Sustainability of Community Based Organisations in Bangladesh[1]

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ABSTRACT

In recent decades community based management of commons has been emphasised, whether based on existing local institutions or new local organisations. Bangladesh has a long experience of establishing community based organisations (CBOs) to improve management of freshwater fisheries and floodplain resources since the mid 1990s. Several hundred such CBOs have been formed, aimed at: empowering local communities, especially the poor; sustaining common natural resource bases particularly fish and water; and achieving a fairer distribution of benefits. Initiatives have been project based, raising questions over sustainability of such arrangements, what conditions enable CBOs to sustain, and whether the institutions for commons management change over time. This paper examines the approaches adopted in structuring CBOs, how they have evolved, and the performance of CBOs.

The paper is based on work with about 250 existing CBOs that graduated from direct project support and have networked together to learn from their experiences. This reveals that most CBOs are interested to improve their performance in terms of the productivity of their commons, their governance, and the role of and benefits to the poor. On average 64% of CBO members are poor, and almost all CBOs report regularly consulting with poor floodplain resource users. Although most CBOs report that a few traditional users of aquatic resources lost access, 90% claim that overall the access of the poor improved, and this is supported by rules that allow subsistence fishing by the poor, for example. CBOs have over time and by learning from their peers broadened their interests in natural resource management by adopting rules and norms limiting surface water abstraction, pesticide use, hunting, etc., as well as widely adopted fish sanctuaries and closed seasons. Governance has also strengthened with wider adoption of transparency in financial management and elections of leaders.

KEY WORDS

Community organisation, co-management, institutions, fisheries, floodplain, water

INTRODUCTION

Bangladesh

Floodplain wetlands cover about two-thirds of Bangladesh and provide local people, especially the poor, with food, most notably fish but also other aquatic animals and

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plants. Up to 80% of rural people and about half of rural poor households living in the floodplains catch fish and use other aquatic resources, and up to 70% of animal protein consumption in Bangladesh is derived from fish (Minkin *et al*. 1997; Thompson *et al*. 1999; Muir 2003; Toufique and Gregory 2008). Wetlands are also important sources of fodder, building materials, water retention to recharge groundwater and absorb floodwaters, and means of transport. As a result, local communities have a direct interest in maintaining floodplain natural resource productivity.

There are already many policy initiatives and strategies that are supportive of sustainable development in Bangladesh. However, their implementation and adoption into practice has been at best piecemeal and often constrained by contradictory policies. The challenge is nowhere greater than in the management of floodplain natural resources. The Ministry of Fisheries and Livestock (MOFL) is responsible for all technical aspects of inland fisheries, but the ownership and administration of water bodies rests with the Ministry of Land (MOL). Meanwhile agricultural development in floodplains has largely been driven by water management infrastructure built by the Bangladesh Water Development Board and Local Government Engineering Department (LGED), although technical support to farmers is crop based and comes from the Department of Agricultural Extension. Each Ministry and attendant departments has its own mandate and priorities and these are not compatible most of the time. For example, the aim of protection and sustainable use of fisheries sought by the MOFL comes into direct conflict with the aim of increased revenue earning from the inland fisheries by the MOL.

Community based organisations (CBOs) and collective action in commons

Collective action covers a wide range of collaborations typically at the local level that involve establishing local institutions and may be formalised in local organisations. Here ‘institutions’ are taken to be “complexes of norms and behaviors that persist over time by serving collectively valued purposes” (Uphoff 1999). Co-management is often summarised as collaborative management where a range of stakeholders particularly government and local resource users share power, responsibilities and management functions (Berkes et al. 1991; Borrini-Feyerabend et al. 2000). Carlsson and Berkes (2005) argued that co-management is a logical way of solving resource management problems through partnerships. But they emphasised the complexity of co-management arrangements and that power sharing is a consequence of a process of interactions and linkages between stakeholders that may or may not empower local resource users.

In the past there have been disparaging views on the extent of collective action in Bangladesh - Zaman (1984) claimed that an “extremely poor level of community hygiene, misuse of irrigation water, lack of maintenance of local roads and canals may be some of the examples of the absence of collective actions of the community”. Nevertheless since the early 1990s there has been considerable effort from a combination of development agencies, NGOs and Government of Bangladesh to help local communities organise for collective action in natural resource management and other areas.

