

# THE ROLE OF FISHERY CO-OPERATIVES IN COASTAL FISHERIES MANAGEMENT

by

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## ABSTRACT

Community based approaches to management of coastal fisheries through fishery co-operatives may offer important opportunities. This is shown in the successes achieved in Japan and other countries. In order to play their role, fishery co-operatives need to be socially and economically successful. This inevitable means that they must have been initiated by the fishing communities themselves, the individual fishermen. They need to see the long term benefits of fishery co-operatives and feel the need to join forces. It is a natural step from development of the fisheries and fishery communities to the management of the fisheries. Governments must decentralize the authority over coastal marine areas and initiate programs to provide fishing communities with authority over adjacent resources. Involving fishery co-operatives in management may not be a quick or easy way to success, but it may well be the most effective way.

Coastal fisheries form an important part of the total fisheries production. The coastal zone is much more productive than the open sea. It's importance also lies in the structure of the coastal fisheries which is mostly notably small-scale and relatively labour intensive. This makes the coastal fisheries an integral part of the lives of most people inhabiting the coastal areas. The importance of the coastal fisheries therefore is both economic and social only adding to the need of sustainable development and appropriate management in order to secure the viability of fishing communities and the livelihood of the people living there.

Coastal fisheries obviously are in crisis, over-exploitation and environmental degradation of the coastal marine habitats are widespread. Existing management measurements often cannot tackle the problems facing the coastal marine habitat effectively. Not coastal fisheries, but rather coastal fisheries management is in crisis. Increasingly severe depletion of coastal fish stocks and the growing conflicts among different groups of fishermen in recent years, have made the need for more effective management become more apparent. The sheer number of fishermen and boats involved make managing coastal fisheries extremely difficult. Instead of trying to impose the centralized top/bottom strategy as (quite appropriately) used in the more centralized and organized industrial fisheries, community based approaches to management, may offer important opportunities in the scattered and decentralized coastal fisheries. The principles and approaches of community based management

systems are not universally applicable, but experiences, especially in Japan, indicate that these systems can be very effective. Also management and enforcement costs associated with this community approach are less since the sense of ownership generated tends to make the fishermen more responsible and accountable for long term sustainability of the resources.

Fishery co-operatives have long been promoted as an effective way to develop fishery resources and to up lift the social and economic status of fisherfolk. As early as 1948 the FAO began to argue for co-operatives for agriculture production, recommending that they provided the best means of reducing the cost of farm production supplies, credit facilities and marketing and in general would be beneficial to improve production and the living conditions. In 1995, in the Action Programme of the World summit for social development it was once again stated to utilize and develop more fully the potential and contribution of co-operations for the attainment of social development goals, in particular the eradication of poverty, the generation of full and productive employment and the enhancement of social integration. The overall impression however was that co-operatives in the fishery sector do not work and are difficult to organize. With fishermen convinced that co-operatives were unproductive and useless, they did not want them and so they had to fail (COPAC, 1984). The situation in Asia as far as co-operatives are concerned seems to be better than in the rest of the world. More effort is going into co-operatives and more successes coming out of those efforts.

The aim of a fishery co-operative is to unite a force of small- or medium-scale fishermen, who cannot achieve any substantial results alone, in order to improve their economic and social position, principally by carrying out one or more business activities. Fishery co-operatives can be involved in a multitude of activities,

- ownership and operation of fishing vessels
- credit facilities
- marketing of fish
- cold storage
- transport
- fish processing
- supply of fishing gear and equipment
- maintenance and repair of fishing vessels and equipment
- manufacturing of fishing gear and equipment
- technical services
- insurance
- control of fishing rights
- and social and educational services

Co-operatives in Japan fulfill some or all of these activities contributing to the success and prosperity of the fishing communities. The type of fisheries and the setting influence the needs and hence the activities of any fishermen's group or co-operative. In the fishing communities the activities undertaken by the (primary) fishery co-operatives may be limited to the basic services such as provision of

services in fish landing, local processing and marketing, credit disbursement and interest collection, and community services. On this level co-operatives often aim to replace middlemen. At the second and third tiers (provincial and regional levels) fishery co-operatives may expand their activities into purchase of supplies, high quality processing and regional marketing for export, credit administration control, infrastructure development, training and extension, as well as provide liaison and co-operation between the primary co-operatives at the regional or state level.

