

# CHAPTER 7

## PARTNERSHIPS IN MANAGEMENT

by

Evelyn PINKERTON

School of Resource and Environmental Management, Simon Fraser University,  
British Columbia, Canada

<b>1. INTRODUCTION: PARTNERSHIPS SOLVE PROBLEMS, BUT ARE LITTLE KNOWN BY MANAGERS</b>	<b>159</b>
<b>2. PARTNERSHIPS OF SMALL AND LARGE SCOPE</b>	<b>161</b>
<b>3. PARTNERSHIPS OF SMALL AND LARGE SCALE</b>	<b>163</b>
<b>4. PARTNERSHIPS WITH DUAL OR MULTIPLE PARTIES</b>	<b>165</b>
<b>5. PARTNERSHIPS WITH DIFFERENT LEVELS OF COMMUNITY EMPOWERMENT: ACCOUNTABILITY</b>	<b>165</b>
<b>6. UNUSUAL PARTNERSHIPS SOLVING PARTICULAR EQUITY PROBLEMS: LINKING OFFSHORE FISHERIES TO COASTAL COMMUNITIES</b>	<b>166</b>
<b>7. POWER DIFFERENTIALS OF DIVERSE ACTORS ON REGIONAL BOARDS</b>	<b>168</b>
<b>8. CONDITIONS FOR EFFECTIVE PARTNERSHIPS</b>	<b>169</b>
8.1 Characteristics of the partners	169
8.2 Characteristics of the partnership or the institution created through the partnership	170
8.3 Characteristics of the resource(s)	171
<b>9. COMMUNITY PARTNERS MAY ADD VALUE TO THE RESOURCE</b>	<b>171</b>
<b>10. CONCLUSION</b>	<b>171</b>
<b>11. ACKNOWLEDGEMENTS</b>	<b>172</b>
<b>12. REFERENCES</b>	<b>172</b>

### **1. INTRODUCTION: PARTNERSHIPS SOLVE PROBLEMS, BUT ARE LITTLE KNOWN BY MANAGERS**

Chapter 1 outlined the global problems facing fisheries managers, especially overfishing and habitat loss, and the related local problems of poor data and data analysis, the low legitimacy of regulations and the consequent poor enforcement of regulations. This chapter outlines how new forms of partnering between local communities and/or non-governmental organizations (NGOs) and government regulators can address many of these global and local problems, and analyzes examples of such partnerships. These examples, and many others in the literature, demonstrate that users can be usefully involved in *all* the functions and responsibilities of fisheries

management identified in Figure 1 of Chapter 1, from information gathering to analysis to plan formulation to rule-making to enforcement and compliance. The notion that users can and often should be involved at all stages of management, rather than consulted by government regulators as an “add on” when fishing plans and regulations are mostly complete, can involve a substantial change in the conception of management, if decision-making is currently highly centralized.

This chapter addresses not only the classic partnerships between government and small fishing communities, but also more complex and innovative ones between parties operating at different scales. For example, small communities and large fishing enterprises can be involved in co-management agreements together. Examples of multiple-scale partnerships are rarer but equally important for solving problems, especially where there are interactions between offshore and inshore fisheries.

But if partnerships are so useful, one might ask, why don't we have them already? The short answer is that partnerships have to be carefully designed to be appropriate for the situation, as well as accountable and effective. Not all situations are ripe for partnerships, nor will partnerships be successful under all conditions. The good news is that we now have some good success indicators. In the last 20 years social scientists have assembled a rich body of documentation which allows us to identify the conditions and situations which are good predictors of successful partnerships. This chapter summarizes some of this literature.

Unfortunately, knowledge of the existence of partnerships, as well as what it takes for them to succeed, has been largely absent from the training and experience of fisheries managers, as well as from the management agencies in which natural scientists work. Despite this, many natural scientists have recognized the need to integrate “human dimensions” into our management systems. Peter Larkin reminded us a decade ago that in focusing on fish, we often forget that we manage fish mainly through managing people. As we shall see in this chapter, managing people means understanding how human organizations and human values can work towards, rather than against, the goals of fisheries management.

Indeed, our failure to manage people effectively has turned out to be the main limiting factor in fisheries management today. No matter how well-designed fisheries harvest regulations or habitat protection measures appear to be, if fishers or polluters can find a way around them, management efforts are frustrated. But when communities or organizations of fishers are included as partners in the planning, design, and implementation of the regulations, when they participate in protecting habitat, and even more, when they are part of the crafting of the very policies which underlie management decisions, they grant full legitimacy to the regulations, and are the strongest advocates, monitors, enforcers, and implementers of management decisions. Community/NGO partners may even help agencies reconceptualize a problem and develop a better strategy for attacking it. A recognition of the importance of these kinds of partnership roles in fisheries management is reflected in Paragraphs 6.13 and 6.16 of the Code of Conduct for Responsible Fisheries.

Involving communities or NGOs in management may also be the only way that enough resources can be mobilized to manage effectively. In some cases, this means resources to make even basic stock abundance assessments. In other cases, it means resources to consider species interactions and ecosystem values in management. Our understanding of natural systems has evolved to the point that we know we need to develop management systems which reflect the complexity and diversity of what is being managed (Chapter 9). Yet we lack the flexible governance structures and resources to achieve this. We know governments will never be able to achieve this ambitious task alone. A growing literature shows how important aspects of this challenge are already being met through partnerships.