An important issue in the sustainability of collective action and creation of associated institutions is the recognition that this is a process rather than there being a CBO blueprint, with flexibility in adaptation to site-specific context and realities. Achieving improvements in resource management and the objectives of CBOs depends on their capacity - the "ability of individuals and organisations or organizational units to perform function effectively, efficiently and sustainably" (UNDP 1998).

There has been considerable attention paid to the factors or design principles for local institutions related to management of commons, but perhaps less interest in the appropriate characteristics of local organisations and CBOs that are often the basis for new institutions. Agrawal (2001, 2002) synthesised the factors enabling sustainability of commons institutions based mainly on Ostrom (1990), Wade (1988) and Baland and Platteau (1996) into four broad categories with several characteristics of which ones more relevant to this study are highlighted here:

1. Resource system (smaller, well defined, low mobility, predictability);
2. Group (smaller, well defined boundaries, shared norms, past success, appropriate leadership, interdependence, diverse endowments, common interests, low poverty, high dependence);
3. Institutions (simple locally devised rules, easily enforced, graduated sanctions, harvest restrictions match resource regeneration); and
4. External environment (low cost exclusion, central government does not undermine, appropriate external support).

While this assessment of CBOs does not specifically test the relevance of these characteristics, it does shed light on the role of several, and the contribution of adaptive learning to improving CBOs performance in sustaining natural resources and the benefits reaching communities.

CBOs IN BANGLADESH FLOODPLAINS

Since the mid-1990s the Government of Bangladesh has undertaken several projects to improve local fisheries management and water resources management, most involve establishing some form of community based organizations (CBOs). This was influenced by international research on how local institutions regulate and manage common pool resources, such as fisheries and water, which gave rise to understanding of complexity and recommendations on the design of more effective bottom-up management systems (Stern *et al*. 2002). In the water management projects community participation directly followed from participation guidelines (Ministry of Water Resources 2001). In the fisheries projects community management was promoted by funding agencies initially the Ford Foundation, and subsequently Danida, UK's DFID, USAID and World Bank; also by national NGOs; and importantly by a Department of Fisheries that lacked any direct control over waterbodies until it gained a role through projects.

These projects (see Table 1) each established a number of CBOs to manage fisheries, wetlands or water resources structures, but then funding and facilitation ended. The major question is sustainability of these arrangements which can be constrained by problems such as gaps in trust, knowledge, leadership capability and funding. The poor in floodplain communities are often suppressed by local elites, so one of the main themes of community based management has been to empower the

poor to take part in management. However, the most important step has been to devolve rights over resources to CBOs. *Jalmohals* (waterbodies that are state property in which fishing rights are leased out) and water control structures have been transferred for community management. It is expected that this will continue to benefit these communities for generations to come based on local coordination and collective action through local institutions and CBOs. In larger wetlands and large water management projects both CBOs and co-management forums that link CBOs and government have been established, but these are still at an experimental stage (Sultana and Thompson 2010). Similarly there has been some work to guide information systems of use to both communities and government agencies in co-management of fisheries (Halls *et al.* 2005) but this has yet to be made use of in an adaptive way to help address resource management issues.

STUDY METHOD

As part of action research on how adaptive learning could be enhanced through a network of CBOs managing floodplain natural resources in Bangladesh (Sultana 2010) annual assessments of the status and performance of the CBOs were carried out. These focused on the entity – the CBOs – rather than their context, since to a considerable extent the CBOs operate within similar wider institutional and physical frameworks and environments. The origins of those CBOs participating throughout 2007 to 2010 are summarised in Table 1, on average the CBOs had been operating for almost four years without project specific support by the time of the last assessment reported here. Most had been functioning with no links to any project for some years before the start of the adaptive learning network, although 68 CBOs moved more or less directly from the end of their project support to engaging with our action research.