A study conducted in the early 1980s, by Maynell (COPAC, 1984), concluded that out of 11 countries co-operatives in four countries were considered successful (Indonesia, Japan, Rep. of Korea and Malaysia), 3 had both successes and failures (Bangladesh, Hong Kong and India) and two had failed (Sri Lanka and Thailand). Since then there have been developments in Malaysia and Philippines and new initiatives in other countries, like Thailand and Sri Lanka. In fact in spite of the failures co-operatives are widely recognized as having the potential to contribute significantly to develop fishery resources and to up lift the social and economic status of fisherfolk.

Most fishery co-operatives in Asia are modeled after the successful co-operatives, or fishing associations, operating in Japan. The remarkable success of co-operatives in Japan as opposed by the mixed results in most other countries is in part due to the century old common property ownership of rural fishery communities over coastal resources and the behaviour of Japanese fishermen which is characterized by collective action, reducing (social) conflicts among fishermen. It is clear that the social and cultural background in Japan is quite different from that in other South-East Asian countries. More than cultural or social background the success or failure is dependent on the core of co-operatives: the individual fishermen. Co-operatives should be built up by the fishermen themselves. A co-operative should preferably be voluntary and for sound long-term benefits that are immediately apparent to its members. Success or failure of any co-operative will in the end depend largely on the motivation and needs of its members. Successful co-operatives more often than not are spontaneously derived to strongly felt requirements within the fishing community. Other co-operatives which do not have a joining strong sentiment ultimately disintegrate or become economically inviable.

Fishery co-operatives in different countries or different provinces differ considerably in their goals and objectives. The ideal co-operative clearly does not exist. However some general constraints to the success of co-operatives are membership, leadership and lack of competent and properly dedicated management. Additional points of interest were made during a Indo-Pacific Fishery Commission Symposium on Development and Management of Small-scale Fisheries, in Kyoto, Japan in 1980.:

- Prerequisites must exist in the need of small-scale fishermen for betterment or overcoming specific or general hardships.

- Formation should be initiated by the small-scale fishermen, with guidance if necessary, based on motives generated by their own needs.
- Operation at first should be performed by hired competent management, to be transferred after about 2 years to fishermen members trained in management.
- Activities could include channeling capital from other resources to finance initial operations, and later from internal reserves to finance non-profit social services.
- Marketing activities are important, both for better bargaining position and for ensuring the most acceptable methods of loan recovery.
- Information and extension services and transfer of new technologies, as well as leadership training for management and local government communication are all important; as is some control over fishing grounds or even resources.

In general: activities can only be viable if fully integrated with marketing, credit and extension under strong and competent management and if based on motives and long-term benefits of the producers themselves.

As early as in 1969 a number of conditions for success of a co-operative were summarized at the International Seminar on Possibilities and Problems of Fisheries Development in Southeast Asia (Tiews, 1969). A lot of the failures associated with the fishery co-operatives could have been avoided if the following conditions would have been taken into consideration:

1. The co-operative should be built up by the fishermen themselves.
2. The best and most trustworthy fishermen with organizing ability should be selected as leaders.
3. The co-operatives should be big enough to employ and pay full-time skilled managers from the open labour market.
4. In order to guarantee stable prices, the co-operatives should run their own cold storage and processing plants.
5. The government should give financial support, at least at the initial stages.
6. A roof organization under government supervision should unite all local co-operatives.
7. Education of co-operative members as well as leaders and managers regarding co-operative principles and business practices is most important.

