LESSONS FROM COMMUNITY BASED FISHERIES MANAGEMENT IN BANGLADESH:

BRIEFING PAPER

Draft

Paul Thompson

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Lessons from CBFM – Briefing paper

Paul Thompson

Summary

Inland (floodplain) fisheries remain the most important contributor to fish production in Bangladesh. In the past they have been administered to generate government revenue without due concern for sustainability or poor users. A possible solution to empowering fishing communities, and improving the sustainability of management is Community Based Fisheries Management (CBFM). Experience from 19 rivers and beels during 1996-2000 and an expansion to over 100 waterbodies in 2001-2003 is summarised. Some of the main lessons drawn are that:

1. CBFM is based on co-management empowering fishing communities.
2. Development of local fisher-based organisations (CBOs) is essential.
3. New institutions can be built with as much ease (or difficulty) as modifying existing ones.
4. Local government support for CBOs is important for longer term sustainability.
5. Establishing CBFM is a slow process.
6. Strong facilitation is necessary.
7. External threats are a strong limiting factor that cannot be overcome in some cases of powerful political interest in a waterbody.
8. Effective well-defined partnerships of NGOs and government are not easy to establish but are needed to support new community institutions for fisheries management.
9. The extent of appropriate NGO and DOF support after projects end is uncertain, will they allow CBOs to flourish?
10. It is essential that communities obtain clear use rights over government fisheries.
11. In jalmohals (including rivers) the lease needs to be reserved for the CBO through a supportive government agency, and the CBO needs to make some lease payment.
12. Land administration at district level needs convincing of the merits of CBFM.
13. Diverse stakeholder interests in floodplain beels can be brought together where there are shared interests and concerns over declining fisheries.
14. Coordination of CBOs and management plans in connected waterbodies is promising but needs shared trust and compliance.
15. Non-fish aquatic resources need to be included in more integrated floodplain management plans.
16. Taking up visible resource management actions such as fish sanctuaries helps strengthen institutional development.
17. CBFM is slightly easier in small fisheries with clear boundaries.
18. Success was more likely/easier in homogeneous communities.
19. Scaling up should first expand CBFM to neighbouring waterbodies, and should screen proposed sites to avoid ones dominated by strong influential interests.

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Paul Thompson

Introduction

This briefing paper is based on:

- a recent paper by Thompson, Sultana and Islam (2003) reviewing lessons from the CBFM-1 project,
- the experience of the design and the initial two years of the CBFM-2 project,
- an assessment of scaling up issues for the Integrated Floodplain Management – institutional environments and participatory methods project, and
- experience gained in general from 8 years involvement with CBFM and fisheries management in Bangladesh.

The aim is to present concisely lessons from Community Based Fisheries Management (CBFM) project experience that may help when planning and undertaking similar initiatives to support community management of fisheries in Bangladesh or elsewhere. This paper should be read in conjunction with the CBFM working paper on impacts of CBFM-1 which describes in detail the CBFM-1 project and assesses changes and impacts in 15 waterbodies that have continued into CBFM-2. As the policy process related to inland fisheries has been well reviewed and assessed by Huda (2003) in another working paper from CBFM-2, this is not addressed here as a specific topic.

Context

Over half of Bangladesh comprises floodplains, and the remaining area of about four million hectares of floodplain wetlands form a major capture fishery (Ali, 1997). These floodplains are intensively used for agriculture, fishing and other aquatic resources, and are a source of livelihood for 800 people per km^2. They contribute about 46% of all fish consumed (Department of Fisheries, 2000). Over 70% of households in the floodplains catch fish either for income or food (Minkin et al., 1997; Thompson et al., 1999). The importance of these fisheries has been neglected in the past, consequently development policies have favoured agriculture and there has been widespread flood control and drainage. Institutional arrangements for better fishery management and for stakeholder participation received limited attention in the past. From the 1980s this changed, at least on a pilot scale, and initiatives to empower fishing communities and enable them to take management decisions themselves for sustainable use of these fisheries have moved forward.

In parallel with these changes in fisheries management, development in related rural sectors has been undergoing similar changes in emphasis. For example, the maintenance of remaining wetland areas is now part of the National Water Policy (Habib, 1999), although there is a risk of continued small-scale projects draining smaller wetlands. Moreover participatory planning of water management projects has been part of government policy and practice for several years (FPCO, 1993; MWR, 2001) and local user committees are supposed to be established within water management projects (although farming tends to dominate over other interests). In the environment sector there are also pilot projects for community management of wetlands. More generally there is increasing emphasis, mainly from donors, on improved governance, decentralisation and devolution of power, but reforms have been slow to come.

Lessons are drawn in the form of a series of key topics or issues, but underlying these is the diversity of fisheries which means CBFM must be flexibly adapted and adjusted to fit local circumstances.

Topics covered and rating as constraints on CBFM

Issues	Constraint rating	Page
Flexible approaches adaptable to needs	High	Cross cutting
Property rights and leasing	High	4
Environmental complexity and cluster management	High	7
Facilitation and NGO strategies	High	8
External forces and conflict	High	14
Scaling up	High	16
Partnership	Moderate	9
Resource management activities	Moderate	11
Boundaries, scale and waterbody type	Low	6
Homogeneity and community characteristics	Low	11
Building on existing institutions	Low	15
CBFM or co-management	NA	3
Poverty and CBFM	NA	12
Sustainability and exit strategies	NA	17

NA – not applicable

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CBFM or Co-management?

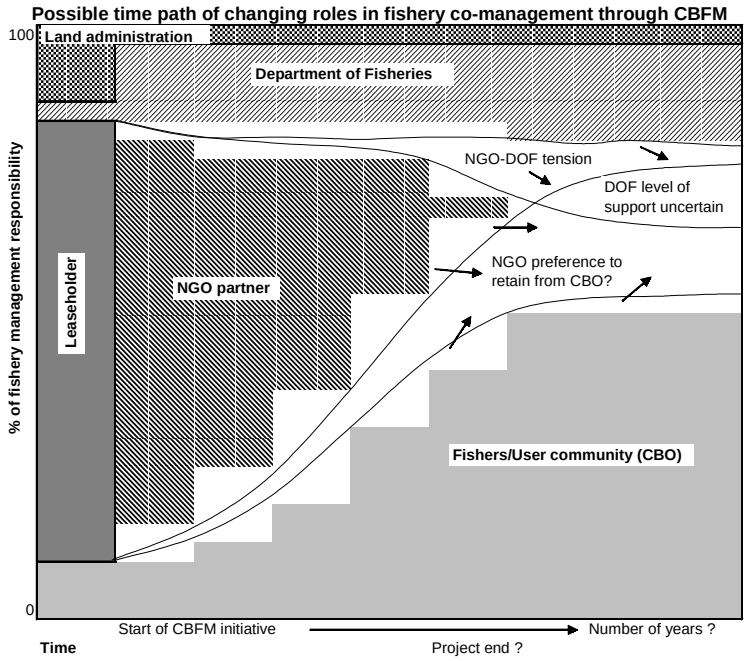
Confusions and overlapping concepts are common when it comes to community based fisheries management (CBFM) and co-management. This is generally for two reasons. Firstly because "co-management can broadly be defined as an arrangement where management responsibility is shared between the government and fishing communities" (Viswanathan et al. 2003, p8); and secondly because CBFM is used to label a range of institutional arrangements with varying degrees of community participation in management which might in any case be expected to vary according to factors such as environment, scale, property rights, and community structure.