Table 1 CBOs managing floodplain resources and involvement in the adaptive learning network

Project	Donor	Ended	Years graduated by end 2009	Network CBOs
Aquaculture Development Project	IFAD	2005	4	6
Community Based Fisheries Management projects	Ford Foundation/ UK/DFID/ IFAD	2007	2	58
Fourth Fisheries Project	World Bank and UK DFID	2006	3	31
Management of Aquatic Ecosystems through Community Husbandry project	USAID	2007	2	10
Oxbow Lakes Project phase II	Danida and IFAD.	1997	12	8
Small-Scale Water Resources Development Sector Project	ADB and Dutch govt.	2003	6	41
Total				154

In considering CBO sustainability there is a clear distinction in the adaptive learning process compared with earlier project support. Unlike earlier projects each CBO did not have an external facilitator. Instead, as reviewed in Sultana (2010), the small research team facilitated networking and learning workshops between CBO leaders and made limited follow up visits to verify CBO information, advise on their planned actions and participatory monitoring, and to conduct the assessments reported here.

These assessments were conducted at the outset of the project in April 2007, around September 2008 to review progress, and in late 2009 to assess changes. To simplify the analysis here only the first and last of these assessments are used and can be considered as baseline and impact surveys. The research team made visits to all of the CBOs continuing to be active and followed the same assessment method. In each case information came from discussion with CBO leaders, consulting with CBO record books, and cross checking with other local people, particularly fishers and women leaders. A standardized checklist and set of indicators was used covering actions and practices in the last year. The assessment format was modified slightly in 2008 by elaborating some points and broadening coverage of various options and activities to improve floodplain management, while retaining compatibility with the earlier assessment. The assessment involved collecting background descriptive profile data and more importantly information with which to assess CBO status and performance in seven themes. In total there were 53 sub-indicators distributed among these seven themes. In addition to information on all of these indicators, each sub-indicator was classified into three categories or scores (0, 1, 2) and for each theme the percentage of the possible (applicable) maximum score was calculated, and an average of these theme percentages also calculated for an overall assessment.

The seven themes were developed to reflect good practices that CBOs were expected to follow and enhance through the adaptive learning network process, which was expected to:

1. Improve **resource management** including planning and coping with conflicts, through information sharing and adaptive learning.
2. Improve the status and capability of CBOs as local institutions **representing the interests of poor** floodplain and fishery users.
3. Strengthen the **role of women** in the CBOs.
4. Make the CBOs more effective as **organizations**.
5. Improve the **governance** of the CBOs including equity in decision making and outcomes.
6. Adopt more **transparent financial management**.
7. Improve **linkages** with other agencies and local government, including a stronger capacity of CBOs to bargain, challenge problems, and demand better public services.

FINDINGS

Characteristics of the sites, communities and CBOs

The participating CBOs – 163 CBOs were assessed in 2007 and153 that remained active were assessed again in 2009 – have some common characteristics, they are:

- non-profit,
- act at the local level,
- registered with the government as legal entities,
- formed through projects which have phased out,
- responsible for managing a specific area of floodplain or a waterbody, and
- have members from several villages using that waterbody or floodplain area.

Here comparisons are made mainly between years and between environments – since the resource management issues and institutional arrangements of the CBOs tend to differ between closed *beels* (CB), open *beels* and floodplains (OB/FP), and rivers) Since the physical context of the CBOs has not changed between 2007 and 2009, these characteristics are only listed once in Table 2. On average the communities using the floodplain resources managed by the CBOs are of comparable size (average of seven villages and just under 2,000 households. Out of these on average just over 250 households per site earn an income from fishing and another 360 catch fish for food, making about 32% of the community dependent in some way on fishing – this is lower in the closed *beels* (19%) since these are smaller and are all state property (*jalmohals*) where the CBOs lease the use rights. The difference between dry and wet season water extent is greatest in the floodplain *beels* – most of the management influence area of these CBOs is private land that is seasonally inundated. Hence, only 42% of the CBOs managing open *beel*/floodplain areas are leasing a *jalmohal*. Almost all of the rivers that CBOs manage are *jalmohals*, and under the government policy, river *jalmohals* should be open waterbodies where no lease payment is made, but 8% of these CBOs pay a lease. Lease payments per CBO average just over US$ 1,000 per year – a considerable sum for local fishing communities.