The role of community organizations in fishery management was recognized at the FAO/Japan Expert consultation on Development of Community-based Coastal Fishery Management Systems for Asia, in Kobe Japan in 1992. It concluded that existing community organizations, including fishermen's organizations and fishery co-operatives need to be strengthened in order to effectively implement co-operative activities in coastal fishery management. The emphasis hereby should lie on the self-management capacity of co-operatives through training of community based managers. It is noteworthy that most fishing organizations both in Asia and the Pacific are mainly involved in economic activities, in particular marketing and/or credit facilities, and (sofar) seldom take the responsibility (or have the capacity) managing fisheries. In order to increase the impact of fishery management programs, the role of fishing organizations in the management needs to be strengthened. There needs to be:

- legal support;
- social and economic viability of the co-operative;
- initiative from the fishermen; and
- linkage with the existing functions of the fishing organizations;

Obviously strong government support is indispensable. Awareness has to be developed about the purpose of fishery management. The legal and policy framework has to be improved to give the co-operatives more power and more opportunities to actually take the lead in management initiatives. The creation of fishery co-operatives is often initiated or encouraged by governments which recognize their advantages in improving fishermen's economic and social standing, as well as improving fish production and distribution. Most governments have by-laws which regulate co-operatives. Although it is necessary to have the co-operatives formalized this also tends to increase the bureaucratic red tape which is involved in the setting up and running of a co-operative. Possible policy or legal barriers have to be taken away. Furthermore, in view of the gradual hand over of management tasks to the fishing communities or co-operatives, laws need amendments to decentralize the authority over coastal marine areas. The gradual hand over of management responsibility to regional and community based organizations is widely recognized and practiced in Asia a recent example being the Philippines, indicating understanding that community based management initiatives are in fact the most effective way of managing the marine coastal environment.

Furthermore the self-management capacity of the co-operatives need strengthening with the training of (community based) managers. The gradual hand over of management responsibility to regional and community based organizations is widely recognized and practiced in Asia and this indicates that there is trust that community based management initiatives in fact are the most effective way of managing the marine coastal environment.

The leader in fishery co-operative movements in Asia undoubtedly is Japan. Originating from traditional fishing village guilds it evolved into co-operatives with the promulgation of the Fishery Law of 1901. This law provided the legal basis for granting exclusive fishing rights to the co-operatives. In order to be able to fish, fishermen needed to join the co-operatives or (co-operative associations). Co-operatives there have complete control over their allocated fishing areas (both conservation and utilization) through the administration of fishery rights. Since the co-operatives exclusively control the coastal sedentary resources they obviously are highly interested in their conservation and management. They also work on the improvement of the fishing grounds, which average 2-3 km from the shore to as far as 10 km out, including the installation (and maintenance) of artificial reef, seeding seaweed and shellfish and releasing fry. In general objectives and methods of management will vary considerably with locations because of differences of topographical, socio-economic and environmental nature. In reef fisheries (for mostly sedentary species) two sets of related management methods can be identified:

1. Conservation and protection of the resources, which includes:

- limitations of capture size
- restrictions on gears and fishing methods
- closed areas and seasons
- catch quota
- release of fry to enhance stocks
- controls over sport fishing and poaching

2. Regulation of the production methods, since the number of fishermen who are engaged in reef fisheries often are not in proportion to the stocks targeted by the fisheries, through:

- restrictions on vessels and crew
- the style and frequency of fishing

The fishing area for in-shore fishery for mobile fish species is rather extensive and since it is impossible to demarcate fishing grounds it is difficult to establish management measures. Species will simply migrate beyond the boundaries of area's controlled by individual fishery co-operatives. Therefore it will be necessary to implement a regional management body who will be responsible for the planning and implementing of regulatory measures, including patrolling and enforcement. Existing measures which are closely linked together covered by these regional management bodies in Japan are:

1. Establishment of disciplines in fishing grounds
  - Fishing by rotation (when clear cut highly productive fishing grounds for certain species are present).
  - Collective fisheries (pooling the catches of all the vessels active in the same fishing ground), this gives an incentive for optimization (reduction) of the effort and thus a reduction of the fishing pressure.
2. Fish price stabilization
  - quota
  - some sort of collective fishing, restricting the fishing effort by reducing the number of fishing hours and thereby reducing the catch or focus on improving the quality of the produce.
3. Resource conservation
  - Catch restriction through mesh-size restrictions
  - banning of certain fishing gears or methods, including closed areas and/or seasons.
4. Enhancement of fish stocks

Enhancement of fish stocks can make a contribution to production from a certain area. This is especially clear for species with a limited migration pattern or no migration at all. Only certain species with a limited migration (prawns, crabs and some flatfish) are able to contribute significantly to increased production. A very successful example is the release on a large scale of seed of the Kuruma prawn in some localities in Japan. The release of the fry needs to be accompanied by a number of restrictions on gears used, mesh width, gear position and minimum allowable catch size. All of these measures already will have positive effects on the stocks without stock enhancement.

