

NATURAL PARTNERS FOR COASTAL FISHERIES MANAGEMENT: COMMUNITY-BASED FISHERIES MANAGEMENT AND INTEGRATED COASTAL MANAGEMENT

by

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1. Introduction

Coastal Fisheries Management (CFM) is complex. This simple revelation is often the first source of agreement among fisheries managers and fisherfolk. One reason for the complexity is the nature of fisheries. Causes and solutions to fisheries problems often have just as much to do with the boarder impacts to a fish's ecosystem as with the direct impacts of fishing.

Ecosystem changes from human impacts on the fisheries habitat and environment, and multi-use conflicts of coastal resources (between fisherfolk and tourists, or fisherfolk and large-scale aquaculturists for example) all influence the natural mortality of fish stocks. On the other hand, fishing mortality depends on an equally complex but narrower set of issues. For example, catch limits, fishing area allocations, mesh size, gear, and the behavior of fisherfolk. Management of these issues involves a bit of natural science, social science, and people-centered programmes.

Many countries have initiated fisheries management systems that involve those in local communities most affected by the management decisions. These systems vary from country to country and within countries. Most common has been a shift to cooperative or collaborative fisheries management where government and the local communities share responsibility and effort for management. In some countries, governments have delegated the entire trust, authority, and responsibility to the local community for fisheries resource management. In Fiji, Micronesia, the South Pacific, Indonesia, and other countries having traditional systems of fisheries management, authority is delegated by local custom and traditions that either supersede or are made legally binding by government. While there exists differences between collaborative, traditional and community-based fisheries management (CBFM) systems, they have fundamental similarities, and for the purposes of clarity, will be referred to as CBFM in this paper.

An equally participatory resource management system, called Integrated Coastal Management (ICM), has emerged in the last two decades as an approach that views the ecosystem as a whole, and human societies as part of the ecosystem. ICM unifies the essential ecological, economic, and social components of each issue into

comprehensive solutions that make sense and can be implemented by a strong and diverse constituency.

Fisheries is a central issue of concern in many coastal areas, and particularly in South and South East Asia. Often, neither CBFM nor ICM alone is sufficient to address the complexities of CFM. Combining the strengths of these two approaches enables communities to develop more comprehensive solutions that can be implemented with a broad constituency of support. The paper discusses the complementary nature and interdependence of CBFM and ICM vis-à-vis fisheries issues and potential areas for integrating the two resource management approaches.

2. Strengths of CBFM

CBFM provides a mechanism for fisherfolk to cooperate among each other to resolve the issues that have to do with the direct impacts of their actions. This is important. Fisherfolk need to help develop the details of solutions to what they know best - the problems within the fisheries sector. However, CBFM's strength is at once its limitation in addressing the complexity of ecosystem problems that impact the fishery.

Issues such as water quality, habitat conservation, and the health of the ecosystem cannot entirely be resolved by fisherfolk alone. These issues will need the 'buy-in' or acceptance of a larger community. Rarely is CBFM structured to bring in this broader constituency needed to address these issues. While it is essential for fisherfolk to coordinate as specialists on the issues within their own sector, CBFM, if the only participatory management mechanism for the geographic area of concern, still keeps fisherfolk isolated from the larger community and the larger information base needed to develop and implement solutions.

Fisherfolk need two essential contributions from other sectors to solve ecosystem problems affecting fisheries. First, they need a broad base of information - from sociological, scientific and economic sources. This information mix leads to an improved understanding of the fisheries issues and helps make sure the right issues are identified and prioritized for management.

Secondly, fisherfolk need cooperation from other sectors to gain the unified support of the wider community necessary for implementing solutions to complex ecosystem problems. Under CBFM, the tendency or temptation will be for the fisheries government agency and fisherfolk to take on the additional tasks of addressing the environmental actions that affect fisheries. This is particularly the case with water quality improvements and coastal habitat restoration - actions historically governed by the Departments of Forestry, Agriculture, or Environment. But this increases the burden of work for the fisheries agency and the fisherfolk community. It also will not ensure that the actions of other sectors will follow suit. Unless there is a mechanism to ensure consistency among sectors using the resource,

progress made by fisherfolk and the fisheries government agency may be offset by the actions of the other sectors.

CBFM is often successful in resolving user conflicts within a single user group - the fisherfolk. For example, conflicts between small-scale fisherfolk using different gear types, or having territorial disputes. While CBFM is best able to develop management measures within a fishery - it is often difficult to resolve conflicts between multiple user groups such as between fisherfolk and tourists, and fisherfolk and local land-owners. Many of these conflicts need a bigger arena for conflict resolution, so that one group is not 'pitted' against another. In addition, a larger arena can help if conflicts within the fishery are too divisive. Particularly for small-scale and commercial user conflicts, or enforcement conflicts between the gear types used in an area.

3. Strengths of ICM

One of the most compelling reasons for communities and governments to put time and financial resources into ICM is the efficiency of the 'product' itself. The ICM product includes not only the group of solutions to the identified problems, but also the changes to the institutions and public that increase the chances of successful implementation.

Solutions developed under the ICM governance approach resemble an engineer's design in efficiency and common sense. They consider interactions not only between problems, and between user groups, but also between institutions that have jurisdictions over the sources of the problems in the area - and all of these are observed within the unique characteristics of the local ecosystem.

Because the design is comprehensive, wasteful ad-hoc and piecemeal efforts are eliminated. Benefits include cost savings, solid, well-thought out activities, improvements in relations between government agencies and between the agencies and communities and a greater public confidence in government.