The idea that projects are attempting to establish some form of "pure" CBFM in which there is no role for government is obviously a misconception, since for most fisheries there is a direct government role since jalmohals are state property. The vision of co-management that can range from an instructive form where government agencies tell fishers what it has decided, to advisory and informative forms where users inform government of their decisions for government endorsement (Sen and Nielson 1996) is comprehensive. However, this is of limited help in understanding the changes in institutions and decision making that are generally now intended by co-management.

Users can only play a role in decision making over fisheries if there is a space and a capacity for them to do this. Therefore the intention of co-management was to empower fishers (to a greater or lesser extent) both as an end in itself and in the expectation of better management. The latter would be through appropriate rules being set based jointly on fishers and scientific knowledge and then complied with by the users.

"Empowering co-management" (Viswanathan et al. 2003) requires major changes in institutions and organisations, in information bases, in attitudes among fishers and government. This requires both political will and capacity building. Therefore CBFM can be seen as a process for moving towards a substantial role for fishers in management of the resources they depend on within a framework of government support for that process. This process has to involve local adaptation to circumstances if it is to be empowering and so cannot by definition follow a fixed blueprint or model. Therefore Campbell and Thompson (2002) found that the idea in CBFM-1 of testing alternative models of CBFM was inappropriate for Bangladesh as there could be as many detailed arrangements for CBFM as there are waterbodies and communities. But there are a limited number of approaches to this process being followed and they have some features in common.

The figure generalises the expected process for a jalmohal in Bangladesh. Inland fisheries under competitive leasing have intermediary managers in the form of "leaseholders" - local elites who include fisher leaders, money-lenders, landowners, politicians, and professional jalmohal managers. The approaches to CBFM have all increased the role of Department of Fisheries both in administration and giving advice and supporting community organisations, and have involved NGOs as intermediaries for a fixed project period to take on some of the leaseholder's roles in the short term while they build the fishers' capacity and organisations for CBFM or empowering co-management. How long this difficult process will take and what role NGOs might or might not have after funded projects end is uncertain. The non-shaded areas represent uncertainties, competition and overlaps between stakeholders.



Property Rights

Property rights in inland fisheries are complex but critical to an understanding of approaches to community empowerment and fishery co-management in Bangladesh. Confusingly "common property" is often used to refer to these fisheries. It is important to distinguish the nature of the resource which is a common pool resource where users extract a benefit that cannot then be enjoyed by others but where it is difficult to exclude potential users. Property rights refer to general recognition that someone can use a resource – "the capacity to call on the collective to stand behind one's claim to a benefit stream" (Bromley 1991).

Seasonally flooded land is mostly privately owned and cultivated, but during the monsoon in moderate-to-deeply flooded lands anyone from the surrounding villages (including the poor) can usually fish, provided this does not damage crops. In the dry season water and fish left stranded in ditches become the property of the ditch owner. Thus in the monsoon there may effectively be open access fishing in these waterbodies with no well defined property rights, but as water becomes less and fish are more concentrated private rights become clearer.

However, larger permanent waterbodies including rivers and *beels* (depressions in the deeper parts of the floodplain) form the more valuable components of the overall fisheries and are government property. They are divided up into about 12,000 *jalmohals* or fishery estates. The fishing rights in jalmohals have historically been privatised by the Ministry of Land in return for payments into government revenue. They have been leased out to the highest bidder for three years, usually this means they are controlled by wealthy and influential lessees who then hire traditional professional fishers to catch fish for them or charge tolls from those fishers. Again the balance between control by the leaseholder and fishers authorised by him, and access and use by the many other people living around a waterbody and interested to catch fish for their subsistence varies according to the area's history. In many cases poor people who live in the area are accepted as having a right to catch small fish or other aquatic resources but not on a commercial scale.

The government of Bangladesh has attempted to direct fishing use rights to those who catch fish. In the 1970s a preference for leasing jalmohals to fisher cooperatives was established, and from 1986 the New Fisheries Management Policy (NFMP) piloted licensing of individual fishers in about 270 jalmohals. However, these policy changes had little impact since fisher cooperatives tend to be under the patronage of moneylenders and *de facto* lessees who pay for the lease. Also the decision on who received licenses was controlled by the cooperatives and therefore indirectly their patrons (Ahmed et al. 1997).

The policy and history of leasing inland fisheries in Bangladesh has left the most important legacy for undertaking CBFM. Payment of government revenue (the lease) gives the lessee the right to set local rules on exploitation of the fishery. Because leasing (revenue collection) ended in most flowing rivers in September 1995, when CBFM-1 tried to work in rivers there was no legitimacy for local management committees to set rules limiting fishing, even when they included local officials. In the smaller closed beels under CBFM there had been a history of leaseholders controlling access and stocking carps prior to the project, and the fishers organised under the project were able to continue this practice.

However, the open floodplain beel of Goakhola-Hatiara illustrates an exception – there is no jalmohal in this seasonal beel and so no lease to pay, yet the community was able to agree on, implement and comply with conservation measures (dry season fish sanctuaries and a closed season) that have helped to protect fish and improve returns from fishing – this seems to be a genuine common property regime where the surrounding villages form a distinct community that has access to the fishery and has adopted new norms limiting access and fishing for sustainable use of the resource.

Lessons on jalmohal leasing and fisher access

In the overall leasing policy context, if a jalmohal is not handed over to the beneficiaries under a project framework then the target fishers cannot resist outsiders (non target people) from fishing within the area. The target people of CBFM are

poor and voiceless fishers who are dependent on local influentials and moneylenders. If their access rights are established legally, they can fight to save their resources. Even after handover of a jalmohal to DOF for CBFM, some people under political cover - former lessees and some politicians - try to overlook the handover. In some cases, local administration has denied the Ministry of Land's order to hand over and instead leased the waterbody to other persuaders. For example, access rights to some of the waterbodies proposed for CBFM and agreed at central level went locally to the national fishers association under NFMP but which is lead or directed locally by influentials. Thus policy is not made just at the central level, but through local application.

Waterbody areas are not constant. During the dry season the area shrinks and during the wet season it extends beyond the official area. During handover the local authority is supposed to demarcate the official jalmohal area. For various reasons, most of the time the administration does not do this. Moreover, parts of some jalmohals in the dry season are cultivated by local people or even leased out for agricultural use again by local administration. When monsoon water comes, these farmers either enclose the area excluding fish or catch fish from their leased/occupied land without contributing to the jalmohal lease. This appears to be quite widespread and the fisher beneficiaries consequently lose their potential income and became involved in conflict.

When some jamohals were leased on auction, without assessing the biological productivity of the waterbody some influentials bid high just to beat a competing party. Later they found it was not profitable and they did not pay the lease value. Then the waterbody may be free from leasing for years, because nobody wants to take the lease at such a high rate, and so anyone can fish. Eventually a bid at a lower price may be accepted when no other bids are made.

