

CASE STUDY 1. Co-Management in Bangladesh – issues of equity

KEY PROBLEMS AND ISSUES

Inland fisheries are a major sector of the Bangladesh economy: 80 per cent of the rural households (about 70 million people) catch fish for food or income and 60 per cent of the national animal protein comes from fish. However, these inland fisheries are in decline from drainage, embankments, silting up of channels and over-fishing. Past projects focused on cultivating carps and not on small fish caught and eaten by poor people. The fisheries are subdivided for administration and have been leased out as a source of government revenue ignoring sustainability. Organizational support and incentives for cooperation among fisher communities to improve management were lacking.

CO-MANAGEMENT PROCESS

Building on pilot studies going back to 1989, the WorldFish Center and partners have been undertaking action research on community-based fisheries management in Bangladesh. More intensive work started from 1996 under the Community Based Fisheries Management Project. Working in 19 inland waterbodies in Bangladesh. This partnership involves government, non-government organizations (NGOs), the WorldFish Center and donor support from DFID. The Department of Fisheries of Bangladesh has secured transfer of beels from the land administration and then provides access to fishing communities. Five NGOs, Bangladesh Rural Advancement Committee, Caritas, Proshika, Banchte Sheka and Centre of Rural and Environment Development have organised about 5 000 fishing households into groups that are represented in waterbody management committees, and also provided training and credit support. WorldFish Center with the other partners has monitored and assessed

institutional arrangements, household welfare and resource use.

Currently the waterbody or resource management committees for beels continue to function and take management decisions, but they are still dependent on NGO support for technical issues and particularly to resolve internal conflicts. A second phase will withdraw NGO support and assess the sustainability (resilience) of fishing community organisations and institutions. Evidence and media coverage generated from the project have influenced recommendations made for fisheries policy and particularly changes in the strategy for inland fisheries, which is now moving to gradual transfer of fisheries from the Ministry of Land to the Department of Fisheries for Community Based Fisheries Management approaches.

OUTCOMES

Case studies undertaken by the project show that:

- Community based organizations of fishers, who are one of the poorest groups in rural society, can be developed.
- Fishers can improve transparency and representation within resource management by electing management committees.
- Locally decided rules (which restrict fishing) are perceived to be fair, and compliance by fishers and others in local communities is generally high.
- Participants in beels report significant increases in their influence and in ease of decision-making.
- These fishing communities are more effective in lobbying the government for fishing rights.
- However, these conclusions do not apply to rivers which the government made open access in 1995 and where there has

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been no legitimacy for management committees to take decisions to limit fishing.

Large welfare impacts during a four-year period are not expected, but the evidence shows:

- A reduction in the share of benefits going to richer local landowners and moneylenders due to limits on fish

aggregating devices and access to cheaper credit through NGOs.

- Incomes have been variable but evidence indicates that participants have invested in improved homes.
- Catches in open beels have increased but vary between years.
- Where communities stock beels, production is higher and incomes are shared more equally.

CASE STUDY 2. Co-Management of Lake Malombe, Malawi – adaptability and exclusivity

PROBLEMS AND ISSUES

At the height of its productivity in the late 1980s, the estimated catch from Lake Malombe averaged over 10 000 tonnes annually. By the mid-1990s, this had declined to around 2 000 tonnes. While other factors could have also contributed to this dramatic decline, the most likely reasons were due to human factors - excess capacity, illegal activities such as use of undermeshed fishing gears, fishing during closed seasons and the introduction of new fishing techniques (e.g. the nkacha net) that were not covered by the existing regulations. The increasing resistance by fishermen to regulations and the inability of the Fisheries Department (the sectoral line agency) to enforce the existing regulations due to resource constraints and also failure to quickly detect and regulate new technological innovations meant that government was failing to bring order to an increasingly worrying situation. Following extensive consultations with stakeholders and external advisers, it was strongly felt that there was need for a shift to a regime that involved some amount of self-regulation by the fishers. This resulted

in the conception of the Lake Malombe/ Upper Shire River Participatory Fisheries Management Programme (PFMP) in 1993.