Table 2 Average characteristics of environment and communities of participating CBOs

Characteristic	CB	OB/FP	River	Total
No. of CBOs	26	91	36	153
Number of villages involved	7	7	9	7
Number of households living in these villages	2,247	1,884	2,024	1,979
Number of households catch fish for an income	201	232	355	256
Estimated number of subsistence fishing households	219	413	365	368
% of community fishing	19	34	36	32
Water area (ha) max	77.3	418.2	261.6	323.4
Water area (ha) min	49.7	41.3	99.8	56.5
% CBOs manage a *jalmohal*	100	42	94	64
Jalmohal area (ha) if any	65.3	82.8	158.3	104.3
% CBOs pay waterbody lease	96	25	8	33
Lease in current year (Tk) for those paying	83,409	61,727	60,449	72,281
% CBOs with sanctuary in 2007	58	55	97	66
% CBOs with sanctuary in 2009	89	58	94	72

CB: closed beel; OB/FP: open beel-floodplain

The total number of members per CBO has hardly changed (Table 3), and reflects the size and nature of resource base. The closed *beel* CBOs have fewer members since the waterbodies are smaller and membership entails sharing equally in the costs (leasing and stocking) and benefits from harvesting those fish. In fact 1.8 members per ha of monsoon water area in closed *beels* is considerably higher than open *beels* (about 0.5 members per ha) and rivers (0.67 members per ha), reflecting more intensive management. The closed *beel* and river CBO members mostly comprise of fishers, but only a third of CBO members in the open *beels* and floodplains fish for an income (although more fish for food). This partly reflects the biases and objectives of the projects that initiated and formed the CBOs – the projects listed in Table 1 (for example, many of the floodplain CBOs were formed for water management) but also the more diverse stakeholder interests in floodplain *beel* resources. The proportion of CBO members who are farmers is higher in the open *beel* and floodplain CBOs (Fig. 1), since many of these were formed to manage

floodplain water resources for agriculture and much of the area they manage is seasonally flooded private farmland, but even in this environment over 60% of members are poor. However, Table 3 indicates that there has been some turnover in CBO membership – the percentage of members that are poor - indicated by owning under 0.5 acres (0.2 ha) of land - has increased in all environments suggesting some attempts to be more inclusive of the poor.

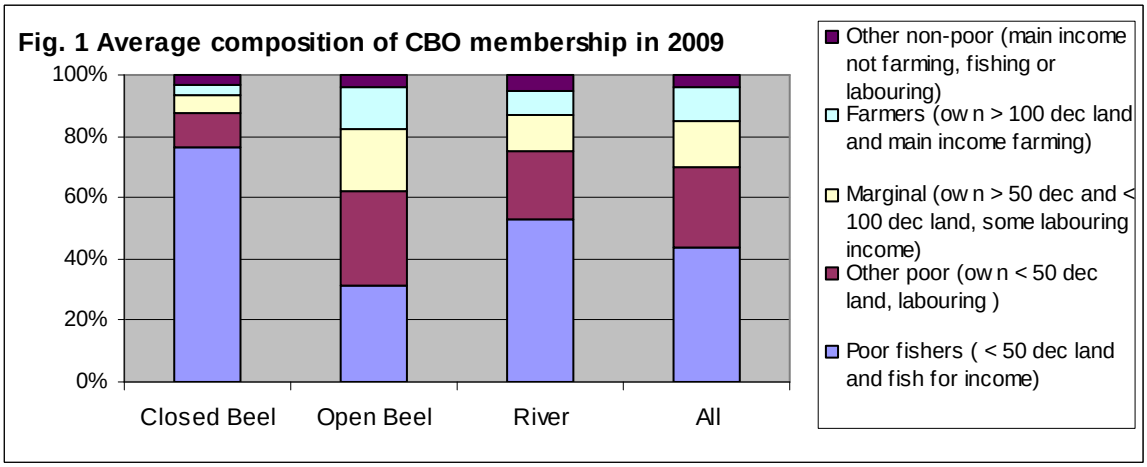
In all three environments there was a modest decline in the number of meetings held and attendance rates; but with attendance rates of 75% for executive committees and 65% for general meetings, the CBOs remain active. The CBO leaders mentioned that by 2009 as there were less conflicts to resolve and less conflicting interests within the CBO they can manage with less meetings and spend more time for different activities for improvement of their organisation.

