

# Dilemma of the Small-Scale Fishermen

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Resource managers in many countries have not yet fully grasped the consequences of the fisheries dilemma now emerging in Southeast Asia. Official views often hold that abundant underutilized stocks still exist while in fact few do and many are already overexploited. Official views commonly state that there are opportunities for increased employment in fishing while in fact the catches are already divided among too many fishermen resulting in very low individual incomes. Official views commonly are that more boats and fishing gear are needed, while in fact a great excess of harvesting capacity already exists, resulting in wasted fuel and resources. Perhaps most importantly, official plans call for rapidly increasing harvests of fish when this is probably not possible.

In November 1981 the U.S. Agency for International Development (AID) in Manila sponsored a Coastal Zone Management Workshop with a special emphasis. The purpose of the workshop was to involve Philippine fishery managers and representatives of interested agencies in planning for possible participation by AID in the further development of existing poor coastal fishing communities. As the 34 experts from national and international bodies began examining the fisheries problem critically, the magnitude and complexities of the "dilemma of the small-scale fishermen" were realized and clearly stated. The group was able to address the problems and to consider realistic options for improvement of the situation in a frank and uninhibited way. The results of this workshop have broad implications internationally, especially in South and Southeast Asia.

## Unique Workshop

The meeting was probably unique in that many of the participants were well acquainted with the recent rapid expansion of fishing in Southeast Asian countries and the resultant general overexploitation of resources which, coupled with population pressures and underemployment, have created intolerable economic conditions in many traditional fishing communities. They were also familiar with efforts in the Philippines to assist the small-scale (municipal) fishermen trapped by these circumstances. The related efforts to increase fish harvests as well as employment opportunities for fishermen by increasing numbers of boats and improving gear had also been observed by the participants.

Although not all resource managers in the region have yet faced the fact that fishery management rather than fishery development must now be emphasized, this group was well aware of the need for this shift. It was clearly understood from the onset of this workshop that continual division of the catch among an increasing number of fishermen (whether through the use of traditional or more sophisticated gear) was not a viable solution. Economic overfishing or the excessive use of boats, fuel, gear and manpower to harvest the catch is widespread. Rapid increases in costs of fuel, supplies and materials related to the rise in petroleum prices have occurred recently. Conflicts and competition between fishermen using large boats and those using smaller traditional gear are common both in the Philippines and throughout the region.

## Recognition of the "Dilemma of Small-Scale Fishermen"

The problem was placed in perspective by a review of results of an interdisciplinary study of San Miguel Bay, Philippines (see April 1980 ICLARM Newsletter) conducted by the Institute of Fisheries Development and Research (IFDR) of the University of the Philippines in the Visayas and the International Center for Living Aquatic Resources Management (ICLARM). The municipal fishermen in San Miguel Bay represent the troubled groups of traditional fishermen quite well even though they have some special problems related to this particular bay system that are not common to all such communities. During this study an in-depth examination of the problem was made by biologists, economists and sociologists. In summary, it was determined that the fishery is overexploited biologically and economically and that roughly half the catch is harvested by 500 fishermen using 100 small trawls while the other half is divided among 5,000 municipal fishermen using smaller boats and gear. Typically for an open-access common property fishery the numbers of fishermen and units of gear have expanded to the point that the municipal fisherman's returns for his labor and for his capital investments are very low. Few employment or investment opportunities exist for the municipal fishermen therefore the situation is perpetuated and even continues to worsen as numbers of fishermen are still increasing.

As fishermen with larger boats and trawls enter the fishery, they compete directly with the municipal fishermen reducing the portion of the yield available to them. Although the majority of fishermen would be willing to change occupations or leave for better employment opportunities, such alternatives are extremely limited. Few fishermen own or have access to land, a surplus of agricultural labor already exists and local manufacturing and cottage industries are weak. The problem is now recognized as a rural development problem in a broad sense, not just a fisheries problem, and it is clear that long term solutions cannot be found within the fishing industry but must involve all sectors of the rural economy.

