help implement in the fishery sector and the constraints from which seem to grow every day. For example, growing pressure for urban and industrial development of coastal zones have increased the number of actors involved in decisions which affect the management of the fishery spaces and resources:

- Environmental NGOs. The intrusion of the organisms for the protection of Nature is the most significant event of the last thirty years. Their activism, expertise, fund raising capacity, pyramidal organization, and effective communication strategies have earned

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<sup>19</sup> It is established under Article XIV of the FAO Constitution related to treaties relating to food and agriculture resulting from a Technical Conference.

many of them recognition and credibility in elaboration and implementation of public policies.

- Other coastal actors. In their fishery areas, fishers and fish farmers must now deal with other maritime or coastal functions. The damage or pollution from harvesting and the spatial occupation by fishery infrastructures competes with, e.g. navigation, recreational fishing, tourism, housing development, and other activities often supported by local authorities. As a consequence, numerous associations participate in the management of the ocean space interfering in the management of the fishery spaces.
- Fishery corporations. The representation of the different fishery professions (including cooperatives, unions, associations) has been reinforced by the introduction of negotiated management decision processes. The public authorities have established mixed institutions within which the different lobbies sit and can express their opinions and influence decisions. These authorities may rapidly be controlled by the ship owners and wholesale traders who hold the capital and control the markets, dominating the professional discourse and claims.
- Scientific institutions. Lastly, the institutions holding the expertise intervene more and more and are sometimes presented both as scientific authorities and as places for reference and reflection able to influence management decisions. Environmental sciences and social sciences are increasingly intervening to complement or contrast conventional fishery science. It is important to ensure that the scientific institutions are shielded from commercial pressure (as expertise has become a very important market) and pressure from the government, fishing or environmental corporations.

### **A growing international dimension**

The civil society institutions now organize themselves as international, national or local organizations, depending on the levels of decision or management. The recognized legitimacy of NGO has allowed for a proliferation of institutions which intervene with the governments and international mechanisms. The means of communication and the nature of the messages do not always provide very clear information on the exact nature of the institutions, their representativeness and their true objectives, e.g.:

- Protection of Nature: at international level, the large federations for protection of Nature such as the WWF, IUCN or Greenpeace are now unavoidable interlocutors of international fishery bodies (without voting rights), reminding States about the conservation dimension of fishery policies.
- Fishery lobbying: the globalization of pressure groups is equally visible in the professional world: international professional associations are constituted with by industrial fishers, ship owners, and collectively organized small-scale fishermen. The phenomenon is therefore institutionalized and even encouraged in order to ensure discussion and transparency in development and management.
- Science: the organizations for scientific expertise and research which intervene more and more in the fishing sector, now take on an international dimension thanks to the technologies of communication, public relations and information. International media coverage has strengthened their scientific image without necessarily providing the guarantee of independence and credibility.

### 2.3.4. The decision process

The fishery policy making and management can be presented as a set of decisions which unceasingly adjust the institutional and legal framework within which the actors of the sector act (Sfez 1981; Sabatier 1999). The fishery manager is legally responsible for his decisions but he acts within the framework of the fishing institutions and in accordance with the principles of responsible fisheries.

#### The legal and institutional environment of decisions

The fishery policies and management strategies are defined by the political leaders or by the people invested in this responsibility by the State as an expression of its sovereignty. However, the national and international legal environment conditions the orientation of the policies and the types of management measures that should be considered as well as the way in which decisions should be made. For example, the General Principles of responsible fisheries provided for in Article 6 of the Code of Conduct establish general policy objectives such as: resources and biodiversity conservation and rebuilding, habitat protection, food security, value adding and waste reduction, and improvement of working conditions and fishing communities wellbeing. They indicate the necessary means such as: science-based decisions, the precautionary approach, participation and international cooperation. They stress the authority and responsibility of port States and flag States, the need for social policies and for non-discrimination trade relations. The Articles of the Code contain a wealth of guidance on how to implement these principles. Aligning national and international policies with internationally agreed principles adds to the legitimacy of decisions taken regarding straddling or high sea stocks as well as EEZ resources (Schelling 1978)

From a formal point of view, the authorities' decisions are written in the form of unilateral legal acts, enacted or decreed by the government executives or by the authorities invested with management responsibilities (laws, decrees, and circulars).