Table 3 Average characteristics of participating CBOs

	CB		OB/FP		River		Total	
	07	09	07	09	07	09	07	09
No. of CBOs	26	26	87	91	36	36	149	153
Total members of CBO (vote in AGM)	140	140	232	225	175	175	202	199
Number of members of Executive Committee	11	11	13	12	14	14	13	13
% CBO members who own <= 50 decimals*	78	88	49	62	57	75	56	69
% CBO members who fish for an income	97	80	37	36	64	55	55	48
No. CBO office bearers own <= 50 decimals*	3.4	5.4	6.2	1.8	5.9	8.0	5.5	3.9
No of Executive Committee meetings in last year	15.2	11.4	11.3	9.4	11.3	8.2	12.0	9.5
Average Executive Committee attendance in last year (%)	86	79	77	75	78	73	79	75
No. of meetings of whole CBO in last year	7.9	5.5	3.9	2.2	4.7	2.4	4.8	2.8
Attendance in general meetings of CBO in last year (%)	74	72	71	63	70	62	71	65
% CBOs with positive impact on landless livelihoods	92	88	91	82	83	86	89	84
% CBOs with positive impact on fisher livelihoods	96	85	86	79	83	86	87	82

* 100 decimals = 1 acre; 50 decimals = about 0.02 ha

Fig. 1 Average composition of CBO membership in 2009



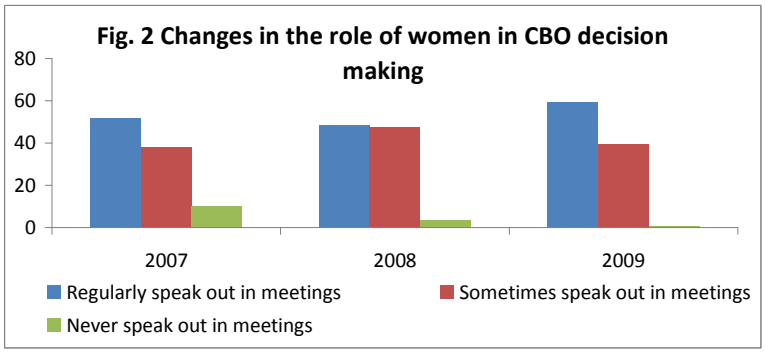
Hence overall the closed beels have not only a well defined resource base but also clear and homogenous CBO membership. While the resource base in the other two environments is more open and less well defined, in rivers CBO membership is largely fishers, while in open beels and floodplains a wider range of local stakeholders are involved.

Role of women

Very few women are members of the CBOs in rivers and closed beels, where the membership is mostly of professional fishers (men) (Table 4). Even where women form almost a quarter of the CBO membership (in open *beels*), very few are in positions of responsibility, although an average of one women office bearer is an important start.

Table 4 Role of women in CBOs

Indicator	Closed Beel		Open Beel/ Floodplain		River		Total	
	07	09	07	09	07	09	07	09
% of CBO with no women member	73	69	17	15	39	39	32	30
% of CBO with women office bearers	1	1	28	32	6	5	35	38
% of CBO members who are women	2.5	4.1	21.6	20.7	5.0	4.8	14.3	14.2
No. of CBO office bearers who are women	0.1	0.1	1.2	1.2	0.6	0.4	1.0	0.9
Role of women in CBO decision making (% CBOs)								
Regularly speak out in meetings	14	43	54	64	59	50	52	59
Sometimes speak out in meetings	43	57	39	35	32	50	38	40
Never speak out in meetings	43	0	7	1	9	0	10	1
If CBO executive committee consulted with women before taking key decisions (% CBOs)								
Yes - other members and non-members	0	0	28	21	38	14	28	18
Yes - only members	71	100	68	70	43	82	63	75
No	29	0	4	9	19	5	9	8
Number of times CBO executive committee consulted with women in last year	0	4	0	5	0	3	0	4



However, the CBOs have encouraged women to play a more active role in meetings and decision making (Fig. 2). It was reported that the CBO executive committees more often consult with women before taking important decisions. The majority of CBOs almost never did this before they considered the role of women through the adaptive learning process and before the mostly male CBO leaders had met women from the few CBOs that are led by women.