The "Dilemma of the Small-Scale Fishermen" is summarized as follows:

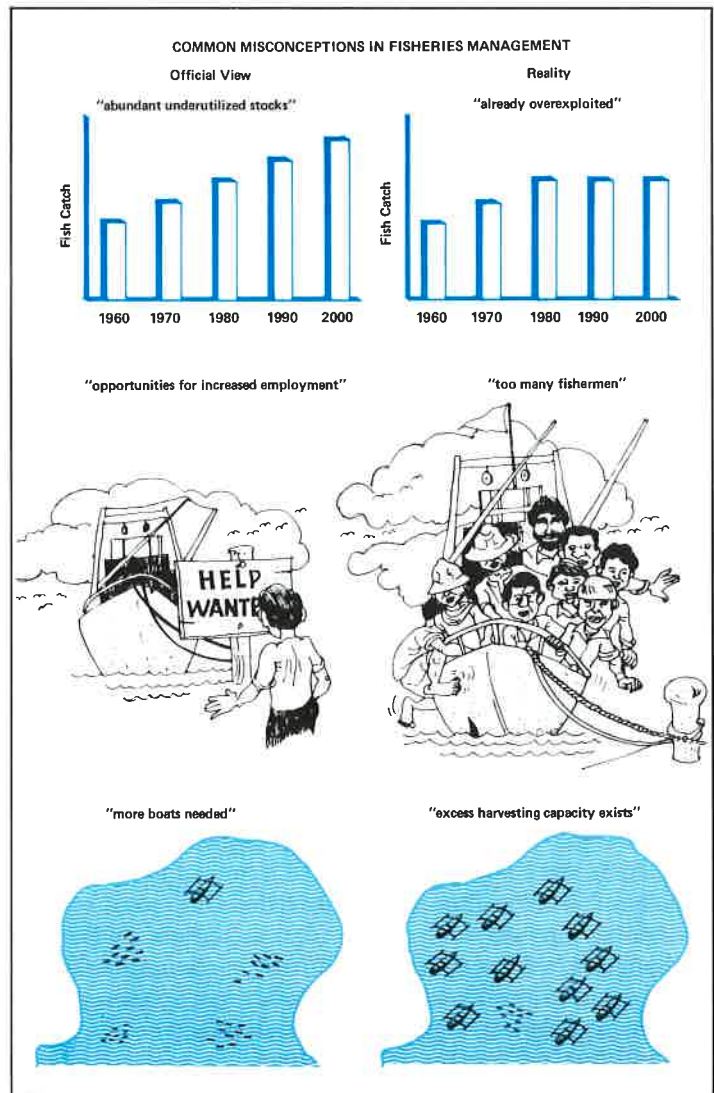
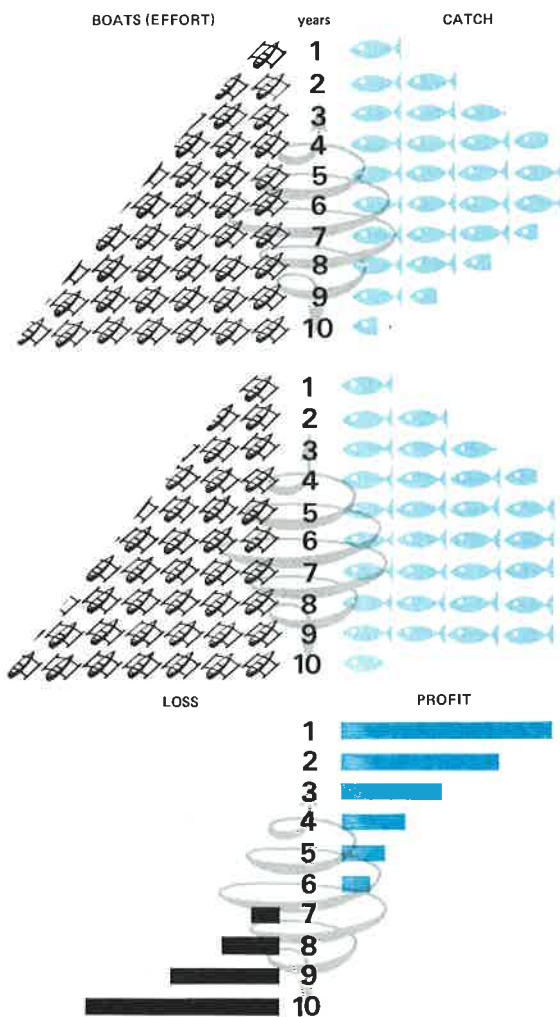
- (1) Biological overexploitation of fisheries in the sense that more fish could be caught if less fishing were done.
- (2) Economic overfishing in the sense that income from fishing is being wasted in the purchase of unnecessary boats, gear and fuel (the same catch could be taken at lower cost).
- (3) Increasing numbers of small-scale fishermen splitting the catch into increasingly smaller shares.
- (4) Few or no alternatives for the small-scale fishermen's labor or capital.
- (5) New competition from modern fishing boats capable of harvesting significant portions of the available fish quickly and easily.
- (6) Deteriorating socioeconomic conditions in the fishing community.