Partnerships vary in the scope of their activities, in the geographic scale of the marine or freshwater areas involved, in the types and number of parties involved, and in the degree of

power held by the non-governmental parties. The next few sections explore examples of different types of partnerships along these four spectrums, and the costs of developing them.

## **2. PARTNERSHIPS OF SMALL AND LARGE SCOPE**

At the smallest scope, a government manager may partner with a local group to collect data on a local stock or sub-stock, or monitor pollution, or habitat loss. Much of the most exciting recent research on local or traditional ecological knowledge is based on this type of arrangement (Neis and Felt, 2000). Local fishers may already have extensive knowledge of the behaviour and abundance of a local stock. Managers may work with local fishers simply to record their knowledge and annual observations of changes; or they may actively incorporate the fishers into the work of controlled monitoring of the stock (see Paragraph 6.4 in the Code of Conduct). Often such work provides the only information government has on a local fish population. Since many species are made up of smaller distinct local substocks, such information may be the most critical data informing management of the entire species.

Alternatively, knowledge of the substock may reveal a spatial or temporal pattern which is masked by survey data taken on a larger scale and within a different time frame. Local monitoring of lobster on the Magdalen Islands provided species-wide information on their spatial distribution, use of habitat, and interactions with other species, data which was heretofore missing (Gendron et al., 2000). Local fishers usually have developed hypotheses about these relationships based on decades of observation. They often suggest factors which should be considered, often ones which would not occur to managers.

In summary, the benefits of such a small-scope partnership can be multiple and unobtainable without a partnership with local fishers.

The partnership may:

- provide reliable data on the abundance and composition of a local stock or sub-stock (which might be used as an indicator stock, if a species is composed of many stocks);
- help managers interpret large-scale changes in abundance and the environment;
- suggest hypotheses about relationships which scientists can then test;
- assist scientists with the most effective sampling techniques and sites for ongoing monitoring or research.

Suppose that, in addition to collecting and interpreting data, the fishers also assisted in interpreting the effect of regulations on fishing behaviour, and even assisted in crafting more effective regulations. Thus local knowledge would be used to analyze regulatory failures and to proactively design more successful approaches. This was done on Magdalen lobster, where local fishers helped managers interpret the meaning of catch data, helping them understand that fishing efficiency had increased despite tighter regulations. This led managers to consider that reducing fishing effort through time and area closures might be a less effective method of reducing mortality than, for example, reducing licences or traps (Gendron et al., 2000).

Partnering in this slightly larger scope of management:

- checks the validity of managers' interpretation of catch data;
- suggests alternative methods of regulating catch.

The foregoing types of small-scope partnerships can be very low-cost if fishers are willing to volunteer time and the use of pre-existing equipment, and if government can provide some start-up staff time to develop a relationship with fishers who become identified as reliable monitors.

Volunteerism is likely in situations which are already part of a work day or pleasurable activity for fishers, or where the fisher is learning something new and interesting, or is being made part of an activity which offers greater access to information or power. However, long-term willingness to volunteer is likely to persist only if managers are able to recognize and treat their fisher partners with respect. Ideally managers will perceive that many fishers have a passionate interest in the health of the resource and have much to offer as interpreters of data if they are given access to the data and an opportunity to reflect on its possible meanings. A valuable relationship of mutual respect and trust is likely to occur if the most knowledgeable and reflective fishers are treated as colleagues whose opinions are valued. In such a relationship, they would be given open access to government data and an opportunity to participate in both data analysis and the design of regulations based on the data, activities which are discussed in some detail in Chapter 5.

In many cases, NGOs can contribute small amounts of staff time or funding to support a key monitoring activity. Volunteerism and NGO donations are more likely to be forthcoming if the management agency is forthcoming about its own budget situation, and/or is able to contribute some modest financial support of its own. To do this, managers often need to overcome deep-seated attitudes that fishers are incapable of acting in anything but their own short-term, narrow self-interest. They need to remember that fishers will often act in the long-term and broader public interest if they see that they also will benefit in the long run. In other words, fishers and communities will invest in their future if they have assurances that they will be part of the benefits to accrue from present restraint or volunteer effort. (A more in-depth discussion of the conditions which produce this occurs below).

Small-scope projects that are low cost are most effective if they can make a tight connection between the sense of or identification with place which often exists in fishing communities and the objectives of the monitoring or other small-scope activity. For example, better data on a particular local stock will enable more sensitive and appropriate fishing plans on that stock and a better understanding of what other factors affect its abundance in the local area. Regulations based on such improved data will be considered more legitimate and will be better obeyed, and fishers are likely to continue volunteer monitoring, if they are assured they will have the first access to recovered stocks (see also Chapter 6).

Partnerships of the largest scope are those which include fishing communities or NGOs in all aspects of management, even the identification of policy issues and the making of policy. A highly developed example of a large-scope partnership is the system in Washington State, U.S.A., in which the treaty tribes co-manage the salmon fishery with the Washington Department of Fish and Game. The tribes meet with the state governor's council alongside all the departments managing natural resources, to identify policy issues of concern and to develop approaches. In other words, the tribes have a government-to-government relationship with the Department of Fish and Game, even though they do not have equal resources. This type of partnership is explored below under "different levels of power." In the evolution of their relationship, the tribes and the state have developed transparency of data arrangements through the University of Washington computer, and divided up management tasks to avoid duplication.