However, there is no such mechanism for adjusting lease rates down to a reasonable level when jalmohals are handed over for CBFM, since the Ministry of Land requires a 25% increase on the last lease rate. When Ministry of Land placed waterbodies with very high leases under CBFM-2, the CBFM beneficiaries realised that the lease value was too high for them to repay the lease and make a living from the exiting fishery resources. High leases for some waterbodies are a disincentive for fishers to invest in management. They are then not interested to be involved in the process and they surrender the waterbody. The motive behind lessees bidding up leases appears sometimes to be so that the lessee can give up the lease on the basis that he can make no profit, or to argue that he should not surrender the lease for a project as an extra year is needed to make a profit. The waterbody then ends up under no lease and the previous lessee can enjoy the waterbody through his local power, making carefully timed use of the courts where necessary to prevent any further leasing at the start of each leasing year. In such cases the government looses revenue for years. For the waterbodies under CBFM, the government did not review objectively the appropriateness of lease values and it is not clear whether locally fair adjustments in the lease rates can be made.

The contribution of jalmohals to the total government revenue is now small, but they are of high importance to local officials and elites. Two solutions are suggested from the project experience to date:

1. On a project basis to review the waterbody carefully including the lease rate before proposing a transfer of responsibility for CBFM. If the lease per ha is very high to make reducing the rate a condition of project support (but this will exclude some exploited fisher communities from possible support and leave some leaseholders to play the system and keep access).

2. On a national basis to change the system of revenue setting for those jalmohals that are administered by DOF for community based management. In this way these fishers can gain recognised use rights through leasing but a fair amount per person and per area is extracted. Fishers are on average poorer than farmers, yet per hectare jalmohal leases are much higher than for farm land. In these jalmohals lease value should be calculated based on biological productivity. Projects such as CBFM subsidise lease payment by granting the fisher CBO the amount of the lease to then revolve themselves by saving enough during the year from their fishing income to pay the next year's lease. Individually projects have little leverage over the land administration, but a future move towards a national programme could change the system.

Boundaries, Scale and Waterbody Type

Although it is commonly cited that key factors contributing to successful co-management and common property institutions are smaller well defined (bounded) fisheries and bounded user communities (Pomeroy and Williams, 1994; Agrawal, 2001), the CBFM-1 evidence in support of this was ambiguous.

CBFM in the more open and unbounded rivers (which also averaged larger numbers of villages and users) was generally unsuccessful, and their scale had a role in this. However, property rights and other factors were probably more important in this, since almost all the rivers became effectively open access in 1995 when leasing ended and so there was no property right basis for CBFM. Moreover CBFM was unsuccessful in two closed beels (Shemulia and Krishnochandrapur Baors) in CBFM-1 despite the user communities being well defined and limited, and the beels being clearly bounded. CBFM has also been relatively successful in the open and unbounded floodplain beels in CBFM-1 and in once case - Ashurar Beel – this is despite it being large (around 400 ha) and having a heterogeneous user community.

The approach in CBFM-2 of some NGO partners to address institutional development for larger waterbodies has been to take a two-tier approach by forming village committees and from these a waterbody committee. It is not clear yet if this is more effective, or the extent that fishers in the villages are taking decisions.

Different NGOs follow different Community Based Organisation (CBO) models. These models also depend on the type of waterbody – closed beels, open beels, oxbow lakes, floodplains, haors, flowing river, canals, etc (see next section). Waterbodies are spread throughout the country. Each waterbody is different and unique but there are regional and environmental similarities. For example, haors, in the northeast and baors in the southwest form specific types of fishery. In the northeast seasonal flash floods are common and in addition the area remains under water for 6 months a year, with only fishing and migrating to work possible at that time. Therefore, any management options should fit both community and ecosystem.

The type of fishery is clearly important to the form of institutions and approaches adopted, the most appropriate arrangements for CBFM so far are:

- For “smaller” well defined jalmohal beels (these may be above or below 8 ha in official area, but are generally not more than about 50 ha in the monsoon) with few outlets a CBO that comprises all households fishing there for an income who are organised in groups which are then represented in a management committee. This structure suits sharing of costs and incomes among all participants and this type of beel is often stocked by the users.

- For larger fisheries based on jalmohal beels with extensive connected floodplains, groups of households fishing for an income form the basis for a management committee/body that can collect payments towards the lease. But coordination with landowners and subsistence fishers is also needed, for this advisory committees of other stakeholders, local influentials, and local government are useful.

- For rivers with no revenue being collected no single approach has demonstrated special merit so far. Where fishing rights are transferred and recognised through Ministry of Land-Ministry of Fisheries and Livestock agreement, an organisation based on households fishing for an income and mediation through key influentials with brushpile owners is a promising approach.

- For floodplains with no jalmohal a CBO that is a management committee involving all stakeholders (farmers, fishers, ditch owners, landless, etc) is more appropriate, this should be based on participatory planning and the role and capacity of fishers and landless can be strengthened through NGO support.

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Environmental Complexity and Cluster Management

In CBFM-2 more complex fishery systems are covered in the form of so called "clusters" where several waterbodies are connected in the cluster. In each cluster for each waterbody (a beel or section of river defined as a jalmohal) the fishing community is organised into a community based organisation (CBO) and then a cluster level committee is formed comprising representatives of the CBOs from each waterbody to coordinate fishery management. This may be a two tier structure (for example Goakhola cluster in Narail supported by Banchte Sheka). Three tiers may be adopted, for example where several village based CBOs are represented in each waterbody level CBO and the latter in a cluster committee (Titas cluster in Brahman Baria supported by Proshika). An alternative example is where 3-4 waterbody level CBOs are represented in a sub-cluster committee, and several sub-cluster committees are represented in a cluster committee (Fatki Nodi cluster in Magura supported by CNRS). It is too early to say how these institutions and organisations will function. There are positive indications of coordinated conservation measures where similar measures have been adopted in each contiguous waterbody to stop using harmful gear and to allow fish to move through the system to breed.

The reason for coordinated management to address common issues in a cluster of waterbodies is that a resource such as fish is mobile and can go wherever water is connected. However, initial experience from the 11 clusters of waterbodies under CBFM-2 is that if there is poor management (for example use of harmful gears banned by the cluster) in one waterbody then trust in the entire cluster suffers and conflict can arise between the communities. The response to non-compliance by one community and potential loss of fish conserved in the dry season in one beel to other waterbodies, is that each community wants to enclose the common resources within their particular area. This risks a cumulative adverse effect. The community of one beel fencing off their area and improving management may not affect other connected waterbodies if some juvenile fish can still pass through fences, but if this occurs in a series of adjacent waterbodies it is likely that migrating adult fish will fail to reach breeding areas.

Complexity also exists in the wide range of waterbody types, different property rights, and diversity of users (see related sections).

One issue that has been under-represented in CBFM management plans is the role of non-fish natural resources in floodplain beels. The incidence of such use varies, but in some areas many households (both poor and better off) collect plants for human food and/or fodder. Similarly in the south-west collection of snails is important. Participatory assessments indicate that the abundance of such resources has declined while their economic significance to poor households has increased. Communities understand from their use the complexity of wetland ecosystems. So in floodplain areas a more integrated approach to management is needed that takes account of interactions between agriculture and fisheries. For this management institutions should plan for not only sustainable fish catches but also balanced use of water and use of other aquatic resources.

Waterbody Complexity

Waterbodies are very diverse and this diversity has implications for fisheries management.

Baors are oxbow lakes – old river channels that now at best have limited connections to their parent rivers through channels in the monsoon season. Many are partly closed as fisheries by fences or netting so that they can be stocked. They are mainly concentrated in the southwest of the country. (Haque *et al* 1999).