Resource management

The CBOs have adopted various measures to sustain fisheries, and this has increased through the adaptive learning process. Not only have the number of rules and actions planned by CBOs increased between 2007 and 2009, but more fishery management rules or actions were in place per CBO in 2009 than were planned in 2007 in all of the environments (Table 5). Notably the proportion of CBOs with fish

sanctuaries increased, particularly among the closed *beels* (where the CBOs before concentrated just on stocking carps each year). Sanctuaries and measures such as bans on dewatering and hunting have spread among the CBOs as a result of participating in the adaptive learning network – CBOs that heard of successful practices have been encouraged to adopt them.

Table 5 Natural resource management rules planned and implemented by CBOs

Rule	Closed Beel			Open Beel/ Floodplain			River			Total		
	07	09		07	09		07	09		07	09	
	Plan	Plan	Implement	Plan	Plan	Implement	Plan	Plan	Implement	Plan	Plan	Implement
No of CBOs	26	26		87	91		36	36		149	153	
Fishery rules and actions												
Fish sanctuary	62	92	89	57	63	58	100	97	94	68	76	72
Closed season	85	96	69	61	67	63	100	100	89	74	80	70
Ban on harmful gears	54	88	69	55	70	68	83	100	86	62	80	73
Ban on dewatering	0	58	35	3	49	45	3	64	50	3	54	44
Ban on hunting	0	54	35	2	34	31	0	53	42	1	42	34
Fees for fishing	2	13	4	5	12	8	8	21	17	5	14	9
Fair harvesting plan	8	58	58	17	38	35	19	53	47	16	45	42
Reintroduce rare indigenous fish	4	0	0	0	29	11	0	28	8	1	24	8
Average no. of rules per CBO	2.15	5.50	4.15	2.13	4.33	3.52	3.22	5.67	4.44	2.40	4.84	3.84
Water and agriculture rules and actions												
Limit on pumping water	27	23	23	20	25	24	25	39	36	22	28	27
Sluice operating plan enables fish migration	23	27	27	39	34	32	6	22	14	28	30	27
Promote alternative crops needing less irrigation	0	35	35	0	33	30	0	47	44	0	37	34
Promote shorter duration rice crops	0	35	31	6	34	34	0	42	36	3	36	34
Pesticide restriction or Integrated Pest Management promoted	0	27	23	2	36	32	0	44	39	1	37	32
Less polluting jute retting promoted	0	8	8	0	15	13	0	14	11	0	14	12
Sustainable snail harvest rules	0	4	4	3	20	15	0	22	14	2	18	13
Tree planting	0	8	4	1	14	7	0	10	4	0	12	6
Sustain or restore aquatic plants	0	4	4	2	7	4	0	6	0	1	6	3
Average no. of rules per CBO	0.50	2.00	1.81	0.75	2.80	2.10	0.33	3.11	2.17	0.60	2.74	2.07

Note: some rare rules are not shown in the table

By bringing together CBOs that had different focuses (water for agriculture compared with fisheries), and by considering opportunities and gaps in understanding, CBOs have been encouraged to act to improve overall floodplain productivity by considering also agriculture and water use, for example growing crops with lower water demand and short duration rice (Table 5). But for some potential management options such as fish-friendly sluice operation there has been little change reflecting the difficulty of negotiating changes in use and that only some CBOs have control of sluices. No CBOs had plans to promote low water demand crops in 2007, two years later at least a third of CBOs in all environments were implementing this at least on a pilot scale. The pattern is very similar for reducing pesticide use (which also benefits fish) and promoting shorter duration dry season rice crops (which is a necessary precursor for earlier opening of sluices). Consequently the number of water and agriculture related rules and actions taken up per CBO has increased substantially

as a direct result of adaptive learning and CBOs discussing together the potential to improve floodplain management for both fish and crops.

The addition of more rules and more complex rules and management measures might be expected to increase problems of compliance and conflict among resource users. However, the evidence is that natural resource related rule breaking and conflict was already at a relatively low level and has fallen (Table 6). These conflicts are rarely violent, although several of the CBOs have in the past experienced physical violence usually related to outsider attempts to grab waterbodies. With the CBO management systems widely perceived as having enhanced production systems and positively impacted fishers and landless, voluntary compliance is high even though closed seasons (to enable fish to spawn) result in temporary hardship and inevitably some fishers are tempted to break the rules.

