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Cooperative research, co-management and the social dimension of fisheries science and management

Ilene M. Kaplan^{a,*}, Bonnie J. McCay^b

^a Marine Policy Center, Woods Hole Oceanographic Institution & Department of Sociology, Union College, Schenectady, NY 12308, USA

^b Department of Human Ecology, Cook College, Rutgers University, New Brunswick, NJ 08901, USA

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Abstract

Failures in the communication process have led to adversarial relations and tensions among various fisheries stakeholders and between the government sector and fishing community in particular. Co-operative research and co-management techniques should be used to increase transparency and accountability of the management process. Social science offers a way to better understand people who engage in the fisheries activities to be regulated; the social dimensions of fishing communities and the impact of policies and regulations on people should be included from the onset and become a central part of the management process.

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The controversial issues besetting the US National Marine Fisheries Service (NMFS) regarding groundfish stock assessments in New England and Mid-Atlantic US waters provide the opportunity to examine the relationship between the fishing community and NMFS, and the role that co-operative research and citizen participation in scientific research and management can play. Co-operative research programs should use the expertise of stakeholders, scientists (including social scientists), and the government. Such programs, used properly, with appropriate and soundly designed methodologies and data collection techniques with independent, peer review, can be key components to successful co-management of fisheries and marine resources and the development of more effective marine policy.

The concept of co-management is not new to the fisheries management process. Although there is no set recipe for this management tool, research in the social sciences indicates that participation in the management process by those who are to be regulated should improve compliance to regulations [1–9]. Unfortunately, co-management techniques are often used as methods of

last resort [6] or saved for crisis situations (not unlike the 2-day NMFS workshop held in Woods Hole, MA in October 2002 as a response to what has been popularly labeled “trawlgate”—a much heated debate in which New England fishermen questioned, in particular, the adequacy and accuracy of gear used by the federal government for groundfish surveys).

Application of co-management techniques has been fraught with controversy and has at times been viewed with mistrust at best, and as ineffective at worst, by different stakeholder groups. Even the Council Management System in the United States, whose origins are based on co-management techniques, has been criticized for not reflecting enough diversity among the fishing community [10]. On the positive side, the councils and NMFS have made attempts to reach out and include more fishermen, at least in part, to the research process, i.e. Co-operative Research Partners Initiative. On the negative side, however, it is not always clear how the representatives to committees are actually chosen, or how “final decisions” regarding representation are made. And more to the point of this commentary, social scientists must be viewed as a necessary and permanent part of this process.

Unfortunately, failures in the communication process have led to adversarial relations and tensions among various stakeholders and between the government sector

*Corresponding author. Tel.: +1-518-388-6230; fax: +1-518-388-6721.

E-mail address: kaplani@union.edu (I.M. Kaplan).

¹ WHOI contribution #10967.

and fishing community, in particular. An adversarial atmosphere can result in low morale for all stakeholder groups. This can lead to serious difficulties and impede the management process. Real or imagined negative relationships will hinder progress; research in the social sciences already shows that merely imagined negative perceptions may result in damaged relationships and self images through a process of “self-fulfilling prophecies” [11].

However, co-operative or joint research efforts, such as government researchers using active fishing vessels and crew or side-by-side trials of government research vessels and private fishing vessels, have recently become more frequent. The use of fishing vessels by government scientists to study monkfish is a good example. It resulted in an increased atmosphere of trust and allowed scientists and fishermen to work “side by side”. Another example is a series of surfclam and ocean quahog “depletion” studies to investigate the catch efficiency of survey gear. And, as already noted, there are recent attempts to improve research projects through co-operative efforts; in particular, at the request of the NMFS, the National Research Council established a committee to examine co-operative research.

Cooperative research provides a mechanism to renew trust and good faith in the management process, and contributes a sound methodological tool. In addition, it recognizes the *expertise* of different stakeholders. Co-operative research efforts also open the research process to greater scrutiny and increased *transparency* of the entire research process. Such programs can provide the key to improved relationships among marine stakeholders as well as more effective marine policy that is based on improved research design methodologies and appropriate data collection techniques—in other words, “the best science available”.

But these issues represent only part of the problem. Not only do stakeholders need to be part of the research and management process, there also needs to be a better understanding of the impact that management decisions have on the people being managed. Regulations have impacts on human communities, but regulators and managers have not been held *accountable* for the social, cultural and economic pressures that result. Indeed, the notion of accountability and the social impact of regulations on the fishing community should be *central* to the management process.

The “human” dimension of the management process has not been given the full attention it deserves. Improvement in this area, along with increased transparency and accountability of the fisheries science and management process, could avoid many management pitfalls. Attention to these issues can help make sense of

the discussions of long-term vs. short-term regulatory impacts, which, from a social perspective, are all inter-related.

Furthermore, the social science dimension of this process must be included from the *onset*. Social science components of fisheries management cannot simply be an after-the-fact element in the regulatory process, but should be an integral part of the research and management process—social science is, after all, a science, with both qualitative and quantitative protocols. And it is a type of science whose time has come in fisheries management. It simply is not enough to say that social assessments need to be conducted because of legal mandates. The human dimension is an important part of fishing and seafood industries. Social science offers a way to better understand the people who engage in the activities to be regulated, including their motivations, culture and heritage, and their social and economic situations—all information that can improve effectiveness and compliance to regulations. In particular, social science offers a way to examine how effective input from “experts” in the community can be gathered and effectively used—which should also result in a better understanding of ways to improve communication and co-operation among stakeholders, managers and government.

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