Large-scope partnerships normally involve extensive staffing and capacity-building of the NGO partners, and are normally funded through multiple government agencies. In the United States of America, the tribal managers are funded largely through the Bureau of Indian Affairs. Canada, however, is experimenting with funding large-scope regional organizations through the Department of Fisheries and Oceans. (This usually happens after long-term conflicts result in the building of cooperation, and the Department believes management will be better served by funding regions on an experimental basis, institutionalizing them in the long term if they are successful). These organizations have accessed funding from private foundations and multiple government departments in their start-up phases, however. The research initiatives of these organizations are also attracting interest from universities, as well as government researchers,

and can often become hubs of funding and activity from multiple private and public sources. The advantages of large-scope partnership can be summarized as follows.

- Small-scope partnerships may attract volunteerism, contributions-in-kind, and small cash donations, while requiring only part-time staff attention from government.
- Large-scope partnerships need substantial external funding sources, but may attract at least some funding from foundations or NGOs, due to their innovative nature and their capacity to conduct integrated research on ecosystem linkages. They may eventually be self-funding if they become non-profit membership-based organizations.
- The use of volunteer labour and contributions in kind (use of vessels and equipment) will be sustainably offered if a relationship of trust and mutual respect can be established.
- Data transparency and an openness to varying interpretations of data are highly desirable as a mechanism for building trust and mutual aid.

It is important to note that in many developing countries and island states, there are fishing communities that informally regulate their fishing effort, based on their observations of fish abundance and their reading of indicators which predict fish abundance over time. These cases have been documented, summarized and synthesized by many geographers, anthropologists, political scientists, and biologists, including Johannes (1978, 1981), Klee (1980), Spoehr (1980), Ruddle and Johannes (1985), Cordell (1989), Dyer and McGoodwin (1994), Wilson et al. (1994), Schlager and Ostrom (1993), Durrenberger and King (2000). Japan has achieved the most “complete” and integrated set of partnerships, in that it has integrated ancient local systems of management into fisheries planning at all levels of local, regional, and national government (Yamamoto and Short 1992, Pinkerton and Weinstein 1995). A reading of these cases suggests that an important challenge for developing countries may be to identify whether such home grown systems already exist and, if so, to support and integrate them into regional and national management through co-management agreements. Funding to support such systems’ start-up phase is sometimes accessible through international research organizations or universities (Stoffle et al. 1994).

### **3. PARTNERSHIPS OF SMALL AND LARGE SCALE**

The foregoing examples of partnerships of small scope were also ones of small scale, since the geographic area is small (but note that temporal scale could be extensive in a small area). Ames et al. (2000) point to the need to incorporate multiple spatial and temporal scales in the analysis of how fishing alters ecological processes. This aspiration is contrasted with the conventional approach to management decisions, based on measuring the fishing mortality of a single stock at a single spatial scale—the range of the fish—and at a single temporal scale—one year. Scientists have long noted that overfishing is often a function of unrecognized habitat degradation. Of course, the need to protect fish habitat will not be addressed unless managers understand how to monitor habitat and species linkages. Thus analysts argue that overfishing is often undetected unless managers monitor the species composition of the ecological community to which the fish belong and the gradual removal of patches or subsystems in a progressive manner. The management implication of this argument is that local groups may be the best placed to protect the small-scale components of an ecosystem. Thus the management actions of local fishers or local partners should be integrated into an adaptive multi-scaled governing institution to match the multiple scales of the fisheries system (Ames et al., 2000).

Some of the most successful partnerships function at a regional scale, around a common interest in a watershed or sub-basin. A small-scope regional-scale partnership, as exemplified in the Kuskokwim River in Alaska, is data collection on the same stocks by different communities

located at different points on the river as the stocks swim upstream. By combining their data on a real-time basis, as well as their traditional local knowledge of the migration patterns of different stocks under different conditions, the various communities on the river are able to work with the Alaska Department of Fish and Game to produce a good assessment of stocks and species abundance. This is effective because a regional-scale partnership can cover a larger range of conditions and factors than the single test fishery or counting fence which was formerly operated by government. The partnership arose out of controversy over the accuracy of government's abundance index. With the regional-scale partnership, the abundance estimate is now considered legitimate, and government has a far richer data base to inform its decisions (Pinkerton and Weinstein, 1995). The partnership also was based largely on volunteer monitoring by fishers, with donations in kind by a regional association, a federal government agency, and a fish processing company. The Alaska Department of Fish and Game contributed staff time during the first season to train a community-based monitor, who thereafter became a highly-trusted partner, and staff time for in-season meetings to compile and interpret the data in collaboration with community-based partners.