Haors are extensive low lying and deeply flooded areas of floodplain bounded by natural river levees often now raised by "submersible embankments". They may contain several beels, some of which are perennial. They cover a significant part of greater Sylhet and Mymensingh (Agüero, 1989).

Beels are usually deeper depressions in the floodplain. Some are open and thus linked through canals to other waterbodies, others are closed or separate from other waterbodies (oxbow lakes outside the southwest region are usually called beels). Most hold water year round, some have sited up and are now largely seasonal. Man-made ditches or catch-ponds in the seasonally flooded areas of beels are called ***pagars*** or ***kuas***.

Natural canals (***khals)*** link beels to rivers and provide a channel for fish and water movements.

There are three main **rivers** in Bangladesh: the Jamuna-Bramaputra, Ganges-Padma, and Meghna. There are also many other smaller rivers, tributaries and distributaries that cover the countryside.

(See Khan et al., 1994, for a description of these waterbodies)

Facilitation and NGO Strategies

Facilitation

The important role of experienced or dedicated facilitators in establishing local co-management has been stressed, for example by Ostrom (1992). The CBFM experience suggests that this is necessary but not sufficient at least in Bangladesh fisheries. All of the CBFM-1 beels had full time NGO facilitators. Only two river sites had full-time facilitators but this was not associated with better performance. Progress was better in developing local organisations and undertaking fishery management actions in one river where DOF staff took the initiative. One NGO (Proshika) did not post full time local organisers for CBFM-1 and in general made little progress in helping fishers to organise committees that could coordinate to develop management plans and actions at the waterbody level. This has been considerably reversed in CBFM-2 where it does employ full time project staff (and where some rivers have been handed over for the project). However, despite an NGO posting full time facilitators to organise the concerned communities, CBFM-1 failed in two beels (in one the combination of NGO and DOF was unable to overcome the control of local interest groups over the fishery).

NGO support

The level of NGO support, as measured in training courses provided per household and average amount of credit disbursed per household per year did not appear to be associated with progress of CBFM-1. Although participants in the more successful sites on average received more training, fisher households in several rivers received relatively large amounts of credit – often to support purchase of gear or to support fish processing.

NGO flexibility

CBFM is based on partnership in the field between government and NGOs. But it had not been expected that individual NGOs would be as rigid as was found with each adopting its own approach and making limited modifications to fit with local circumstances, and even being unable to coordinate between offices for adjacent administrative areas. Of course different NGOs have different strategies for their regular programmes. Different NGOs also have different approaches and CBO models for CBFM and this is both a strength and weakness. Most of them do not want to change their strategy to adjust to local or project needs. For example, some NGOs form multipurpose groups in an area for all purposes and projects. It is then difficult to separate any CBFM impact.

NGO staff capacity

Moreover, the field staff – the facilitators who are the key to building CBFM - neither have any authority to change even any minor aspect of the NGO approach nor can they take instant decisions which may sometimes be needed. In some cases NGO staff seem to be incapable of understanding the goal of CBFM, this in turn confuses the participants. The problem is rooted in the limited number of people already experienced in establishing CBFM, so NGOs recruit new people to work at the grass roots level organising communities, but then there is a need to develop skills of new staff in work which is not routine. Additionally in some cases capable NGO staff are overburdened by working on micro-credit and community organisation and CBFM; where performance is assessed mainly on the standard credit management indicators then the main objective of CBFM institution building suffers.

NGOs and CBOs

Most NGOs usually do not want their beneficiaries to become independent quickly. They keep clients tied to them through regular compulsory savings and by giving loans which sometimes can only be repaid through the next loan. For normal programmes this may not be a big issue as there are now often competing NGOs and their clients can move between service and credit providers. But in CBFM the development of fisher CBOs and typical NGO services are linked and provided by the same NGO. So participants have less choice. The impression is that the poor are hardly seen to be independent and the NGOs do not go away from an area for many years. CBFM is in many ways the opposite of what NGOs have now come to follow as their normal practice. The NGOs may have thought that it is a way to expand work into fisheries and to gain additional

clients. The focus of CBFM is on building fisher community organisations that can themselves manage fisheries through interaction with government. For this greater transparency and trust is needed between NGOs and CBOs over fund availability and use for CBFM so that CBO capacity is built. Yet the CBFM partner NGOs lack experience in developing and setting free local people's organisations. Hence they did not take their own initiative to make exit plans from the beginning of CBFM (although this is now initiated). NGOs appear to see well established CBOs with a legal entity as a threat to themselves, without perceiving the positive achievement this would be. In any case fisheries CBOs do not compete with their regular training and credit services, which can continue to group members who are also members of their own CBO for fishery management.

In conclusion

- Skilled staff dedicated to helping communities organise are needed, who have as their main target building the capacity of local management committees for resource management.
- NGO staff capacity in developing and facilitating CBOs needs strengthening.
- NGOs should not rely on staff with already high workloads organising resource management groups as an additional task, nor should they place a strong emphasis on micro-credit.
- NGOs appear to have a comparative advantage in community organisational skills compared with government but still have limited capacity and vision of empowering local CBOs.
- NGOs have some flexibility compared with technical government agencies, but need to be more flexible within a clear framework where more emphasis is on feedback and learning.
- NGO partners should adjust their strategy according to the needs of the beneficiaries, ecosystem, social system, locality, and changing circumstances.

Partnership

Some of the most important lessons concern partnerships at a number of levels. All partnerships, for example NGO-research institute partnerships, should bring complementarities and mutual benefits (IIRR 1999). This is the main justification for investing in any partnership, but the inherent differences between partners which make partnership desirable are also a basis for inequalities and tensions. Lewis (1998) raised issues concerning partnerships involving WorldFish Center (then ICLARM) and other agencies in research on aquaculture in Bangladesh, in particular the temporary funding-driven nature of partnership and its use in competing for resources, top-down government agencies, limits to partnership, lack of empowerment of farmers in the process, and gaps between large and small NGOs. These issues are also relevant to partnership in promoting CBFM, but some differences are of note.

In CBFM-1 each partner had different but related expectations. For some NGOs CBFM offered a new venture moving from aquaculture into openwater fisheries management, for others it offered an opportunity to improve the resource base, knowledge and capabilities of their existing groups of fishers: the partnership offered access to knowledge and waterbodies. The Department of Fisheries probably expected to gain power through access and a greater say in fisheries, which were transferred from the land administration to it for CBFM, and to demonstrate that these fisheries could be managed more productively through its support. At the same time, DOF could minimise its risks in this new venture since most development activities were actually done by NGOs. WorldFish Center expected the research on the partner approaches and outcomes to support a wider strategic objective to determine which co-management models are viable in terms of equity, efficiency and sustainability, and how they empower fishing communities; and to influence government policy and NGO activities. The fisher communities needed their right to establish local management rules, which of course limit exploitation of resources, to be recognised and legitimised by government. All partners of course also gained funding to expand their activities.

At the CBFM-1 project inception workshop there was heated public argument between DOF staff and NGOs over past experience. Government staff emphasized the uncertain and fund related role of NGOs compared with themselves, while also criticising NGOs that plan for long-term relations with their clients based on credit. Meanwhile NGOs criticised top-down approaches of government and attempts to control their activities. Establishing trust is a slow process. While these remain issues, a general acceptance of the complementary roles of DOF and NGOs emerged.