#### The nature of decisions

For the decisions made to be true to the international philosophy materialized, for example, in the Code of Conduct, they should, reflect the good governance principles discussed in some detail in Chapter 17. Briefly stated, decisions should: (1) aim at sustainability, raising the concept from the resources to the ecosystem level through the Ecosystem Approach to Fisheries (EAF); (2) be science-based, i.e. produced by reliable scientific authorities, recognized for their competence, neutrality and independence, integrating traditional knowledge; (3) result from participative processes involving all relevant fishery actors including small-scale communities, NGOs, and non-fishery actors as appropriate; (4) be transparent and impartial particularly when allocating rights and resolving conflicts, involving all parties concerned and making all results publicly available; (5) seek to empower the stakeholders setting the legal and financial mechanisms needed to promote their responsibility during the management planning process; and (6) seek to protect the most vulnerable actors and communities often in danger of being excluded by the industrialization and modernization processes.

Obviously, ensuring all these characteristics (and reconciling them) is a challenge for the manager and few fisheries, worldwide can claim to have achieved that objective. However, progress is being made as the Code of Conduct gets better implemented and through the action of NGOs.



## The phases of the process

The decision cycle has been described (cf. Chapter 1). The management decisions are most often made through a process of proposals and counter-proposals and the final decisions are shaped through debates in committees or commissions with the support of scientific experts. These decisions and the rules constituting the policies of the fishing sector modify the conditions under which fishing is permitted, formulating authorizations and prohibitions, targets and limits; formalizing management procedures (see Chapter 9 and 12); etc. They constitute a group of juridical acts which emerge from a number of functional stages of design and formalization in need for coherence and efficiency: (1) scoping and information gathering; (2) identification of issues and setting of related objectives; (3) assessment and identification of possible solutions; and (4) formulation of the decision and rules. The quality of the decisions is analyzed *ex ante* (during the assessment phase) and *ex post* through the monitoring and evaluation phase.

## The influences on the process

The process requires the highest degree of participation, consensus and negotiation authorized by the legal and institutional system within which the manager operates (Ostrom 1990). Even the most bureaucratic, unilateral, command-and-control approach, most often includes formal and informal consultations of institutions whose function is to formulate opinions and recommendations which may be convincing if not mandatory. The decisions are therefore always influenced by the pressure groups: e.g. fishermen, boat owners, traders, environmentalists, scientists, and the local collectivities. The different internal bureaucracies of the States also weigh on the decisions (e.g. the Ministry of finance, desirous of making the most from fishing license fees and international trade). The following factors also influence the decision-making process:

- Market pressure grows with growing relative scarcity and rising fish price providing positive spin-offs for the actors and the economy of the sector and pressure to water down scientific recommendations to reduce fishing;
- Clientelism and corruption may keep the manager from acting deliberately, either because the hierarchy is guilty of favoritism and render arbitration benefiting certain privileged actors, or because the carrying out of the decisions is slowed down by the indulgence or the complicity of the ground agents.
- Threats of social disorder. The public authorities dread confrontations, conflicts, and social disorders triggered by management decisions. The fishing world is particularly vindictive, tends to stick together and has great capacity for blocking the functioning of infrastructures (Schelling 1960).
- Acquired privileges such as free access to resources; monopolistic access to certain fishery territories; derogations to use ancestral fishing gear; exclusion of new entrants or foreign fleets; and control of the market, strongly motivate the groups of actors and are difficult to withdraw even if counter-productive for management;
- Existing over-investments, often co-financed by public authorities, make decisions to adjust capacity to resources potential difficult and hard to implement. The modern manager faces a process of structural adjustment calling for substantial financial means for compensation and redeployment, if social dramas are to be avoided.

