



Jun Espiritu

A Research Framework for Coastal Fisheries

Co-Management Institutions

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In many countries, national governments have increased their role in the management of coastal fisheries, including coral reef fisheries. The role of local level control, through management and custom, has correspondingly diminished. By appropriating this control over coastal fisheries management, the national government has often underestimated the capacities of the local management systems by which people have learned through often long and difficult experience to manage local fisheries resource systems

to meet their needs. In many instances, the national government has overestimated its ability to manage these same resources.

Without denying that the traditional systems of coastal fisheries management can often be inequitable and ineffective, state interventions that have chosen to ignore them have seldom fared better. National governments have, for the most part, failed to develop an adequate substitute for or complement to these traditional resource management systems. The promotion of nationalization or privatization as routine policy solutions has not solved the problem of resource degradation and overexploitation and, in many instances, has deprived large portions of the population of their livelihood.

The effective capacity of government agencies to regulate what goes on in widely scattered fishing grounds is distinctly limited. Devolution of major resource management and allocation decisions to the local level may thus be more effective than management efforts which distant, understaffed and underfunded government agencies can provide.

Coastal Fisheries Co-Management

There is a need for rapid and substantial evolution of existing coastal fisheries management systems to support sustainable resource use. It is unlikely that local communities can accomplish this change on their own. But neither can the national government accomplish it entirely through bureaucratic instruments. There must evolve a more dynamic partnership using the capacities and interests of the local community, complemented by the ability of the national government to provide enabling legislation and institutions and other assistance. This partnership can be called co-management, where the national government and the community share authority for fisheries management. Community-based management is a central element of co-management. The amount of authority that the national government and the community have will differ and depend upon country and site-specific conditions.

The devolution of authority to manage the fisheries, away from the national government to a local user group or community, may be one of the most

difficult tasks of co-management. Fisheries administrators may be reluctant to relinquish their authority, or portions of it, and governments are often opposed to decentralization. National laws may not be structured to easily devolve management authority or to allow for the legitimization of community resource management. Determining what kind of and how much authority should be allocated to user or community groups requires analysis of the different functions of fisheries management and which of those can be best handled at local as against national levels (Fig. 1).

resource management strategy, and develop paradigms for use and adoption by governments, fisheries communities, NGOs and others.

The research project will address issues of co-management at both the national and local levels. National government level research will focus on the legal, institutional and administrative conditions for and impacts of devolution of management authority to local communities, including the kind and content of authority that can and should be delegated to local communities. Priority will be given to how best to involve

or of leaving the system alone and legitimizing it.

Based on the information and knowledge gained from documenting fisheries management systems, pilot sites will be identified to implement and evaluate co-management strategies in a collaborative mode with fishers, scientists and fisheries managers from selected countries. Practical experience in co-management under different social, economic, political and environmental conditions will be obtained.

An Institutional Analysis Research Framework

The first step in ICLARM's project is the development of a research framework for analyzing coastal fisheries management systems in theory and in practice. The research framework of analysis to be developed provides for a structured approach to examining and documenting the origin, current status, operation and performance of coastal fisheries management systems. Institutional analysis, which examines how institutional arrangements, the set of rights and rules by which a community organizes activities and which affect user behavior and incentives, will provide the basic research framework for studying coastal fisheries management institutions.

A research framework must be both specific enough to provide guidance in case study settings, general enough for use in a range of situations, and useful in both documentation and implementation of fisheries management systems. The framework uses concepts from economics, political science, anthropology and law.