## Options for Viable Management

Having laid out the problem with considerable perception based on the group's collective experience the workshop was

then faced with its principal task, that of searching for solutions. Although some increases in local employment opportunities can be expected within the fisheries sector as a result of fishery product processing or aquaculture, these will be small compared to the overall magnitude of the population and underemployment problems. The required employment options simply do not exist within the fisheries sector; therefore, a more comprehensive plan for rural development of affected rural areas is needed. This plan must incorporate agricultural development, industrial development, natural resource conservation and management, social and institutional development (including law enforcement), education, and transportation and communication. It is essential that institutions for decisionmaking regarding fisheries management must be strengthened or developed.

However, the fact that the largest part of the solution to the employment problem must be found outside the fisheries sector



does not change the fact that fishery resources are not generally being managed to maximize benefits to the municipal fishermen. It was this problem that occupied the majority of the time of the workshop participants. Proposals discussed for managing the fishery included two common elements; first, that of changing common property concepts with respect to fishery resources, and second, the development of procedures for more equitable allocation of the harvests among fishermen. Even though these elements are not always clearly distinguishable, they are useful foci.

A basic question posed to the group was "Can we manage fisheries in Southeast Asia?" given the general problems of law enforcement, the complexity of bureaucratic structures, and the tendency for decisions to be made on a political rather than a biological or socioeconomic basis. The common property nature of the resources which contributes to a "take what you can get" attitude among fishermen adds to the complications of management. It was clear to the group that shifts away from "central management" and related common property concepts toward "local management" and related property ownership concepts would be useful; however, the political and legal problems and complexities of such changes were not underestimated. In spite of difficulties, the advantages of involving the resource users in decisions concerning management of the

stocks he uses (assigning him some property rights) are tremendous. Mechanisms for moving in this direction may involve increased regional or municipal management authority and involvement of fishermen's associations in management decisions. Although enforcement of regulations is mandatory, the need for enforcement must first be made clear to fishermen and it must be demonstrated that the fishermen themselves will benefit if they follow regulations (restrict harvesting). Grassroots support for enforcement of regulations is believed to be a prerequisite for improvement in management practices. The transition from present practices would be a big one, but is felt to be a necessary step toward better management. In the long run resource units might be managed entirely by a municipality, a group of municipalities or a fishermen's association with only technical advice from outside the community. Important legal precedents for local control exist in the Philippines with the milkfish fry leases, concessions for harvest of migratory fishes entering lake systems, and the placement of fish traps, fish corrals, fishing platforms and fish attraction devices. Aquaculture and other forms of habitat modification are important examples of the extension of private ownership over natural resources that were formerly common property. The management unit (and the fishermen themselves) could then have complete responsibility for setting and enforcing regulations to correspond with local needs and resource characteristics, and maximum benefits of wise resource use would accrue directly to the local group.