The importance of the resistance factors underlines the need to obtain the actors adhesion to the management projects. The practice of conflict resolution through separate and secret negotiations in which political authorities attempted to circumvent the professional

movements or the NGOs may not have completely disappeared but are complicated by the modern requirement for transparency and the media coverage of public action.

The same trend for consensual decision-making is underway at international level where decisions to be made at conferences are prepared through: (1) preliminary or informal consultations; (2) drafting of consensual proposals by leading groups (e.g. by “friends of the Chair”); elaboration and publication of position reports; expert consultations; etc., that can progressively assemble and “iron out” the elements of the decision. Here again, the role of the scientific and technical authorities in the maturation process of the decisions is fundamental. Their advice contributes to the convergence evolution of States’ positions and allows them to convince their constituency. The problem is that the “speed” of these consultative processes may not match the emergency of conservation or rebuilding measures.

## **SYNTHESIS**

Fishery managers are usually educated and trained in biology, geography or ecology. They are used to observe natural phenomena using technical and scientist protocols. These tools are not efficient, however, to understand economic competition, social conflicts as well as legal and institutional frameworks. The management of fisheries requires the capacity to lead the social group to adopt a new position more compatible with sustainable development principles. The knowledge of the human group characteristics, the legal organization of society, and the rules of institutions life, are essential to managing the transformations of the different actors’ strategies. The areas in which fishery managers tend to encounter most difficulty are in human behavior, arbitration between diverging interests, negotiations between different groups of actors, and sometimes the competition between several Sovereign States. The core of this chapter therefore exposes the practical ways in which the management of fisheries must be organized, i.e. the institutions and legal framework within which the respective roles and responsibilities of the different actors involved can be lawfully established.

This chapter doesn’t give all the keys of the fishery managers’ decisions and of fishery policies. His function is to give some social sciences and legal definitions used in public management and applied to the fisheries sector. The typologies built at this occasion are original and founded on many concrete examples coming from many fisheries in the world. The legal and institutional approaches of maritime fisheries show the complexity of the public management data and the difficulties to organize a sustainable and responsible policy in this socioeconomic field. During the last fifty years biological, ecological and geographical information demonstrated the natural resources management crisis to the public opinion and to governments. Today, the difficulty is to promote a new policy of conservation and management. This requires public decision and social negotiations that mobilize law and institutions. This chapter gives some minimal legal and institutional information needed in this delicate endeavor.

The first part deals with the manager’s responsibilities and competencies. It clarifies and stresses the prominent role and responsibility of the State in fishery management, including legal and economic interventions, in the territories under its direct jurisdiction as well as in international waters. Defining the scope of the rights of the State is important as these define the scope of the interventions by the manager. The chapter then elaborates on the competencies delegated by the State to the manager and the role of the latter in the complex institutional environment within which it operates. It stresses in particular the very complex

legal regime; the diversity of management models available (free and open access, State management, delegated management); the respective rights and duties of the manager and the fishery actors; the thorny problem of defining a damage, and a victim when fishery resources are used irresponsibly; and the use of fishing rights as fishery management instruments.

The second part describes the fisheries administration as a complex institutional system, distinguishing the management of fishery sector (through sectoral policies) from the management of the single fisheries or areas (through management measures and regulations). It underlines the complexity stemming from the proliferation of institutions of the State, the private sector, the civil society and mixed (hybrid) institutions. It also presents two typologies of institutional systems respectively based on their function, on the one hand, and on their socio-economic characteristics. An institutional analysis looks at management at State and inter-State levels as well as the supranational management characteristic of the European community. Finally, it examines the process and criteria of decision-making, its institutional environment, juridical principles, scientific basis, deliberative character, transparency, equity, focusing briefly on the means to increase the responsibility of the actors and to cater for the most vulnerable strata of the sector.