One important factor in working as a partnership was that in CBFM-1 each organisation received a separate grant thus maintaining financial independence, yet accepted mutual dependence and a division of responsibilities through a set of memoranda of agreement between the government, each NGO and WorldFish. This leads to another factor – that in each site only one NGO was active, avoiding any direct conflicts over working methods, and placing smaller NGOs on an equal footing in meetings. Coordination was addressed through central monthly coordination meetings rotated among partners. In CBFM-1 approximately every four months field meetings at each site were held where the formal partners and community discussed progress and plans.

The scope for communities to be full partners in the CBFM-1 project as a whole was limited, but annual workshops where the management committee chairpersons along with local NGO and DOF staff each presented their progress and participated in working groups to address issues and propose solutions resulted in some role for the fishers in the project direction. The research center also had a role beyond providing independent advice, as a catalyst and intermediary or buffer between the government and NGOs. This helped avoid conflicts and instead promoted shared dissemination activities such as newsletters and workshops. On the other hand, the NGO partners individually did not show flexibility in their approaches and community organisation to the extent expected.

After this experience, in how have partnerships developed in CBFM-2 and what extra lessons are there?

The government attitude towards involvement of NGOs for development work remains rather reluctant. For example, there is an ongoing debate at the national level in the mass media with government seeking to limit the role of NGOs and particularly to set constraints on micro-credit interest rates. This feeds through to relations within narrower sectors such as inland fisheries, despite partnership benefits having already been recognised on both sides. Although the CBFM-2 project is supported through one central grant (to WorldFish) and then grants to each partner, a similar system of interlocked MOAs has so far been effective.

However, in the longer term it is partnerships between fishing communities and government that are at the heart of CBFM and co-management. The ownership attitude of the government officials towards jalmohals still means that the fishers are hesitant and concerned about the future of their access rights after project support. Flexibility in government is limited, as government officers prefer to be given fixed guidelines and then to implement everything accordingly. Having diverse partners helps to broaden perspectives. For example, Department of Fisheries wants the participants to follow a production oriented strategy and often equates this with stocking, whereas the NGO staff try to support participants in conservation and sustainable use of natural fish stocks. NGOs also help communities stock carps, but only in smaller jalmohals where the fishers have a good chance of catching their fish and so profiting from stocking; or to re-introduce locally rare/lost native species. Nevertheless some DOF staff do provide support to fishing communities by linking them with local administration when there are outside threats to fishing rights, and by giving technical advice.

The CBFM-2 project did not initially provide any forum for CBOs to interact with one another or with DOF. A networking initiative in 2003 was promising and hopefully will help the fishers in the medium term develop their own platform where they can raise their problems with politicians and other decision makers.

Overall having intermediaries (preferably neutral) as arbitrators and catalysts in partnership is important and beneficial – this role has been played by WorldFish between DOF and NGOs and by NGOs between DOF and fishery CBOs. But if the catalysts do not leave a situation where partners accept the need for each other and their complementary roles, the partnership will be a short lived marriage of funding convenience.

Homogeneity and Community Characteristics

There is some evidence that communities that are homogeneous are more likely to establish effective community fishery management. For example, in Goakhola-Hatiara Beel the entire user community is Hindu and has no major factions, unusually women in these villages fish for food and the partner NGO (Banchte Sheka) organised groups of women to take a lead in conserving fish. In none of the other CBFM-1 sites were women even represented in the management committees. It is not an exception in terms of community characteristics – the more successful CBFM sites tend to have homogeneous user communities. For example, in four closed beels where CBFM has been relatively successful the users are either all Muslim part-time fishers (two sites) or all Hindu traditional fishers (two sites), and in all four of these the members of the groups organised to manage the fishery have average landholdings of under 0.2 ha.

However, some traditional Hindu fishing communities using the rivers have been unable to cooperate effectively for fishery management. This is mainly because more powerful Muslim outsiders use influence to compete for the resource and build brushpiles, and because there were no specific rights under CBFM-1 for the traditional fishers to set rules. Also CBFM has been relatively successful in Ashurar Beel, a large open beel where a diverse community including immigrants and ethnic minorities spread across around 20 villages have cooperated to conserve fish stocks with a combination of NGO and Union Parishad (local government) support.

An opposite issue for CBFM is the complexity of poor people's livelihoods. Few households and people are now truly full time fishers. Traditional Hindu fishers engage in other related and non-related activities, while many people catch fish seasonally for food and/or income. So there may be social homogeneity yet livelihood diversity. It is by no means demonstrated yet that the alternative income generating activities that NGOs have provided to CBFM participants through training and credit have helped households become less dependent on fishing, or helped to mitigate the impacts of closed seasons. The NGO support has undoubtedly helped participants, but the fit with livelihood strategies and with changing fishing practices under CBFM is still in question and critical review and innovations are needed.

Resource Management Activities

Although actions such as stocking fish, closed seasons and fish sanctuaries might be termed outcomes of CBFM, they are also important in helping to establish viable institutions. Without any agreement or ability to initiate a visible action to improve their fishery, and without an activity to see, fishery communities may become disinterested in the investment of time needed in the form of meetings and elections to make organisations work.

Both institutional development and fishery management actions go hand-in-hand together.

For example, in Arial Khan River a sanctuary was established through support from the local leaders and a local management committee. However, there was less participation from fishers in this local management committee and it did not continue at the end of CBFM-1. In this example it is unclear if a brush-pile based sanctuary is an appropriate management action since catch per unit effort continued to fall in this site, over fishing probably continued, and accelerated siltation was reported. In this case the physical intervention was a focus for local influential people but not for fisher participation.

By contrast where the majority of the fishing community took part in decision making and consequent management actions, the activities persisted from CBFM-1, formed a focus for fishery management and helped to strengthen institutional arrangements that were endorsed by local government (Union Parishad). These visible measures also resulted in voluntary compliance by most households, even non-participants. This is specially true for fish sanctuaries in the open beels under CBFM-1, such as Ashurar Beel.

Poverty and CBFM

The Bangladesh strategy for economic growth and poverty reduction (GOB 2003) states: "the capacity of the Department of Fisheries will be strengthened so that it can play an effective role in participation and cooperation with local communities and the private sector", and has the following objectives for inland capture fisheries (Annex 4 "Agriculture and Rural Development"):

- increased production from inland waters through better management and improved aquaculture technology,
- mitigation of the negative impacts of water management structures through community collaboration,
- scaling up of community based floodplain fisheries management to all floodplains.

A recent review of poverty and fisheries found that "Social and institutional mechanisms which take place within and around the fisheries play a very important role in the maintenance, alleviation or aggravation of poverty in fisheries-dependent communities." (Bene 2003). The traditional focus in considering and measuring poverty has been on income:

- conventional wisdom was that fishers are poor because they make the resource base poor – i.e. open access results in over-exploitation,
- another typical view is that lack of alternatives (e.g. remoteness, seasonality) leave fishers no alternative, so poverty is not due to overexploitation,
- it is also often observed that fishing is the activity of last resort or safety valve for the poor – i.e. people who fish for subsistence are already poor.