This research framework will be developed at ICLARM headquarters, with testing, review and comments from collaborating scientists. The research framework will then be used in conducting collaborative case studies and field research to document existing/traditional coastal fisheries management systems in selected sites throughout Asia. The use of the common research framework will allow for data to be collected and analyzed in a standardized format, the results to be compared, and generalizations made about fisheries management systems for use within the country and shared

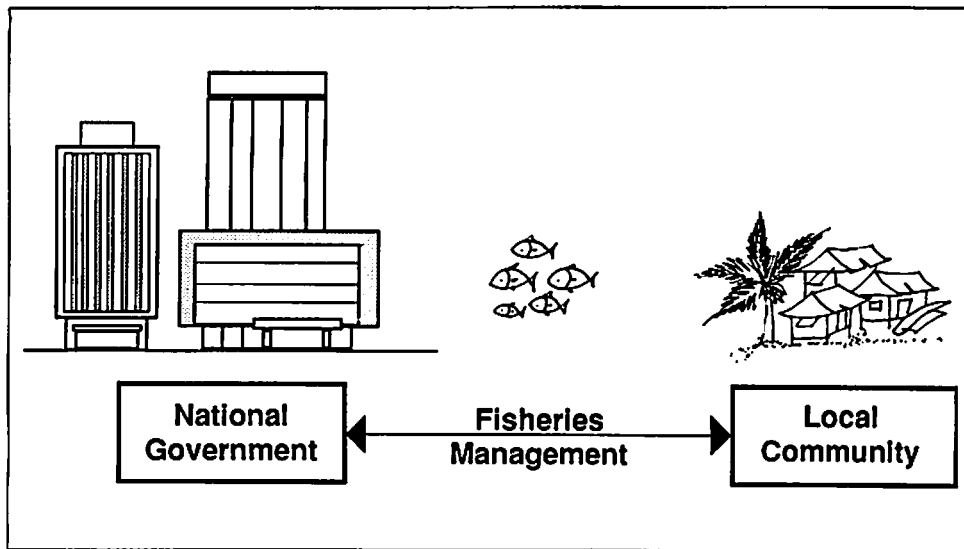


Fig. 1. Co-management of coastal and coral reef fisheries.

ICLARM's Research Project on Co-Management

As part of its Strategic Plan, ICLARM has identified coastal and coral reef resource systems as two of its three priority research programs. A major thrust under these programs is to develop approaches to coastal fisheries management (including co-management), in collaboration with national aquatic research institutions in developing countries. This research strategy is further specified in ICLARM's Medium-Term Plan 1994-1998 which identifies co-management as a major research project under both the coastal resource and coral reef systems programs.

The general goal of the research project is to gain practical experience in co-management of coastal fisheries resources, demonstrate its applicability as a sustainable, equitable and efficient

fisher groups and associations so as to facilitate the operational management of the fishery.

Community level research will focus on both the documentation of existing/traditional coastal fisheries management systems and the implementation of community-based management systems. Before initiatives in community management are begun, the existing systems of fisheries resource management and indigenous knowledge of natural resources in a country should be documented and understood. Whether formally endorsed by government or not or whether easily observable or not, most communities have established some form of resource management system. These management systems, once documented, can serve as the foundation for strengthening an existing system, learning how to extend the system into new areas,