## REFERENCES

- Almond G. 1974. Comparative politics today. Little Brown, Boston
- Authier M. 1981. L'analyse institutionnelle. PUF. Paris
- Balle C. 1990. Sociologie des organisations. PUF. Paris
- Bénoit F.P. 1995. Notions et concepts, instruments de la connaissance juridique : les leçons de la philosophie du droit de Hegel mélanges Gustave Peiser p. 23 sq. PUG, Grenoble.
- Beurier J.P. 2006/07. Droits maritimes Dalloz Paris
- Bonzon A. 2000. Development of economic and social indicators for the management of Mediterranean fisheries. Marine Freshwater Research. CSIRO Publishing
- Bourgoignie T. 2004. Droit et politique communautaires de la consommation. Une évaluation des acquis Mélanges en l'honneur de Jean Calais-Auloy, pages 95 à 129 Dalloz, Paris
- Charles A.T. 2000. Sustainable Fishery Systems Fishing News Books U.K
- Chemillier-Gendreau M. L'apport de la dialectique à la construction de l'objet juridique p.611/639 RDP, Paris, 1993
- Chevallier J, Loschak D. 1978. Science administrative L.G.D.J. Paris
- Clarke J.N. and McCool D.C. 1996. Staking Out the Terrain: Power and Performance Among Natural Resource Agencies. State University of New York Press, Albany
- Dreyfus F. 1976. La liberté du commerce et de l'industrie Berger-Levrault, Paris
- Easton D. 1965. A system analysis of political life John Wiley and sons, New York
- FAO. 1996. Code of Conduct for Responsible Fisheries. FAO, Rome
- Féral F. 2002. La contribution du droit et de l'analyse institutionnelle aux politiques publiques des pêches maritimes. Le cas des pêcheries de Méditerranée occidentale. Océanis, n° 28-1/2, Paris, 2002
- Garcia S.M. and Charles, A.T. 2007. Fishery systems and linkages. From clockworks to soft watches. ICES Journal of Marine Science, 64 (4): 580-587
- Hardin G. 1968. The tragedy of the commons Science, 162 (3859)

- Hecquart-Thérond et al. 1996. *Le groupe et le droit : corporatisme et néo-corporatisme* Presses Universitaires des sciences sociales de Toulouse, Toulouse
- Levy J.P. 1980. *La conférence des nations unies sur le droit de la mer* Pédone
- Mc Goodwin J.R. 1990. *Crisis in the World's Fisheries: People, Problems, and Policies.* Stanford University Press, Stanford
- Mény Y., Thoënic J.C. 1989. *Politiques publiques* PUF Thémis, Paris
- Muller P. et al. 1987. *L'Etat en action. Politiques publiques et corporatismes.* PUF. Paris,
- Muller P. Surel Y. 1998. *L'analyse des politiques publiques* Montchrestien Paris
- Olson M. 1965. *The Logic of Collective action* Harvard University Press, Cambridge
- Ostrom E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge University Press, Cambridge
- Riker W., Ordeshook P. 1973. *Introduction to Positive Political Theory.* Prentice-Hall, Englewood Cliffs
- Rosiak P. 2004. *Le nouveau droit international économique.* L'Harmattan. Paris
- Ruíz García J.R. 2000. *Tributación de la empresa pesquera » Cuadernos de Derecho Pesquero* Fundación Pedro Barrié de la Maza, : 281-290 La Coruña
- Russ G., Zeller D. 2003. *From mare liberum to mare reservarum.* *Marine policy*, 27 (1)
- Sabatier P. 1999. *Theories of the Policy process* Westview Press
- Schelling T.C. 1978. *Micromotives and Macrobehavior*, W.W. Norton, New York
- Sfez L. 1981. *Critique de la décision* Presse de la FNSP Paris
- Sousse M. 1997. *La réparation du dommage en droit administratif français* LGDJ.
- Timsit G. 1985. *Théorie de l'administration* Economica Paris
- Troadec, J.-P. 1981. *Introduction to fisheries management: advantages, difficulties and mechanisms.* *FAO Doc. Tech. Pêches*, (224):57
- United Nations . 1983. *The Law of the Sea: United Nations Convention on the Law of the Sea* United Nations Publications, New York
- Weber M. *Histoire économique générale* 1923 New York Collier Books ed., 1961
- Wilson G.K. *Interest Groups* Basil Blackwell, Oxford, 1990
- Wilson J.A. and al. 1994. *Chaos, complexity and community management of fisheries.* *Mar. Pol.* 18: 291–305
- Young, O.R. 1982. *Resource Regimes: Natural Resources and Social Institutions* University of California Press, Berkeley