But poverty is now understood to be multi-dimensional including:

- **economic exclusion** – poor people do not get access to fisheries because paying licenses, fees etc; and ownership of gears that generate more surplus requires more capital which is something the poor do not have.
- **socal marginalization** – caste, gender, ethnic origin, etc. lead to loss of access (e.g. traditional Hindu fishers are under social pressure and many have reportedly emigrated).
- **class exploitation** – poor people have access to fisheries but do not get a fair share of benefits because they are exploited by lessees, waterlords, moneylenders, etc.
- **political disempowerment** – (poor) fishers are left out of decision making possibly resulting in direct loss of access, and certainly resulting in their absence from decision making which governs access and use levels

These dimensions are interlinked – for example: enclosure of common fisheries (for agriculture and/or aquaculture) is done by those with local political power and excludes others who cannot afford to do or prevent this, or means that access is only through those with political power.

One of the rationales for introducing CBFM was that fishers in Bangladesh are poor in terms of all these dimensions (for example, in terms of incomes, livelihood assets, access to fishing grounds, education, social) and lacked a role in decisions about the future of the resources that they depend on. The community based approach acknowledges the diversity among fishers, from full-time traditional fishers, to seasonal/part-time fishers and subsistence fishers (who only catch fish for food). It focused on strengthening the role of full-time fishers while maintaining access for subsistence fishing and limiting the power of the rich with fishery interests such as moneylenders.

Bangladesh fishers are poor in economic terms.

	Very poor	Poor	Not poor	Total
Column %				
fish for income	25	19	13	20
fish for food	23	40	42	33
no fish	52	41	45	46
Total	100	100	100	100
Row %				
fish for income	53	29	18	100
fish for food	29	36	35	100
no fish	47	26	27	100
Total	42	30	28	100

Very poor = no land, does labouring; poor = up to 1 acre land, if service job have thatched house; not poor – all others.
Source: census of 125,752 households around over 130 waterbodies in all regions of Bangladesh for CBFM-2.

In CBFM-1 the NGO partners targeted poorer fishing households in forming groups. Baseline household surveys in 1996 confirmed that the NGO participants were more dependent on fishing than other households in the same area, and relatively more were landless. Most reported incomes of under US$ 85 per person in a year, but this was similar for random samples of non-participants. Any increases in incomes and assets by 2001 were similar for participants and non-participants. For example, in Goakhola-Hatiara Beel (Narail) 62% of NGO participants had tin-roofed houses in 1996 and this rose to 93% in 2001, for non-participants it rose from 70% to 93% in the same period. Reported household income rose on average by 37% for participants, who caught up in the same period with non-participants who remained static, but this was due more to improved incomes from agriculture and small businesses (supported by NGO training and credit) than from fishing. There was also some reduction in fishing dependence linked with two trends: diversification of income sources by NGO participants and reduction in fishing for food by non-participants.

Self-assessments using anchored scales indicated statistically significant increases in perceived levels of participation, influence, decision making, fishery access, and benefits between 1997 and 2001 in those sites with clearer progress in community management actions – essentially the closed and open beels and one river (see Technical Report on CBFM-1 impacts).

Some of these gains which are based on an empowering approach to the multiple dimensions of fisher poverty are illustrated by the traditional Hindu fisher community of Rajdhala Beel (Netrakona). This community was excluded from the beel by the previous leaseholder before CBFM-1. At the start of CBFM-1 they organised as a group and gained access through lobbying and project support against the previous leaseholder. During the gap between CBFM-1 and CBFM-2 a powerful influential tried to get the lease by persuading the administration to call for tenders for the lease. The relatively new fisher CBO brought an injunction against the DC and then sought help from DOF, NGOs and others to delay the outsiders action, and then to fight and win their case for an extension of their access into CBFM-2 (but at the cost of being liable to pay the lease).

Thus CBFM has in some sites (beels and a few rivers) had a wider benefit of empowering poorer fishing households within local fishery management institutions.

CBFM can target households dependent on catching fish for an income, who are generally poor. This has been done by focusing on these households when providing NGO support and using poverty as a condition of membership of the community organisations paying for fishing rights. This has been effective in limiting the dominance of local elites and rich. But it will not end their role and that might even be harmful in the long term. Under CBFM-2 in some waterbodies local advisory committees have been introduced comprising better off households, local elected representatives and local government representatives. The idea is to establish links between fisher CBOs and locally powerful allies where the latter are relatively altruistic. For example, making links with those leaders who are interested in general development for their area to benefit the many voters who catch fish for food, but avoiding politicians who want to control resources for the profit of themselves or a small clique of followers.

External Forces and Conflict

An important limiting factor on establishing CBFM is external forces, threats and conflicts. For example, threats from powerful individuals or groups who try to obtain the rights to a fishery, or conflicting uses of a wetland, or non-traditional fishers starting to fish. These external forces and elites do not promote CBFM, but to the extent that some communities are able to overcome these forces by themselves or in partnership with other organisations this process can be part of empowerment. Conversely the lack of any concerted external efforts to capture the resource in two of the open beels under CBFM-1 (which are complex fisheries with many users where it required some effort to establish consensus on management among communities) doubtless contributed to the success of CBFM there. The opposite – elite pressure to take part of the lease – in the other open beel limited progress and fed divisions among the fishers.

Political will and commitment are needed to counter pressure from elites, but this needs personal understanding and sacrifice. When local influentials and local and/or national politicians are involved in the personal gain game and play to control fishing rights, it may be impossible to resolve the problem. Project experience shows that even legal documents and agreements between ministries in favour of a project and of CBFM do not work in this situation. Usually fishers, particularly traditional fishers, are a weak and subordinate section of society and they do not want to be in direct conflict with local musclemen, influentials and politicians. On the other hand it is also not possible to include those people in the management of the waterbodies if the fishers are to benefit and be empowered. The legal cases, threats and lobbying that the powerful have shown in the past mean that even if they then claim to offer to support the fishers it is just a fancy dress costume. In some CBFM waterbodies these influentials in the name of their own group wanted a share of the resources. Some communities formed an advisory committee where they include some influentials who are not so harmful and this is a positive solution where the influentials (e.g. UP members) are motivated more to gain general goodwill and votes than to profit financially. But there seems to be no solution in other sites where powerful elites dominate and aim to maximise profits for themselves and their clients. In these last cases fishers cannot risk an open confrontation so their only option is to quit, because otherwise the fishers have to bear the burden of paying the lease but the elite groups catch the fish and the fishers gain nothing.

Conflicts are not only over jalmohal leases. Within the community there are different types of stakeholders. Everyone has different needs and interests, but they are linked in a floodplain by the connecting water and its seasonal abundance and shortage. Farmers use water to irrigate crops, fishers want water in the dry season to keep fish in the waterbodies. When fishers want fish recruitment in the haor, baor or beel, farmers often want to drain water out from the waterbody so they can plant crops. If there is a sluice gate then the conflict over its operation can become worse. Sometimes the rich farmers need more water and if there is scarcity of water then violent conflict arises. Similar conflicts can also arise between high land owners and low land owners.

There is scope to build consensus among different stakeholders who have competing water use interests but also have shared interests due to their livelihood strategy diversity (for example, farmers, fishers, and landless all deriving benefits from catching fish, collecting aquatic plants and cultivation of crops but in different proportions). Participatory planning processes have been developed that can result in common understanding and community action (Sultana and Thompson 2003).

However, conflicts over leases and other direct conflicts over power between two parties need to be addressed through a higher authority that is accepted as legitimate by both parties.

Building on Existing Institutions

Four closed beels under CBFM-1 where CBFM institutions continued during the gap between projects and on into CBFM-2 show that it is just as possible to build new effective institutions and community based organisations as it is to develop CBOs based on existing ones.