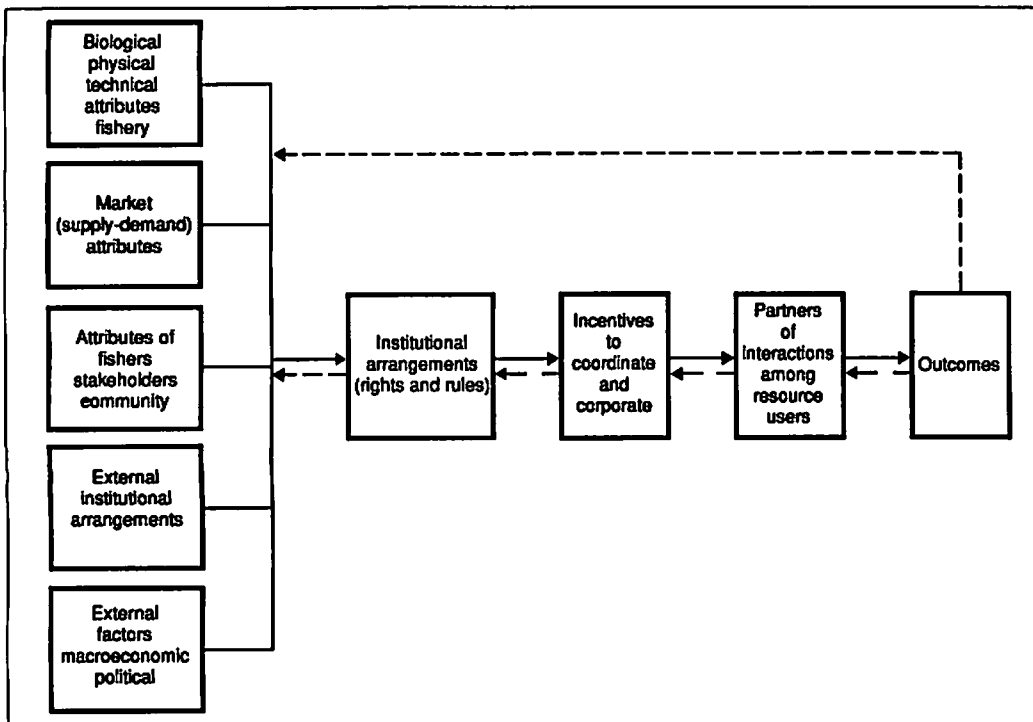


Fig. 2. A research framework for institutional analysis (adapted from Oakerson 1992).

with other countries in the region. Field methodologies to be employed in the case studies include rapid rural appraisal, indigenous knowledge, socioeconomic surveys and analysis, gender and institutional analysis.

The research framework consists of three components:

1) **Institutional Arrangements.** This component links contextual variables characterizing key attributes of the resource and the resource user, with the adopted coastal fisheries management institution. The rights and rules, or the institutional arrangements devised by fishing communities to manage the fishery, are the focus for examining the conditions or context which provide incentives to organize resource management institutions and which also cause institutional change. The contextual variables are referred to as a set since each is composed of a number of interrelated attributes which characterize the structure of the institutional arrangements. A causal relationship has been shown to exist among and between the contextual variables. These variables affect the actions of the resource

users by shaping the structure of incentives they face, from which emerge coordinated strategies and outcomes.

The six sets of contextual variables to be examined are:

- the biological, physical and technological attributes of the resource;
- the market (supply-demand) attributes;
- the characteristics of the fishers, stakeholders and their community;
- the set of local or community institutional arrangements used;
- external institutional arrangements; and
- external factors that effect the resource and the fishers (Fig. 2).

Time is also a critical element. All the contextual variables change through time. This causes institutional change and, in turn, affects outcomes and patterns of interactions. Where possible, institutional change is described at different points in time, to understand both its causes and effects.

2) **Institutional and Management Performance:** Once documented, the performance of the fisheries management institutions can be assessed in terms of outcomes, that is, the meeting of institutional objectives for management and the impacts on the resource and its users. These may vary among communities and through time. To distinguish relevant accomplishments, evaluative criteria, such as sustainability, efficiency and equity, are specified and operationalized.

3) **Characteristics of Successful Local Fisheries Management Institutions:** The creation of an organization and the development of institutional arrangements for co-

ordinated strategies for fisheries management are no guarantee that it will survive over time or is transferable to other locations. The specification of what variables and conditions bring about successful fisheries management is an important research task for providing future direction for fisheries management.

Comments from readers on the ideas presented in this paper are most welcome.



Further Reading

- Bromley, D.W. 1991. Environment and economy - property rights an public policy. Basil Blackwell, Cambridge, Massachusetts.
- Oakerson, R.J. 1992. Analyzing the commons: a framework. In D.W. Bromley (ed.) Making the commons work: theory, practice and policy. Institute for Contemporary Studies, San Francisco, California.
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