Consensus-based solutions take time to develop under ICM. But during that time, the process builds a strong constituency in the community and within government agencies. With a strong and wide constituency, funds can be levied from outside the fisheries sector for actions that directly benefit the fisheries resource and fisherfolk community. Fisherfolk need political support for implementation of many of the ecosystem actions. This support helps generate local sources of funding which is a major step towards ensuring sustainability of management efforts and the programme.

For example, under the Bay of Bengal Programme Third Phase Project in Malaysia, the Committee developing the Special Area Management Plan (SAMP) for the Pulau Payar Marine Park is considering introducing visitor fees for the first time. This would raise funds for continuing the SAMP planning process and

implementation, not only ensuring sustainability but also greater equity between users.

When ICM participants look at an ecosystem's problems, its not from the view of one pollution problem, nor from one pollution source, but from the multiple impacts of all human activities. This unique characteristic of ICM helps to provide the distance and objectivity needed in resolving conflicts between multiple users. It also helps to resolve conflicts within a single user group such as fisheries where the issues are particularly divisive.

Multi-use conflicts between fisherfolk and tourists are common in coastal areas. Tourists may wish to have their destination pristine - but they also require amenities including resorts, swimming pools, sewage facilities and land development that all leave impacts on the environment. Even eco-tourism leaves an impact on local communities and their culture. However, tourism can be made into an advantage for the fisherfolk and coastal communities when managed under an ICM approach. The common objectives of ecosystem health can help the user groups reach consensus on activities of mutual benefit.

4. CBFM and ICM: A natural partnership for comprehensive change

Both CBFM and ICM strive to attain greater equity in resource allocation and use. And both seek to build a sense of "ownership" of the decisions and the process. They share a number of compatible strengths. Thus, in many situations, its useful to establish a partnership between the two management approaches to enable communities to comprehensively address the entire range of complex problems concerning CFM.

For example, in areas of the coast where fisheries are of importance, CBFM can be linked to a broader ICM effort that can address the entire set of issues within the ecosystem. The ICM programme can set quantitative objectives for fisheries issues - the CBFM effort can determine the details of solutions to achieve the objectives.

In fact, its often common for an ICM process to leave the development of detailed solutions to either subcommittees of the ICM process, or to separate decision-making bodies. The results are reported to the ICM programme for final discussions and consensus. Such issues requiring a more specialized input include, for example, engineering solutions for breakwaters, mitigation measures for habitat rejuvenation and fisheries management measures.

In the case of fisheries, objectives for management of issues that have to do with the fisheries resources (e.g., decline in water quality, loss of nursery grounds, decline in fish stocks, etcetera) can be established within the ICM process, where fisherfolk are represented together with other key stakeholders. For example, quantitative objectives for water quality and habitat restoration can be set to achieve

an increase in fisheries resources. Biological indicators of the health of the fishery can be monitored by the ICM effort. The monitoring information can be applied by the fisherfolk in the CBFM programme.

If fisherfolk are to participate in management - setting limits on catch and numbers of boats, zoning schemes, and seasonal closures in certain areas, etcetera - they need to have accessibility to applied science that is able to paint a comprehensive picture of the ecosystem. Fisherfolk learn from the scientific findings of the ICM process and often change their original perceptions of the issues.

CBFM often provides a firm foundation that can later evolve into a more comprehensive management effort that can help fisherfolk address those issues in fisheries that lay outside the fisheries sector. As communities begin to see the root causes of fisheries issues, CBFM programmes will need to develop some kind of approach to address the broader ecosystem issues - either by participation through representation in a separate but more integrated management programme or by initiating a broader ICM effort.

In fact, fisheries issues are often the driving force for establishment of ICM programmes. An example from the US. In the Chesapeake Bay, concerns from the oyster and crab fisherfolk of the increasingly poor water quality in the Bay began what is now a very successful ICM programme. The Chesapeake Bay Programme is over twenty years old and has been able to consistently generate millions of dollars in government and private sector funding for clean-up efforts. Water quality has improved, and the oyster and crab fisheries have recovered. Fisherfolk leadership in the Programme remains strong.

However, throughout the Programme, the fisherfolk continued to maintain their own management schemes for managing the oyster and crab fishery.

Another interesting lesson from this experience was that the fisherfolk were of disparate groups but the environmental 'crises' of water quality and habitat loss unified them and made them help to lead the wider public towards resolving the problems.

Fisherfolk participation in ICM programmes helps to build leadership in fishing communities. It gives them more confidence to take on leadership roles in the CBFM efforts, which can strengthen the CBFM programme. The presence of an ICM programme provides an incentive for specialized groups such as CBFM to organize. The sense that their knowledge and inputs will help guide decisions builds stewardship of the resources and ensures strong and active participation in the programmes.

Successful integration and partnership of CBFM and ICM can help to create a sense of unity in society, and a sense of belonging in the small-scale fisherfolk to the wider community. It can enable fisherfolk to have a wider voice in the

community on other community development issues, such as health care and education. Likewise, fisherfolk can help the broader community identify the problems and direct the solutions to the ecosystem problems or issues, educating the wider community on fisheries issues.

5. Conclusion

CBFM and ICM share common objectives and have compatible strengths. Adaptive linkages between the two management approaches would help to ensure mutually beneficial programmes and a more comprehensive management of the coastal resources.

6. References

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