From the Japanese experiences, as described by Hotta (in FAO 1993), it is clear that besides a social and economic successful co-operative, or similar community based organization, effective management also needs:

- Scientific data on the state of the fish stocks; and
- Close collaboration between fishermen and research institutes

The objectives of co-operative approach to coastal fisheries management can be placed at 4 levels (Renard, 1986):

1. It is a way to ensure that popular knowledge and experience is indeed integrated into the planning and management process.
2. It ensures that all needs and priorities are taken into account in the formulation of management decisions.
3. It gives a better guarantee for the quality of the solution identified and for its adaptation to a particular condition.
4. In planning and problem identification it promotes involvement in the actual implementation of decisions.

Management of coastal fisheries cannot be separated from all other aspects of coastal (environmental) management. The coastal area is an aggregate of different valuable interrelated and interdependent ecosystems. Developmental activities in one area will have impacts on other area's. The absence of clear ownership and thus the principle of common property nature of the marine coastal resources only adds to the problems associated with current attempts for effective management. Integrated Coastal Management should include all aspects of usage of the coastal environment, both marine and brackish water areas, but also land based activities.

Sustainable development implies that not only the economic, but also the social and environmental sustainability. It is clear from the foregoing that the single most important measure to be implemented to be able to effectively manage the coastal marine fisheries will be the removal of open access to the fishery. This implies both reduction of fishing effort, but also of fishing means (boats, nets etc.). In effect the number of vessels with access to the fisheries and the number of persons involved should be reduced. In a region with growing population this is bound to have serious socio-economic implications. This reduction cannot be forced upon the fishing communities, it should be a movement and initiative by the fishermen themselves if the result is to be sustainable. Obviously there are limits to the limits that can be imposed on the access to the fishery. Co-operatives can play an important role in the process of restructuring the fishery sector and through education and credit facilities create alternative employment and business opportunities in as well as outside the fishery sector. Malaysian experience shows that it is possible redeploying fishermen in their home areas by strengthening the village-based tourist development to marine parks. Other areas could be aqua/mariculture or village based fishery related industry.

To conclude with a word of caution. Management's tasks performed by a co-operative are the end product of a long development. This process takes time, even where there are successful and capable co-operatives. It took the Japanese co-operatives 50 years to reach the stage where they actually were able to manage their own resources. Given the history of Japanese co-operative movement this indicates



that involvement of co-operatives into coastal marine management is no quick way of establishing effective management. It takes time, sometimes considerable time. Co-operatives definitely have the potential to play an important role in marine coastal management, but there will be problems, there will be failures. It is important to bear potential pitfalls in mind and try to avoid them.

There is an urgent need for the development of fishery co-operatives as a tool for the improvement of the standard of living but at the same time to promote local level involvement in coastal fisheries management. In this way fishermen would have the power to manage their own resources and with that their future. In order to do this the mostly socio-economic oriented co-operatives need to be transformed and guided to a more managerial task. Here lies the challenge. The successes from several countries where coastal management already has been incorporated in co-operatives, as Japan, Korea and Philippines, gives trust that with a focused effort the co-operatives, with proper institutional back-up and training, indeed can become a powerful tool in coastal fisheries management.

The confidence with fisherfolk that they actually can organize themselves to tackle and solve their problems collectively, together with a true sense of co-operation is a must for the future role of fishery co-operatives in coastal fishery resources management. Fishery co-operatives can work if they are allowed to work. It is surprising how well they sometimes have performed as compared to other institutional frameworks for the development (or management) of the artisanal fishery. Fishing communities and the governments concerned should work together to achieve effective and sustainable development of management schemes which will benefit both fishermen and the fishery resources in years to come.

### **Selected Literature and Suggested Reading**

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