Table 6 Compliance with rules, conflicts and their resolution (percentage of CBOs)

	CB		OB/FP		River		Total	
	2007	2009	2007	2009	2007	2009	2007	2009
No. of CBOs	26	26	87	91	36	36	149	153
Outsider captured water resources (part) (%)	31	12	15	11	6	11	15	11
CBOs with some rule breaking (%)	15	12	26	21	47	44	30	25
CBOs reporting no conflict within community on natural resource management in last year (%)	85	89	81	80	89	86	83	83
CBOs reporting no conflict on natural resource management with outsiders in last year (%)	89	92	83	95	72	89	81	93
CBOs receiving government officers support regarding problems (%)	2	1	3	2	5	2	3	2
CBOs had Union Parishad support in enforcing rules etc (%)	31	8	43	22	64	39	46	24

Conflicts and competing pressures on natural resources are an important area where co-management is brought into play. To address rule breaking particularly by other people from outside the immediate community and CBO, local sanctions – fines and enforcement – are usually applied and these are imposed with the help of local government councils (Union Parishads) and/or village courts known as *salish*. The decline in support from Union Parishads is associated with a reduced need for this since conflicts and rule breaking declined. Also the enhanced confidence of the CBOs to jointly handle common problems has opened new ways to address problems. That CBOs are able to successfully receive support from these forums, even against locally powerful people, is an indication of the accepted legitimacy of the local resource management institutions established through the CBOs.

Governance and financial management

Although much of the focus of CBOs in the adaptive learning process was on natural resource management, the network also gave CBOs an opportunity to compare governance practices and a peer pressure to adopt good practices. The closed *beels* differ in the organisation and governance of their CBOs to a greater extent than the differences between rivers and floodplain *beels* (Table 7). Only half of the closed

beel CBOs are registered. Unlike other CBOs, those formed under the Oxbow Lakes Project II (OLPII) had an arrangement where access to the waterbodies depended on each year the Department of Fisheries (DOF) licensing the member fishers. Hence these CBOs were more closely tied with the DOF and less independent, but some did register after 2007, having been influenced by the other CBOs of the benefits of a legal identity.

Advisory committees (comprising of locally respected persons who are not members of the CBO) were relatively uncommon before, but through the adaptive learning process this has been viewed as beneficial by the CBOs in helping to overcome local problems so CBOs in all environments have added advisory committees.

Table 7 Changes in CBO governance and financial management (percentage of CBOs) between 2007 and 2009

Indicator	CB		OB/FP		River		Total	
	2007	2009	2007	2009	2007	2009	2007	2009
No. of CBOs	26	26	87	91	36	36	149	153
CBO registered	50	58	99	100	89	94	88	92
Advisory committee	0	12	31	57	53	72	31	53
Office bearers elected by secret ballot								
Secret ballot of all members	39	42	36	32	28	25	34	32
Show of hands among all members	50	58	61	67	67	75	60	67
Decided by Executive Committee only	12	0	3	1	6	0	5	1
Held Annual General Meeting in last 12 months	42	85	63	66	58	72	58	71
Minutes/records of committee meetings								
All agenda items in last meeting written up with Solutions	73	81	82	89	67	69	77	83
Record of last meeting written up but not for all agenda	23	4	13	7	22	17	17	9
Minutes and records not up to date	4	15	6	4	11	14	7	9
Have a financial plan								
Yes-and plan followed	81	81	74	76	67	67	73	75
Yes-but plan not followed	12	4	12	13	14	17	12	12
No	8	15	15	11	19	17	15	13
Internal audit done in last year	46	46	31	60	27	69	33	60
External audit done in last year	62	50	75	52	58	39	69	48
CBO funds								
More than enough	0	15	1	15	0	8	1	14
Enough	12	19	14	10	11	11	13	12
Not enough but no debt	64	35	62	70	71	78	65	66
In debt	24	31	22	4	17	3	21	9
Have savings scheme for members								
Yes and members have pass books	36	46	68	70	50	61	58	64
Yes but no individually held records	0	8	10	7	8	6	8	7
No	64	46	22	23	42	33	34	29
Have revolving fund for making individual loans								
Yes-CBO members and non-CBO people can borrow	0	8	6	11	3	25	4	14
Yes-only poor CBO members can borrow	0	4	36	30	17	14	25	22
Yes any CBO members can borrow	8	15	10	24	6	8	9	19
No	92	73	48	34	75	53	62	45