THE CO-MANAGEMENT PROCESS

Since user participation was deemed to be a completely new experience for all stakeholders in the fishery, it was decided that this should be done on a pilot basis. This would provide room for learning and experimentation. The organisational set-up is that the (Mangochi) Fisheries District Office is the government side at the forefront while the fishing communities are represented by elected Beach Village Committees, with Village Headmen as ex-officio members of Beach Village Committees (BVCs). The government has revised the Act (duly passed in 1997) to cater for the new regime. Four particular changes were essential for the facilitation of the user participation: the introduction of flexibility to allow for regular review of policy and regulations; transfer of property rights over specified fish resources to communities; permission to allow plough back of some money from gear licence fees to BVCs to cater for their administrative costs and

incentives; and to provision for the transfer of management responsibility to local institutions when appropriate. It was stated that in the early stages, the Fisheries Department would retain decision-making powers but would consult fishers when making any decisions.

OUTCOMES

So far, co-management has had little impact in terms of facilitating recovery of the fishery. Several factors can be attributed to this, namely problems related to donor driven projects; poor compliance to new regulations; power struggles and incentive structures; facilitation of BVC elections by government; poor representivity of the BVCs; and external factors.

Being a multi-donor funded programme, this project had problems in differing (in some instances donor-driven) objectives and timeframes for implementation. The funding from the various projects was for a maximum of three to five years. The renege on the agreement to buy-out fishers using illegal gears and compensate those who wished to leave the fishery by one of the main donors knocked out a lot of the trust between the department and the fishers. It also meant

that fishers continued to use illegal gears and to stay in the fishery long after most of the inappropriate gears would have been retired from the fishery. Fishers continued to ignore the new regulations because they still had the gears that should have been bought from them and enforcement was still in the hands of the Fisheries Department in the initial stages. Fishers also gave economic hardship as a reason for the continued illegal activities. Since the Department facilitated the election of BVCs, fishers felt that it had a lot of influence as to who could be elected to the committees. The power struggles within and between committees and Village Headmen and misunderstanding about incentives for committee membership have contributed to problems of the functioning of BVCs. In most BVCs, the primary stakeholders (gears owners and crew-members) were poorly represented (less than 30 per cent), resulting in lack of ownership of the BVCs and resistance to their authority. Finally, the fishery is an employment of last resort due to lack of alternative economic opportunities in the area, which militates against the implementation of limited access and/or reducing capacity.

CASE STUDY 3. Fisheries Management in San Salvador Island, Philippines – organizing communities

KEY PROBLEMS AND ISSUES

San Salvador Island is a 380 hectare island that forms part of the Masinloc municipality in the province of Zambales, Philippines. It is located on the western coast of Luzon, about 250 km from Metro Manila. The island had a population of about 1 620 persons consisting of 284 households in 1996. Fisheries depletion and unabated destruction of coral reefs began to be felt in the 1980s with rampant illegal fishing activities. The highly centralised national government of the Philippines at that time was too distant to control the situation while the San Salvador fishers themselves were too fragmented to embark on any collective action to avert resource degradation.

THE CO-MANAGEMENT PROCESS

Through the initiative of a Peace Corps volunteer, cooperation of the resource users and stakeholders, and the participation of a local NGO, a marine sanctuary and reserve was conceived in 1988. This joint effort, called the Marine Conservation Project of San Salvador (MCPSS) sought to enhance institutional capabilities, develop and implement a marine resource management plan, and establish a coral reef fish sanctuary and a marine reserve. Central to the achievement of the project's goal was the community organising process. This involved mobilizing the residents to take collective action on resource management problems. It involved intensive information campaigns to help residents realize the consequences of unsustainable resource uses and heighten their concern for nurturing their natural environment for their continued survival and livelihood. A core group of members drawn from committed residents participated in the project

activities and shared a concern for resource rehabilitation. The group spearheaded a campaign to support the 127-hectare marine sanctuary reserve of San Salvador. A local ordinance that banned fishing within the sanctuary and allowed only non-destructive fishing methods in the marine reserve was drafted by the core group in consultation with the fishers and the community at large. The Masinloc Municipal Council passed the ordinance in July 1989 thus providing government recognition for the regulation. The ordinance banned the *kunay*, a traditional fishing gear that uses a long scareline of coconut fronds for herding fish from the reef flat into a fine mesh net. Led by the Masinloc municipal government, law enforcement is now a collective responsibility of the government-deployed *Bantay Dagat* (coast guards), the fishers' organization, and the village police. In 1991, policy and legal support from the national government came through the passage of the Local Government Code, which gave the municipal government jurisdiction over municipal waters. The national government declared Masinloc Bay a protected seascape in 1993 under Presidential Proclamation No. 231. In July 1996, the San Salvador sanctuary won a prestigious national award for its achievement in coastal resource management and local governance, providing a source of pride to all partners and reinforcing the incentive to protect the sanctuary. The strength of this success laid in part in the involvement of resource stakeholders in project planning and implementation, well-defined objectives, supportive leadership, strong linkages with the municipal government and sources of technical expertise and funds, and generation of tangible project benefits.