A larger-scope regional-scale partnership might factor basin-wide habitat affects and enhancement activities into its fishing plans, as did the Skeena Watershed Committee in British Columbia, or the Mitchell River Watershed in Australia. This means that multiple community parties and multiple government agencies make decisions based on multiple criteria. From the community perspective, fishers more readily accept curtailment of opportunity to take less abundant species if they participate in the planning process to increase the abundance of other species and the planning for the restoration of the depressed species. The planning in this case includes improving habitat protection, engaging in habitat restoration, and engaging in activities to enhance the productivity of freshwater production of fry and smolts. Perhaps most important is that the involved fishers and community representatives on the committee see a broader picture than their own narrow self-interest, and feel part of a grander scheme to restore the health of the watershed. Being able to get beyond geographic isolation and cooperate on a regional scale can have a powerful effect on the parties. This occurs because they perceive that by cooperating, they can have the power to effect positive change on a more meaningful scale, at the same time that they improve or at least stabilize their own position. They also perceive that improvements in the fishery will not occur unless all differently-situated parties contribute to the solution. Because of this, they are often willing to "give to get", even delaying their own "pay-off". Government agencies may be likewise enabled to get beyond turf battles and make trade-offs in the interest of getting a better outcome in the long run (Pinkerton and Weinstein, 1995).

The Skeena Watershed Committee process was part of an ambitious and expensive government experiment involving a great deal of stock research by government scientists, and the hiring of a professional facilitator. However, it also generated funding from other government agencies and private sources, as well as donations of time and effort by all participants. Depending on human resources available, it would not be impossible to develop regional-scale cooperation without major funding. In sum:

- small-scale large-scope partnerships may be part of the multi-scaled forms of management necessary to monitor and analyze the dynamics of progressive habitat loss and species interactions;
- regional-scale small-scope partnerships may combine multiple sources of data to create a more accurate real-time picture of stock abundance and the affect of fishing pressure;
- regional-scale large-scope partnerships may enable an analysis of fishing/habitat interactions;

- regional-scale large-scope partnerships may enable cooperation and greater pay-off flexibility among differently-situated sectors when they collaborate to increase fish abundance for their mutual benefit.

#### **4. PARTNERSHIPS WITH DUAL OR MULTIPLE PARTIES**

The simplest partnership is between one government agency and one community or NGO. But whatever the scope of management decisions shared, or the geographic scale of the management unit, partnerships often include multiple “communities” and multiple government agencies, as in the watershed management examples above.

Such partnerships are being modelled in Canada on both coasts. On the west coast of Vancouver Island in the province of British Columbia, a partnership between aboriginal First Nations and non-aboriginal communities, alongside municipal and regional governments, local environmental groups, and community development agencies has been developing since the early 1990s. It was formalized in 1997, the terms of reference were approved by February 2001 and formation of the board began in November 2001 (Pinkerton, 1999; Loucks et al., 2002). On the east coast of Canada, multiple gear groups and community representatives have formed boards along county lines to create fishing plans and to monitor fish deliveries (Loucks et al., 1998; deYoung et al., 1999). On both coasts, these local planning bodies are nested within broader regional organizations of multiple local parties and communities which are guided by a broad public interest.

The benefits of multiple communities being able to collaborate are enormous. From government’s perspective, there is a conflict-resolution benefit, which often solves allocation problems between warring sectors: sport, commercial, and aboriginal sectors, whose struggles were damaging to good management. From the community/NGO perspective, collaboration means that the chances of developing and implementing a long-term vision and developing a sense of stewardship around that vision are greatly increased. The fact that the vision has input from multiple perspectives and that some of the partners are often communities (who have a general interest in the long-term health of the region, as opposed to fishers, who may have a vested interest in particular stocks) means that the vision has broad support and is likely to be sustainable. The importance of developing such partnerships is addressed in, for example, Paragraphs 6.13, 7.1.2 and 7.6.6 of the Code of Conduct.

#### **5. PARTNERSHIPS WITH DIFFERENT LEVELS OF COMMUNITY EMPOWERMENT: ACCOUNTABILITY**

The larger the scope of management activities in which a community or regional board is involved, the more likely it is that the level of power held by the NGO is high. However, since power-sharing is usually negotiated, it is possible that a community/NGO might hold significant power in one area of management, and little power in another. For example, an agreement to co-manage a fishery could involve equal power in developing a fishing plan, but no community/NGO power in deciding who had access to the fish, or no community/NGO power in making general policy about the direction or vision of future management goals.

In other words, there are different levels of power, or power over different levels of decision-making, whatever the scale of decisions. Equal partnership in deciding how to collect and analyze data is an important, but still a relatively weak, form of power compared to the power to decide how the fishery will be conducted or to decide who has the right to participate in a fishery, how much they get to take, etc. We might think of a hierarchy of levels of power. At the bottom of the hierarchy are decisions about operations or activities, which can themselves be arrayed in order of ascending importance. At the next level are decisions about who gets to make the operational rules, and who is excluded from the management area affected by the decisions (membership). At the top of the hierarchy are decisions about how the rules at the

other two levels have to be made, and what groups may participate in making them (Ostrom, 1990). The treaty tribes in Washington State hold co-equal status with the Washington Department of Fisheries at each level of decision-making, and thus hold the maximum possible partnership power, as well as the maximum scope in decision-making (in all areas of management). (In contrast, the geographic scale of the territory over which each tribe has authority is relatively small, so the tribes coordinate their negotiations through a body with no legal authority, the Northwest Indian Fish Commission).