## **ADDITIONAL READING**

- Appollis G. 1981. *L'emprise de l'Etat côtiers sur les espaces maritimes*, Pédone
- Beddington J.R. et al. 1979. *Management of multispecies fisheries.* *Science* 204 (4403) : 267–277
- Bentley A.F. 1908. *The process of government. A study of social pressures* Chicago University Press Chicago, 1908
- Beurier J.P, Cadenat P. « *Chronique sur la Convention des Nations unies sur le droit de la mer* » DMF 1975/1982

- Boussaguet L., Jacquot S., Ravinet P. 2006. Dictionnaire des politiques publiques. Références Presses de Sciences Po, 2<sup>ème</sup> ed. Paris
- Boy L. 1999. The legal nature of the precautionary principle. *Nature, Sciences et Sociétés*, Volume 7, Number 3, July 1999, pp. 5-11(7) Elsevier
- Burke W.T *The New International Law of Fisheries: UNCLOS 1982 and Beyond*. Clarendon Press, Oxford, 1994.
- Chayes A., Chayes A.H. *The New Sovereignty: Compliance with International Regulatory Agreements*. Harvard University Press, Cambridge, 1995.
- Clark C.W. *The Worldwide Crisis in Fisheries: Economic Models and Human Behaviour* Cambridge University Press New York 2006
- Comte A. 1851. *Système de politique positive* Librairie scientifique-industrielle de L. Mathias Paris
- Crozier M. 1963. *Le phénomène bureaucratique* Seuil, Paris
- Crozier M., Friedberg E. *L'acteur et le système* Seuil Paris 1977
- Demolombe C. *Cours de droit civil* éditions Auguste Durand 1850
- Di Maggio P.J., Powell W.W. *The new institutionalism in Organisational analysis* University of Chicago Press, Chicago/London, 1991
- Durkheim E. *Les règles de la méthode sociologique* 1895 éd. PUF, 1973
- FAO Technical guidelines for responsible fisheries n°1/8 Roma 1998/99
- FAO. 1999. *Technical Consultation on Decentralization for Rural Development; Proceedings* Roma 1999
- FAO *Comprender las culturas de las comunidades pesqueras Documento Technico de Pesca* 401 Roma 2002
- FAO *Maritime societies, fisheries law and institutions in the western Mediterranean Fisheries technical paper* 420 Rome 2004
- Féral F. *Approche dialectique du droit de l'administration : l'appareil d'Etat face à la société civile*. L'Harmattan/ CAP Paris, 2000
- Freestone D. and al. *The Precautionary Principle and International Law: The Challenge of Implementation*. Kluwer Law International, The Hague, 1996
- Gehring T. *Dynamic International Regimes, Institutions for International Environmental Governance*. Peter Lang, Frankfurt, 1994
- Grotius *The freedom of the seas* Arno Press New York 1972
- Grawitz et Leca *Traité de Science Politique Tome IV Les politiques publiques* PUF Paris, 1985
- Hardin R. *Collective Action* Johns Hopkins University Press, Baltimore, 1982
- Hauriou M. *La théorie de l'institution et de la fondation Aux sources du droit : le pouvoir, l'ordre, la liberté* Cahier de la Nouvelle Journée n° 23 1925
- Hassenteufel P. *Les groupes d'intérêts dans l'action publique* Pouvoir 74 Paris 1995
- Kaye SB. *International fisheries management* Kluwer law intl. 2000
- Kelsen H. *Théorie pure du droit* Dalloz, Paris, 1962
- Larkin P.A. *An Epitaph for the Concept of Maximum Sustainable Yield*. *Trans. Am. Fish. Soc.* 106, pp. 1-11, 1977.
- Ludwig, D. and al. *Uncertainty, resource exploitation, and conservation: lessons from history* *Science* 260, pp. 17-36, 1993