The subject of allocation, while closely related to the problems of exploiting a common property resource, is the special problem of how to divide the benefits (catch and income) among fishermen. It includes the question of how many fishermen should share the harvest. Within this subject area the focus is on socioeconomic issues of equity, income and employment. If a single management unit (corporation, association, co-op or municipality, for example) had complete control over a given resource it could make one of a wide range of choices as to who shares the harvest, how many are involved and in what way each party shares. Even the costs of harvesting could be limited, or distributed in various ways. The socioeconomic issues would then be dealt with locally by the people dependent upon the resources for their livelihood rather than by disinterested persons in remote places or politicians handing out concessions as favors.

The type of local organization formed to represent the interests of the fishing community was a topic of discussion since cooperatives and similar organizations have a reputation for failure. Regardless of the specific organizational form, two key elements for success were recognized, (1) economic motivation must be provided to participants (i.e., potential economic benefits from activities such as credit, marketing or control of access must be demonstrated), and (2) the organization must address local problems with local leadership and with the participation of local fishermen working toward solution of shared problems. In addition, information dissemination and education in support of such organizational development are essential.

#### **The Critical Shortage of Information**

It is clear that some people do not agree that fisheries are generally overexploited in Southeast Asia. The idea (hope?) per-

sists that the sea is a virtually inexhaustible source of fishery products to which we can turn for ever-increasing yields. The truth lies somewhere between the concepts of "total overexploitation" and "infinite fish supply". Many fishery resources are clearly overexploited, but for most fisheries we cannot define maximum sustainable yield in biological terms because insufficient data are available. Our lack of solid biological and statistical data with which to describe the condition of given stocks is, in fact, a hindrance to moving ahead with viable solutions since the hope persists that the difficult choices related to restricting fishing will not have to be made. There *may* still be more fish to be caught, and before the manager takes such steps as limiting access, restricting fishing rights or imposing catch quotas that are difficult to implement and will further limit profits of fishermen in the short run, he must be certain there are no more acceptable options.

For these reasons stock assessment is a pressing need even where stocks are clearly overexploited. The resource manager always needs firm information on the magnitude and characteristics of yields possible from a given resource, and this is seldom available. A need was noted for a stock assessment center of excellence for the Philippines that would gather pertinent data, assemble and analyze new and existing data and provide technical advice optimum levels of exploitation for local fisheries. Although it received less emphasis during the workshop the need for basic socioeconomic data (income, profits and prices) is of equal importance.

A critical shortage of information on alternative development and management strategies was also noted. Even the goals of fishery resource management could not be defined precisely; the best this group could express were the joint goals of optimum employment and optimum yield. Local clarification of goals would be a prerequisite to refining management procedures and allocation of catch. Although area specific approaches to planning are being promoted in the Philippines under the new Integrated Fishery Development Plan, the group conceded that we really don't know how to implement local management or modified resource allocation schemes.

It was understood that basic social, economic and legal innovations would be necessary and that education at all levels would be the foundation of such changes. Additional studies of social, economic and legal aspects of the municipal fishing communities will be required. In addition, pilot management schemes can be tested on a community level beginning immediately if appropriate sites, funding and research agencies can be identified. On the basis of new research and community management trials now operational, strategies could then be formulated, legal changes could be made and a basis for predicting effects of specific innovations could be established. It was proposed to AID that the testing of trial management schemes be initiated as an AID program activity.

In this brief presentation only a summary of the highlights of the meeting has been presented. The meeting was an important one in that it documented significant changes in the thinking of fishery resources managers with respect to fish stocks and with respect to the coastal fishermen. A complete report of the meeting entitled "Report on the Coastal Management Seminar-Workshop" is available from ICLARM or from the USAID Manila.