All of these levels of power can be contrasted with the mere advisory status that is often granted to fishers' associations by government managers (Berkes et al., 1991). It is important to recognize how advisors differ from partners, and that the advisory relationship does not garner the benefits of the partner relationship. If advisors perceive that they have little power and influence, they will revert to the usual divisive client politics. This points to the major benefits of power-sharing: conflict resolution and the mobilization of energy to solve problems in critical parts of the system. This applies equally to conflict resolution between government and communities and among competing parties, who may participate in regional co-management through regional partnerships.

It is often not appreciated by government that human resources are a valuable form of energy, which may be mobilized and utilized only under the right conditions. Sociologists tell us that people will "go all out", contributing far beyond what is formally required of them when they: (a) believe in the goal of a partnership, (b) feel they are part of a working team on which there is mutual respect and concern for the welfare of all partners, (c) feel that they are able to make a contribution to the team which is respected and honoured by the other partners (Senge, 1990). These three conditions apply in fisheries management partnerships where there is a situation of accountability between and among partners. Accountability requires:

- transparency of data;
- an ability to discuss differing interpretations of the data;
- an ability to agree on what the basic problems are and what approach is most promising;
- clear agreements to share decision-making;
- clear articulation of the standards being used to evaluate decisions and their results; and
- an ability to have timely feedback on outcomes of decisions.

When accountability is lacking, human resources are not mobilized. Furthermore, energy flows in the opposite direction. Instead of working overtime to solve problems, fishers and communities actively subvert management plans and actions by managers which they don't feel are accountable.

## **6. UNUSUAL PARTNERSHIPS SOLVING PARTICULAR EQUITY PROBLEMS: LINKING OFFSHORE FISHERIES TO COASTAL COMMUNITIES**

In addition to accountability, one of the necessary conditions for successful partnership is equity. Equity normally refers to the democratic representation of different gear groups or differently-situated fishers or community representatives on co-management boards which share power with government.

Most nations also face another perplexing equity dilemma. How should they balance the operation of highly-capitalized and highly efficient offshore fleets with the access needs of coastal communities which support many small-scale artisanal or subsistence fisheries? This dilemma has been well-captured in a documentary film about the nation-wide strikes of inshore

fishers and small-scale fish marketers in India in the 1990s. The government of India wanted the offshore trawl fleet as an important source of cash and foreign exchange. The inshore fishers and marketers, however, noted that species of fish which they used to take in their artisanal inshore fisheries were being wiped out. They staged national protests and eventually succeeded in having the offshore fleet shut down, or at least its non-Indian components (Thalenberg, 1998).

In most cases, it is probably not realistic or even desirable to shut down the offshore fleets completely. In some cases these fleets may take species which are not available in inshore waters. However, it is often the case that these fleets not only depend on migratory species which are also taken inshore, but that they take as bycatch many other species on which inshore fishing communities are dependent. So there is usually a policy dilemma in how to balance these two needs. An innovative partnership in Alaska called the Community Development Quota (CDQ) program has been used to address important aspects of this dilemma.

In Alaska, about 10% of a billion dollar fishery on Bering Sea pollock, halibut, sablefish, crab, and other groundfish that had been taken mainly by offshore fleets (based in centres of production distant from Alaska), was allocated to six coalitions of villages (comprised of 62 villages in total) in Western Alaska. The villages, which had been traditionally dependent on inshore fisheries (but not pollock) were geographically isolated and had limited access to sources of cash income. The goal of the program, begun in 1992, was to help the communities to develop the infrastructure and have personnel necessary to support long-term participation in the industry, and thus build a stronger economic and social base (National Research Council, 1999). The program aimed to address the exclusion and marginalization of these communities from the industry, and from access to all fisheries. This was considered key, because even the original licences in salmon, herring, and halibut allocated to these villages tended to be sold into urban centres or larger communities elsewhere in Alaska. In some cases, the villagers had never received fishing licences, having fished only for subsistence.

The community coalitions are organized as non-profit corporations which set goals and objectives, and submitted annual business plans to the Alaska Department of Community and Regional Affairs. Reports on their performance in meeting these goals are reviewed by the state, which has exercised considerable oversight. The state has the authority to reallocate quota among the six corporations, based on their performance, and has already exercised this authority.

The communities do not have a direct role in fisheries management decisions in the pollock fishery (the major large-scale offshore fishery), but their presence in the fishery as partners or deckhands means that they are likely to assert their interest in the bycatch and/or habitat destruction by this fleet where it affects species they take in community-based fisheries (mainly halibut and salmon). And they do have a management role in the smaller-scale community fisheries on other species which most villages have created from the proceeds of the pollock fishery. The communities essentially receive a royalty from the industrial fleet, which they use to develop their own participation in the fishery or for education. These activities are overseen by the National Marine Fisheries Service, the federal agency which has jurisdiction outside 3 miles from the Alaska coast. The communities may: receive the royalty as cash; negotiate jobs for community members on board pollock vessels to which they lease their catch share; use the cash for scholarships, or to buy gear or vessels or licences; lease a quota share to community fishers; or create a local halibut skiff fishery.

Where communities created a local fishery, they used seasons and trip limits to spread opportunities among fishers. They used primarily skiffs up to 36 feet in length, and the CDQ organizations kept track of the harvest levels and controlled the pace of the fishery (Langdon, 1999). These new CDQ fisheries have not created a new "race for fish" nor overcapitalized vessels, but have remained largely small-scale. One village association has constructed a few larger vessels, but makes them fish five miles outside the village so that the local skiffs have a

territory reserved for them. Some villages have added value and kept jobs in the community by constructing small processing plants. Some for-profit plants held by the non-profit organizations have also withheld 20% of fishers' landings to ensure that start-up loans are paid off in a timely manner. In short, the villages have had a vision of how to integrate a commercial fishery into their subsistence economies through a development plan (Langdon, 1999).