- Lyster S. *International Wildlife Law* Grotius Publications, Cambridge 1985.
- Manteca Valdelande V. « Organizaciones pesqueras internacionales » Cuadernos de Derecho Pesquero Fundación Pedro Barrié de la Maza, 47-62 A Coruña 2000
- March J.G., Olsen J.P. *Rediscovering institutions* Free Press, New York, 1989
- Norse E.A. (ed.), *Global Marine Biological Diversity: A Strategy For Building Conservation into Decision Making*. Island Press, Washington, 1993
- Ostrom E. Community and the endogenous solution of commons problems. *J. Theoret Polit.* 4, pp. 343–351 1992.
- Peters B.G *Institutional Theory in Political Science: The New Institutionalism* Pinters, London, 1999
- Schelling T.C., *The Strategy of Conflict*. Harvard University Press, Cambridge, 1960.
- Sherman K., Large Marine Ecosystems, in *Encyclopedia of Earth System Science*, vol. 2, Academic Press, 653–673, New York, 1992.
- Singleton S., Taylor M. Common property, collective action and community. *J. Theoret. Polit* 4, pp. 309–324, 1992.
- Sobrino J.M. La progresiva reducción del principio de libertad de pesca. Cuadernos de Derecho Pesquero Fundación Pedro Barrié de la Maza, 75-108, A Coruña, 2000.
- Victor D.G. *The Implementation and Effectiveness of International Environmental Commitments*. MIT Press, Cambridge, 1998.
- Weber M. *Histoire économique générale* 1923 ed. 1961 New York Collier Books
- Young, O.R. Fishing by permit, restricted common property in practice. *Oce. Develop. Internat. Law* 13, pp. 121–170, 1983.
- Young, O.R., *International Governance: Protecting the Environment in a Stateless Society*. Cornell University Press, Ithaca, 1994.
- Young, O.R., Institutional linkages in international society Polar perspectives *Global Governance* 2, pp. 1–24, 1996.
- Ziller J. *Administration comparée* Montchrestien, Paris, 1993.

## **INTERNET RESOURCES**

- <http://www.admiraltylaw.com/fisheries>
- <http://www.afs.allenpress.com>
- [http://www.en.wikipedia.org/public\\_policy](http://www.en.wikipedia.org/public_policy)
- <http://www.fao.org>
- <http://www.foodandwaterwatch.org>
- <http://www.intfishinet>
- <http://www.mngt.waikato.ac.nz>
- <http://www.myanmar.apcel.org>
- <http://www.oceanlaw.net>
- <http://www.onefish.org>

**Algorithm:** A precise rule (or set of rules) specifying how to solve some problem or to accomplish a task.

**Real right:** a right that is attached to a thing (e.g. a property) rather than a person (e.g. the farmer) (derived from Merriam-Webster Dictionary of Law, 1996). A right that the owner can exert directly upon the property, making use of it. Different from: **personal right**

**Personal right:** a right that is attached to a person (e.g. a fisher) rather than on a thing (e.g. a fish resource). This right is based on one's status as an individual and does not derive from property (Merriam-Webster Dictionary of Law, 1996). The personal right (e.g. a use right, a quota) is one that is exercised upon something (e.g. the resource) through a personal obligation exercised on a third party (the State) who stands between the holder of the right (e.g. the fisher) and the property. The purpose of personal rights is not alienation of the property but rather an authorization to use it under certain conditions. *The effective purpose of a personal right is obligation, whether deriving from a contract, a quasi-contract, an offence, a quasi-offence or from the law*" Demolombe C. 1850

**Bureaucracy:** The politico-administrative system which relies on hierarchical decision mechanisms, dominated by the social group of the administrators. Weber M. 1923

**Technocracy.** The politico-administrative system which relies on the mechanisms of expert decision and is dominated by the social group of scientists and technicians Cf. for the theorization of the concept. Comte A. 1851