In Hamil Beel and Dhum Nadi Beel there were already fisher cooperatives that had controlled the beels for many years. The two NGOs (respectively Caritas and BRAC) based CBFM on these organisations but then worked to add poorer fishers who had been excluded and to push out members who were not actively fishing. The participants in both cases were more-or-less homogeneous and the cooperatives were not dependent on a single moneylender or *de facto* lessee.

However, they have been prone to new problems of internal factions that arise when NGOs promote more transparent and accountable leadership including elections to executive posts. This results in a set of new leaders who see the NGO as their source of help and power, and a set of old leaders who see the NGO as a threat and look towards DOF for support (since they had built good connections in the past with government officers in order to retain the lease and later to manage licensing).

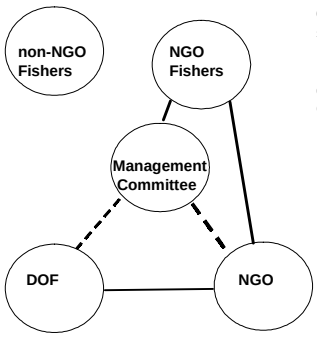
Experience indicates that it is important for the sustainability of such organisations either that the leadership is fixed (which tends to concentrate power and give an inequitable distribution of benefits) or that leadership has the possibility to rotate sufficiently frequently through a democratic and transparent process. This can be achieved, for example, by elections every 1-2 years, so that power does not become polarised with one faction.

The other two closed beels – Rajdhala and Ruhia Baisha – counteract these two case studies. In these cases the traditional Hindu fishing communities before were unable to lease the waterbodies in the face of lessees who were financially and politically more powerful. New organisations representing all of the members of these fishing communities have been formed, and the same principles are applied as in the reformed cooperatives. But similar leadership problems emerged and are probably inevitable when there are relatively large costs and returns from stocking fish that are handled by a few people on behalf of all users.

So much for well defined jalmohals, the floodplains and non-jalmohal fisheries have different institutional issues. One important issue is linkage with existing institutions in the form of local government i.e. Union Parishad. Inevitably some informal links are needed at this level for NGOs to work in an area and for helping to resolve problems and local conflicts. In CBFM there is no formal project defined role for Union Parishads (UP), but in the more successful sites the local UP chairmen have been supportive of the CBFM activities either as an informal advisor or as a member of a formal advisory committee. As CBFM is part of a democratisation process of changing governance of fisheries it makes sense to pursue this link with local elected government. But this should avoid the risk of local elites stepping in to control money in leased jalmohals. Hence a formalised advisory role in floodplains and in clusters of waterbodies seems the most appropriate approach here.

Models developed under CBFM-1

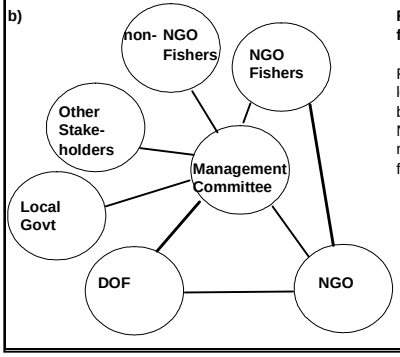
a)



Closed beels and some open beels

NGO fishers have exclusive rights
Closed beels stocked

b)



Rivers and floodplain beel

Fishers organised by NGO lead management
but other stakeholders represented
No exclusive rights, committee represents all in deciding on fishing rules

Scaling up

CBFM-2 has tried to scale up and replicate the lessons and experiences from a limited number of first phase waterbodies to about eight times the number of waterbodies. However, in a project context this faces problems. The waterbodies are scattered across the country and there are a limited number of staff to handle monitoring. Administration and management tasks seem to grow almost in keeping with the number of sites. Moreover, research activities also need more time and skill covering a wider number of sites. A project may have resources for field level activities, but systems to manage research and monitoring over the many waterbodies have to be developed. This inevitably has trade-offs with the detailed understanding and flexible case-study based approaches possible with fewer sites. There is then a tendancy among all partners to follow a more standardised approach to cope with increased numbers of sites.

At the project level one way of scaling up while limiting logistic problems is to work in clusters of waterbodies as CBFM-2 has. Individual scattered locations take relatively more time and receive less attention to address problems.

The lesson is therefore that the number of waterbodies should be increased step by step and not abruptly. The choice should be to expand within a region first and then extend CBFM into other areas. Single projects that try to work in many waterbodies in many regions are likely to be less effective than projects that work in a good number of waterbodies within a more limited region(s). There is also little demonstration effect so far found in terms of take up of CBFM by communities or partners without specific funded activities. Yet there is scope to advocate and encourage spontaneous adoption at least in floodplain areas where there is no issue of jalmohal hand over. Projects have naturally focused on the project sites, but there is scope to raise wider awareness of CBFM arrangements – the institutional changes and associated fishery management in neighbouring areas which may then request help in adopting similar management systems.

Scaling up also seems to result in a greater risk of trying to work in waterbodies that face problems in terms of local political influences and elite pressure to control the resources and where legal cases prevent fishers gaining locally access rights. NGOs therefore spend relatively more time and resources facing local politics and supporting beneficiaries in legal cases. It should not be expected that CBFM will be possible in all waterbodies, and a realistic screening of sites before embarking on CBFM institution building is needed. Screening should focus on local power, politics, elite and leaseholder interests. High value and locally high profile jalmohals may even be best avoided because the need for high inputs to overcome pressure to control the fishery by elites and risk of re-capture after a project probably outweigh the potential benefits to the fisher community. Moreover, the benefit to cost ratios of establishing different fishery CBOs and CBFM have not been estimated yet. It may or may not be worthwhile to try to establish CBFM in all areas. The transaction costs to establish and maintain CBFM may be high and the time needed to meet, guard, etc. means that in some cases fishers lose their opportunity for alternate income sources and may not gain.

The other aspect to scaling up is at the programme to policy levels. CBFM is at present still on a pilot basis, although now with many sites under a number of similar projects. There are thousands more jalmohals and floodplain areas. There may be limited scope for more incremental increases in jalmohals handed over to DOF. Although management is to a great extent by the community, the tasks of DOF do increase compared with jalmohals leased out by the district administration in the usual way, and DOF staff numbers are limited. The framework for CBFM is still set by the land administration/ Ministry of Land through its MOUs with Ministry of Fisheries and Livestock and through local handover and decisions of the district administration. This is reasonable for a piloting that needs time to demonstrate sustainability and a substantial number of waterbodies to demonstrate wide applicability. But a strategic review and policy change process will be needed to learn from this experience after current projects to see how CBO-DOF links and co-management work and assuming that this has been successful then to decide on how to adopt and promote this on a larger scale.

Paul Thompson

Sustainability and Exit Strategies

The sustainability of the institutional arrangements and the local fisheries under CBFM in Bangladesh are yet to be determined. In fact the CBFM-1 partners did not have a clear strategy at the start of the project for the project end and how to ensure that CBOs would be sustainable after the project support, nor was there even a specific plan to form CBOs at that stage, since the project was very much a learning-by-doing process.

It is now clear that establishing sustainable CBFM in any one waterbody requires much more than a 3-year project, at least in Bangladesh. In one CBFM-1 beel the NGO phased out support after 7.5 years.