The Alaska CDQ program could be applied more generally to any fishing-dependent communities with limited economic opportunities. The community partners may have rights to make decisions only about their own membership, and how to conduct their own fisheries in inshore areas. Such partnerships can address difficult policy issues around equity, however. They illustrate how:

- partnerships can be used to create co-ventures between capital-intensive fleets and community-based fisheries which offer greater opportunity to communities otherwise forced out of the fishery by economic conditions and forces;
- partnerships can focus attention on the need to reduce bycatch by industry fleets of species that are also taken by inshore fisheries communities;
- partnerships between the state and fishing-dependent communities can be used to foster wise development of new community-based fisheries that are not overcapitalized, and that are within the means of the community to plan;
- community quotas can be used as mechanisms for allocating non-transferable fishing opportunities to communities; flexibility in allocation can be created, however, if the state can transfer quota based on performance of community-stated goals;
- community quotas are also a mechanism for dealing with the power differential between large and well-organized economic actors and small, dispersed economic actors which are nonetheless a large sector of the economy and the welfare of many nations

If it is recognized that this sector does not compete well for access rights to fisheries, yet plays a key role in the social and economic diversity and well-being of a country, then a country can use this mechanism to assure the continued role of communities in the fishery.

## **7. POWER DIFFERENTIALS OF DIVERSE ACTORS ON REGIONAL BOARDS**

Another special case of equity involves the dilemma of how to represent powerful non-local interests on regional boards, where these external actors have fishing rights in the region that will be affected by regional board decisions. The problem is that external actors cannot be expected to have the same level of concern as does the community about protecting local habitats, ecosystem linkages, or the sustainable harvesting of local stocks. This is because external actors are less identified with the region, have less opportunity to develop a stewardship ethic, and are more likely to have other diversified opportunities (are less dependent on the local stocks and their habitats). They could be characterized as having an economic interest in the region, but not a stewardship interest. The West Coast Vancouver Island board is solving this problem by having such actors represented on committees including local fishers which develop fishing plans, but not represented directly on the board which makes overall policy. This leads to the following important corollary.

**Condition:** External economic interests can be represented on community or regional boards, as long as they do not have an opportunity to dominate them

Another effort to model the linking and creating of equity between offshore fleets (of large vessels) and nearshore or inshore fishing groups (using smaller vessels) is the Northwest Atlantic

Marine Alliance (NAMA), founded in 1997 in Saco, Maine, USA. NAMA is currently drawing support from fishers' organizations in the states of Maine, New Hampshire, Massachusetts and Rhode Island as well as Maritime Canada. NAMA is a non-profit umbrella coalition promoting collaborative research in order to provide education about ecosystem linkages and selective fishing. NAMA also facilitates efforts by stakeholders to craft regulations which do not disadvantage inshore vessels, or transfer fishing effort from offshore areas to inshore ones, thus threatening the historical allocation balance and geographic spread of fishing effort. Because fishing regulations by the New England Fishery Management Council can be insensitive to local conditions, NAMA promotes the rights of local areas to develop regulations for their local areas which are more appropriate than the generic ones made by the Council. Many of the latter tend to increase fishing effort by offshore fleets and increase bycatch and wastage through regulatory discards due, for example, to very low daily trip limits. NAMA advocates balance and communication between offshore and inshore within a vision of ecosystem-oriented conservation based on community linkages, increased awareness about fishing practices destructive to ecosystem values and linkages, and the need to enhance stocks. It seeks to include all relevant and affected marine resource interested parties in its membership (<http://www.namanet.org> ;interviews 2000). The existence of NAMA is another illustration of the fact that conservation initiatives within industry often emerge from the inshore, more community-based sector, but that this sector is capable of reaching out to and integrating the offshore sector under the right leadership and conditions. NAMA enjoys the support of high-profile public figures, and an ideology in the state that fishing-dependent coastal communities should not be the first to be pushed out of the industry. The non-profit organization is funded through foundation grants, individual and corporate contributions and membership. NAMA employs two staff and receives the equivalent of two more staff positions through the volunteer work of board members.

**Condition:** Organizations which increase communication and education among different sectors and gear types of the commercial fleet can promote a stewardship ethic in all sectors and increase cooperation and appropriate regulations of different sectors.

## 8. CONDITIONS FOR EFFECTIVE PARTNERSHIPS

So far I have discussed conditions enabling partnership design which affect accountability and equity. In this section I focus on what conditions are good predictors that a partnership will be effective. Some of these conditions pertain to the characteristics of the partners; some pertain to the characteristics of the partnership or the institutions created through the partnership; and some conditions pertain to the characteristics of the resource(s) being managed through the partnership. Social scientists are not able to state categorically which conditions are necessary in all circumstances, or in what combinations with each other, but only that the more conditions that are present in a particular case, the more likely it is that success can be predicted. It should be noted that these conditions for effectiveness need to be considered together with the conditions for accountability and equity discussed earlier.