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Decision-making was participatory, marked by a series of consultations, dialogues, and public hearings to thresh out issues and conflicting interests, as well as interaction among partners.

OUTCOMES

Resource assessment surveys conducted at San Salvador in 1998, a ten-year period after the establishment of the marine sanctuary showed overall condition of living coral cover to have improved from an average of 23 per cent for the whole island in 1988 to 57 per cent in 1998. Fish species richness improved from 126 species

belonging to 19 families in 1988 to 138 species belonging to 28 families in 1998. These changes appear to have resulted from the control of destructive fishing practices and vigilant law enforcement by the community with the support of the municipal government. From the social side, the fishers perceived gains in equity. They perceived gains in the fair allocation of access rights, in household well-being, and household income over time. These outcomes are very encouraging given the context of a degraded resource base in the late 1980.

CASE STUDY 4. Co-Management in Mozambique – managing conflicts

The scale problem and interaction between artisanal and industrial fisheries in Moma/Angoche - Mozambique.

KEY PROBLEMS AND ISSUES

Mozambique has a very long coastline. Small-scale artisanal fishers from coastal communities undertake the fisheries in near shore areas while semi industrial vessels (<20 m) are mainly involved in shallow water shrimp fisheries and industrial vessels fishing for shrimp and resources in deeper waters. The shallow water shrimp fishery (primarily at Sofala Bank) is in commercial terms by far the most important with an export of 8 000 tonnes worth US\$ 70 million in 1999.

There is a high concentration of beach seines along the coast of the Angoche and Moma districts (around 1 000 beach seines for 150 km of coastline). This area is the northern tip of the Sofala Bank, and several larger trawlers are fishing in that area part of the year.

This has created conflicts between artisanal and semi-industrial/industrial fisheries. Conflicts are caused by the operation of semi-industrial and industrial shrimp trawlers very close to the shore, resulting in beach seine destruction and a probable negative impact on fish stocks and nursery areas. Fishers are allowed to claim reimbursement for the destroyed gear, but the process is complicated, time consuming and slow.

Furthermore, semi-industrial/industrial fishers are claiming that artisanal fishers due to the use of small mesh sizes (using mosquito nets) are catching a high percentage of larvae and juvenile fish including small shrimps. This is claimed to have a negative impact on the shrimp resources. At the same time there is a very high by-catch of fish in the shrimp fishery leading to a waste of resources. In their traditional canoes artisanal fishers go to the trawlers and collect the fish by-catch from shrimp trawlers. This by-catch is often the

major source of income for artisanal fishermen, and provides proteins for the poorest people. The two types of fisheries operate at very different scales. A single vessel in the industrial fleet can be fishing over the entire Sofala Bank, whereas the artisanal fishers primarily fish in near shore areas adjacent to the residential community, although migration along the coast is frequent among artisanal fishers.

The Fisheries Master Plan approved by the Mozambican government in October 1994 sets the priorities and strategies for development to be pursued in subsequent years. With regard to the management of small-scale fisheries the Master Plan lays emphasis on the involvement of fishermen in setting and enforcing the management regimes.

THE CO-MANAGEMENT PROCESS

In the Master Plan co-management was introduced as a management tool to regulate artisanal fisheries. Co-management has been implemented at the national level (consultative body). In January 1997 a fisheries management committee, *Comissão de Administração Pesqueira* (CAP), was established including fishers' representatives from the artisanal as well as the semi-industrial and industrial sectors. Co-management has also been initiated at district and local levels. The co-management

arrangement in Moma-Angoche is the best known local example. CAP is an advisory body for the Minister that meets four times a year to make recommendations on the management measures they feel are necessary in order to manage the national fisheries.

OUTCOMES

The process of establishing consultative committees in the Moma and Angoche districts with representatives from both the fishing communities and from the various government agencies involved in small-scale fisheries management has been an important step towards the implementation of a co-management arrangement. This arrangement has established some sense of responsibility among fishers. Most fishers are aware that the use of mosquito nets leads towards resource degradation and gradually fishers are increasing the mesh size.

The higher degree of representation by artisanal fishermen in CAP, together with the fact that this has led to banning semi-industrial and industrial trawlers three miles from the coast, has been a major achievement for the local committees, based on a co-management approach. The co-management arrangements have thus served as a means to mediate conflicts between fisheries operating at very different spatial and organisational scales.