Sustainability issues in inland fisheries have multiple overlapping levels and aspects that can be clustered under institutional, socio-distributional, and bio-economic headings. Overall the arrangements and management systems should be resilient to external shocks, yet adaptable to changing circumstances of threats and opportunities.

What is needed for this?

Overall it seems fair to conclude that a CBO is needed to manage each defined fishery, and that CBOs need to have a recognised status through registration as a legal entity.

Obviously the target groups (fishers) should be sure about their access to the fishery resource in future (security of use tenure for those organised under and supporting the new institutions). It should not be acceptable that after a project is over the whole management system will collapse because of a government decision to give the lease to some competing group or individual. Therefore government commitment for long term security of use rights is needed. This can be qualified by periodic independent assessment of the CBO and CBFM performance in terms of institutions, distribution of benefits, and trends in the fishery and waterbody ecology.

The capacity of the CBO needs to be established as a sustainable organisation and a legitimate decision making body deciding on access and use of the fishery. This requires sufficient funds and fund raising systems that can cover likely annual fishery management and organisation operating costs. Grants for revolving funds were introduced in CBFM-2 to address this gap in CBFM-1. Unity among the users (typically fishers but potentially including other stakeholders) should be strong. The participants and CBO should be capable of managing their own system, for example:

- keeping record books,
- managing financial accounts that are independently checked,
- having a leadership that is accountable to the general participants through elections,
- having sufficient fisheries knowledge,
- able to collect and use information on the fishery to take decisions,
- able to change their rules in a transparent way based on experience and changing circumstances, and
- able to liaise with other organisations including CBOs and government.

Registering fisheries CBOs

Fisheries Cooperative Societies already have a defined status as the preferred target for awarding leases to jalmohals of over 8 ha though a competitive tendering process. But the process to set up a new fisher cooperative is controlled and quite expensive to pass through, and they lack a reputation for transparency. Reforming existing fisher cooperatives to include all dependent fishers, exclude non-fishers, and operate more openly is a viable option for smaller leased jalmohals. It keeps the option of bidding for the lease if policy changes and the fishery is no longer reserved for a certain community organisation.

In other leased fisheries a multi-purpose cooperative is easier to register and allows for multiple activities related to floodplain-beel wetland management while retaining the capacity to operate on the basis of sharing incomes from fishing among members. But the fishery cannot extend beyond one Upazila.

In non-leased fisheries such as floodplain systems with no jalmohal, registering a wetland or beel management body under the social welfare department is more appropriate. This need not be a membership based body, but the CBO acts in the interests of the whole community. In these cases the CBO does not aim to pay a lease or to share incomes among members, but rather to establish conservation and sustainability norms and actions.

Sources: CBFM-2 coordination meeting discussions with all partners and Bangladesh Environmental Lawyers Association reviews.

Summary of criteria for CBO success /targets before phasing out NGO support.

Indicator / success criteria	BS	BRAC	Caritas	CNRS	CRED	Proshika	No. NGOs*
CBO has fund and bank a/c	Y	Y	Y	Y	Y	Y	11
CBO is registered/legal status	Y	Y		Y	Y	Y	10
CBO has links with official bodies	Y	Y		Y	Y	Y	9
Regular meetings of CBO	Y	Y	Y	Y	Y	Y	8
CBO constitution/bylaws	Y	Y	Y	Y		Y	6
Record keeping (resolutions & a/c)	Y		Y	Y		Y	6
Diverse fishery conservation	Y	Y		Y	Y	Y	6
Participatory decision making	Y	Y	Y	Y			5
Democratic – executive is elected			Y	Y			5
Conflict resolution capacity		Y				Y	5
Community center built	Y					Y	4
Accountability, transparency, audit	Y				Y		4
Equity, fairness, equal shares	Y	Y	Y				4
Leadership capacity developed						Y	4
Wider community acceptance	Y			Y		Y	3
CBO represented in cluster body	Y	Y					3
Waterbody management plan			Y		Y		3
CBO operates own credit			Y	Y			3
CBO has vision to develop fishery				Y	Y		3
Exchange visits for CBO					Y	Y	3
CBO has bargaining skill				Y			2
CBO has networking capacity				Y			2
CBO can monitor fishery resource	Y			Y			2
Links with local elites		Y				Y	2
CBO does social development						Y	1
Fishers have long term access right		Y					1
Policy reform for fisher access		Y					1
Follow up system by NGO		Y					1
Technical capacity of CBO		Y					1
Knowledge of stocking		Y					1
Total no of criteria proposed	14	16	9	15	9	14	30

Source: presented by respective NGO coordinators in 2003 CBFM-2 retreat. Bold = proposed by +50% of NGOs.

** No. NGOs = number of NGOs proposing each criteria, the other NGOs with less CBFM experience who also made exit strategy proposals were ERA, Gharoni, SDC, Shishuk, and SUJON.*

Most importantly an ownership feeling should come through participation. The table summarises criteria for CBO sustainability that NGO partners of CBFM-2 identified as targets for success in designing their exist strategies.

Linked with institutional sustainability is a fair system of distributing management costs and benefits from the fishery. This does not necessarily mean equal shares, but the evidence is that in a fisher-only CBO with well defined membership using a closed beel equal shares between participants are appropriate. Distributional sustainability includes provision for limiting access, for example in different areas and times, and more generally setting rules that limit the scope to gain access and take control by influentials and richer people.

For biological and economic sustainability the issue of high leases unconnected with returns from fishing and the benefits of users needs to be resolved at a policy level. In addition the evidence so far is that local fish sanctuaries in a deeper part of a waterbody that protect brood fish during the dry season are one of the most acceptable management measures that appears sustainable in the longer term. Gear restrictions and seasonal bans on fishing when fish breed have been planned by communities, but they are at best partly observed and depend on NGO support for alternative incomes. Fish catches vary considerably between years due to other environmental factors, so immediate boosts in production should not be expected.

The sustainability of cluster committees and coordination between CBOs in linked waterbodies is unknown as this has only recently started. But networking among the CBOs appears to be one action that may encourage sustainability by helping the beneficiaries in policy dialogue as the network can work as a pressure group.

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Inland open water fisheries in Bangladesh provide more fish to meet the nutritional needs of the nation's poor people than any other source. They are under heavy and increasing pressure from over fishing, loss of wetlands to agriculture, and degradation of aquatic habitats. Past administration of these fisheries favoured short term gains for the powerful at the expense of sustainability and equity. Major experiments in community based fisheries management have been underway through NGOs, Bangladesh Department of Fisheries and the WorldFish Center since 1996. This briefing paper draws lessons from this experience to date.

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WorldFish Center
House 22B Road 7
Banani
Dhaka 1213
Bangladesh
<WorldFish-bangladesh@cgiar.org>

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Front cover (top to bottom, then left to right):
Beel Management Committee and fish sanctuary, Ashurar Beel – FemCom
CBO networking meeting, Mymensingh – Paul Thompson
Small fishes, Digshi Beel – Paul Thompson
Women maintaining fish sanctuary, Maliate Beel – FemCom
Participatory planning, Sunamganj – Paul Thompson
Fish sanctuary, Betaldoba Beel – Md. Mahbubur Rahman Khan
Back cover (top to bottom):
Harvest of stocked carps, Hamil Beel – Parvin Sultana
Seine net fishing, Tangail – FemCom
Habitat re-excavation, Posna Beel, Tangail - CNRS