### 8.1 Characteristics of the partners

- Communities or regions which have a **high level of dependency** on the resource have a greater incentive to develop sustainable use patterns, and are more oriented toward learning how to do this. This is because they are very vulnerable to non-sustainable use.
- Communities or regions which are **highly identified with their geographic area**, and are thus unwilling or unable to transfer access rights out of the area, are more likely to develop a stewardship ethic.

- Communities or regions whose **membership can be readily defined** have the potential power to exclude non-members and retain at least some of the benefits of management with the membership. This allows the development of incentives to invest in management.
- Communities or regions where **committed and credible leadership** exists, and where an energy centre or sparkplug is able to push the agenda forward, are more likely to sustain an effort to overcome the barriers to innovation.
- Communities or regions where a core group of people are **willing to invest enough time** in building the agreements to address the problems which are required to see the process of creating partnerships and then operating them.
- Communities or regions where some **homogeneity of values, customs, norms, activities** already exists, and/or where important sub-groupings have already built some degree of trust and understanding are part way down the road to partnership already. It is possible to build agreements from scratch, but far easier if some social capital already exists in the form of shared understandings.
- Communities or regions where sufficient **local knowledge** of the resource exists among people who are willing to share it offer far greater incentives to government to share power, and provide a basis from which to design more appropriate regulations.
- Communities or regions where **skills exist at building consensus or agreements** among community members will more readily mobilize their communities and build solid problem-solving local co-management bodies.
- A government agency which is **oriented toward learning** will more readily negotiate an adaptive and flexible agreement with partners.
- A government agency containing at least key individuals who have the **political will** to make the partnership happen, and who will work behind the scenes to overcome obstacles.
- A government agency with some **willingness to delegate or decentralize** enough decisions to make partnerships possible.

## 8.2 Characteristics of the partnership or the institution created through the partnership

- Permits **common access** to data and data analysis on the status of the resource.
- Permits the **making of appropriate regulations** for the local/regional situation (regarding both fishing and habitat protection).
- Permits the **monitoring** of compliance to these regulations by both government and community partners.
- Permits the **enforcement** of the regulations.
- Permits assurances that **investments will be rewarded**: improvements made in the resource by the management work of the fishing partner will benefit, at least partially, the partner who invested the resources to make the improvement.
- Permits the **resolution of conflict** in a timely manner, through informal or formal means, and with agreed appeals to a higher body if conflict is not resolved.

- Permits access to **sufficient start-up monetary resources**, where these are required by the scope of the partnership.

### 8.3 Characteristics of the resource(s)

- The resource is amenable to **boundaries defining resource management units**. In the case of migratory stocks, amenable to agreements being made horizontally or vertically with other regions sharing the management of the passing stock.
- The resource occupies/uses habitat/territory **adjacent to the community** or frequented by community members or fishers.
- The resource is **capable of being monitored** by community fishers or members.
- The resource is currently or potentially of **sufficient abundance and value** (or to supply some key ecosystem service) to be of interest to the community.

## 9. COMMUNITY PARTNERS MAY ADD VALUE TO THE RESOURCE

An increasing portion of the world's fish are harvested and processed using mass production strategies which miss opportunities to add value. That is, far more fish are sold in their lowest-value form than is required by market demand, simply because this fits the production strategy of large firms (Pinkerton, 1999).

Mass production at the fishing stage also encourages overfishing, because the capital intensive vessels require high volumes of fish to cover operating costs, especially considering market fluctuations in fuel and fish prices. Boom and bust market cycles force vessels with high operating costs to take more fish to cover costs, and fisheries they target are degraded (Clapp, 1998).

Community-based fisheries are smaller-scale, less capital intensive, less sensitive to changes in operating costs (labour, fuel), and hence more flexible in adapting to fluctuations in world fish prices, or to changes in fish abundance. Because they are smaller-scale and more labour-intensive, they have more opportunities—at least in the presence of appropriate preservation technology- to capture the fish live, or to preserve the quality of the fish longer, and to process it into a higher quality (more value added) product (deYoung et al., 1999).

## 10. CONCLUSION

This chapter has discussed the conditions under which the following problems may be addressed through partnerships: poor data and data analysis; low credibility of data and data analysis; inappropriate harvest regulations; low legitimacy of regulations; inadequate enforcement of regulations; overfishing; lack of attention to species interactions and habitat/ecosystem linkages; bycatch; habitat destruction; and failure to capture the full value of the resource. Four dimensions of partnership were discussed: their scope, scale, number of parties, and degrees of power-sharing. Partnerships were characterized in terms of their accountability, equity, and effectiveness, and conditions were identified which are predictors of successful partnerships which have these characteristics. Community development quotas were analyzed as a mechanism for partnering offshore and inshore fisheries, or of simply allocating fisheries access to communities which are otherwise disadvantaged in the marketplace. Umbrella regional organizations and regional boards were also discussed as ways of integrating offshore and inshore fisheries and promoting stewardship.

## 11. ACKNOWLEDGEMENTS

I am grateful to the Social Sciences and Humanities Research Council of Canada for supporting my research on co-management institutions over many years.

## 12. REFERENCES

- Ames, E., S. Watson and J. Wilson. 2000. Rethinking Overfishing: Insights from Oral Histories with retired groundfishermen. In Neis, B. and L. Felt. *Finding our seas legs: linking fishing people and their knowledge with science and management*. Institute of Social and Economic Research, St. John's. p. 153-164
- Berkes, F., George, P. and Preston, R.J. 1991. Co-Management: the Evolution in Theory and Practice of the Joint Management of Living Resources. *Alternatives*, **18**: 12-18
- Clapp, R.L. 1998. The resource cycle in forestry and fishing. *The Canadian Geographer*, **42**(2): 129-44
- Cordell, J. ed. 1989. *A Sea of Small Boats*. Cultural Survival Inc., Cambridge, MA. 410p.
- deYoung, B., Peterman, R., Dobell, R., Pinkerton, E., Breton, Y., Charles, A., Fogarty, M., Munro, G., Taggart, C. 1999. Canadian Marine Fisheries in a Changing and Uncertain World. *Can.Spec. Publ. Fish. Aquat. Sci.*, **129**. 199pp.
- Durrenberger, E.P. and King, T.D. eds. 2000. *State and Community in Fisheries Management: Power, Policy, and Practice*. Bergin & Garvey, Westport, CN. 250pp.
- Dyer, C. and McGoodwin, J.R. 1994. *Folk Management in the World's Fisheries*. University Press of Colorado, Niwot, CO. 347pp.
- Gendron, L., R. Camerand, and J. Archambault. 2000. Knowledge sharing between fishers and scientists: towards a better understanding of the status of lobster stocks in the Magdalen Islands (Quebec). In Neis, B. and L. Felt. *Finding our seas legs: linking fishing people and their knowledge with science and management*. Institute of Social and Economic Research, St John's. p. 56-71
- Johannes, R.E. 1978. Traditional marine conservation methods in Oceania and their demise. *Ann. Rev. Ecol. Systems*, **9**: 349-364.
- Johannes, R.E. 1981. *Words of the Lagoon*. University of California Press, Berkeley, CA. 245pp.
- Klee, G.A. (ed.) 1980. *Word systems of traditional resource management*. John Wiley & Sons, New York. 290pp.
- Langdon, S. 1999. Communities and Quotas: Alternatives in the North Pacific Fisheries. Presentation to the Pacific Marine States Fisheries Commission. Semiahmoo, Washington. 35pp.
- Loucks, L., Wilson, J., Ginter, J., Fricke, P., and Day, A. 2002. Experiences with Fisheries Co-Management in North America. In D. Wilson, J.R.Nielson, and P. Degnbol, eds. *The Fisheries Co-Management Experience*. Institute for Fisheries Management, North Sea Center, Denmark.
- Loucks, L, Charles, T. and Butler, M. eds. 1998. *Managing Our Fisheries, Managing Ourselves*. Gorsebrook Research Institute for Atlantic Canada Studies, Halifax, N.S.
- National Research Council. 1999. *The community development quota program in Alaska*. National Academy Press, Washington D.C. 215pp.
- Neis, B. and L. Felt. 2000. *Finding our seas legs: linking fishing people and their knowledge with science and management*. Institute of Social and Economic Research, St. John's 313p.

- Pinkerton, E. and M. Weinstein. 1995. *Fisheries that work: sustainability through community-based management*. David Suzuki Foundation, Vancouver. 199pp.
- Pinkerton, E. 1999. Factors in Overcoming Barriers to Implementing Co-Management in British Columbia Salmon Fisheries. *Cons. Ecol.* **3**(2) [online] URL: <http://www.consecol.org/vol3/iss2/art2>
- Ruddle, K. and R.E. Johannes, ed. 1985. *The Traditional Knowledge and Management of Coastal Systems in Asia and the Pacific*. UNESCO, Jakarta Pusat, Indonesia. 313pp.
- Schlager, E. and Ostrom, E. 1993. Property-rights Regimes and Coastal Fisheries: An Empirical Analysis. In T. L. Anderson and R.T. Simmons, eds. *The Political Economy of Customs and Culture: Informal Solutions to the Commons Problem*. Rowen & Littlefield Publishers, Lanham, MD. p 13-42.
- Senge, P. 1990. *The Fifth Discipline. The Art and Practice of the Learning Organization*. Currency Doubleday, New York. 413pp.
- Spoehr, A. ed. 1980. *Maritime Adaptations. Essays on Contemporary Fishing Communities*. U. of Pittsburgh Press, Pittsburgh. 161pp.
- Stoffle, B.W. et al. 1994. Folk Management and Conservation Ethics among Small-Scale Fishers of Buen Hombre, Dominican Republic. In C. Dyer and J. McGoodwin. Ed. *Folk Management in the World's Fisheries*. University Press of Colorado, Niwot, CO. p. 115-138.
- Thalenberg, E. 1998. Fisheries beyond the crisis. Canadian Broadcasting Company documentary film. 55 minutes. Box 500, Station A, Toronto, Ontario M5W 1E6
- Wilson, J.A., Acheson, J., Metcalfe, M, and Kleban, P. 1994. Chaos, Complexity, and Community Management of Fisheries. *Marine Policy*, **19** (4): 291-305.
- Yamamoto, T. and Short, K. eds. 1992. *International Perspectives on Fisheries Management, with special emphasis on community-based management systems developed in Japan*. National Federation of Fisheries Cooperative Associations and Japan International Fisheries Research Society, Tokyo. 527pp.