Choice of the key office bearers in the CBOs has become more transparent. There is no change in the extent that CBOs hold secret ballots, with all of the processes found in national elections such as returning officers, election symbols and ballot papers used for members to vote on their preferred members standing for election

as office bearers. But in a minority of CBOs before 2007 the choice of office bearers was internal to the executive committee. Also in a number of CBOs there was actually little change in leadership and formal processes to elect leaders were not held in line with their constitutions. By late 2009 all but one of the CBOs had involved the general membership in electing office bearers, with a majority using a show of hands.

CBOs have also become more timely in holding their annual general meetings (71% held them in time in 2009 compared with 58% in 2007), particularly the closed *beel* CBOs (a change from 42% to 85%), indicating an effect of peer pressure and possibly these assessments on conducting their operations in accordance with their constitutions and bylaws. A substantial proportion of the closed *beel* CBOs have caught up with holding AGMs. Most CBOs already kept minutes of meetings, but there has been some improvement in the quality of these in terms of completeness and recording solutions and actions. This has also been encouraged by the project approach of requiring CBOs to submit minutes of meetings showing the outcome of discussions and agreement on taking up management improvements and contributing to costs before making small grants to support CBO proposals to implement measures such as tree planting or new sanctuaries.

Most CBOs already made financial plans each year, and there has been no change in the percentage of CBOs that implement those plans. However, many more of the open *beel* and river CBOs now carry out internal audits, one of the management practices discussed in adaptive learning workshops, which increases transparency within the CBOs and also has helped compensate for government agencies becoming less active in conducting external audits. In terms of financial performance, CBO funds were assessed against their planned activities and expenses including lease payments where appropriate, and whether they have any debt (which may have built up over several years). While the open *beel* and river CBOs appear to have done well on average over this period, possibly associated with improvements in resource management, closed *beel* CBOs have diverged – more have some surplus but more are also in debt.

The closed *beel* CBOs differ from the others in having a high annual turnover and several borrow substantial working capital to cover the costs of leases and stocking fingerlings. Hence their financial management focuses on plans for the waterbody/group activities, whereas more of the other CBOs operate individual saving or loan schemes. More CBOs operating savings schemes have adopted individual pass books for members. More significantly after hearing from other CBOs about their revolving funds operated to make small loans to members or other poor people, a number of CBOs added this activity. This mainly targets poor CBO members and is an important service to encourage small individual enterprises and to help overcome gaps in household income flows such as closed seasons.

The following box highlights how seeing the performance of other CBOs has encouraged adoption of better governance and resource management actions.

CBO peer influence for good governance

Borobila is a large open *beel* managed by a CBO since 2001, but its sanctuary was abused by some leaders and was abandoned. When this CBO joined the adaptive learning network in 2007 there were severe conflicts between the members over resource use, only one member of the executive body was a poor fisher and they were unable to implement their management plan.

But by late 2009 15 out of 19 executive members are poor traditional fishers. They established a large sanctuary in 2008 which has successfully increased fish catches and incomes. The representatives of all 237 members got agreement of the members on a system of gear fees to generate funds for development of the waterbody and to pay the lease to the *beel*. Earlier breaking rules was very frequent (21 cases in 2007) and this decreased to only five cases in 2009, and the CBO enforced penalties for the rule breakers.

All of these changes involved actions that the CBO had on paper tried before, but had been failing in. The difference has been knowing that other CBOs are succeeding in this and how, and improving trust between the general fishers and the CBO leaders. The executive members changed within two years in keeping with the CBO's constitution, but this was very rare before. Previously a few influential people were holding the same positions for years, but they lost in elections. When asked why this change has happened the chairperson of the CBO, Mr. Arzun, said "we were ashamed of our own management and discussed the issues frequently with all members and we cited examples from other CBOs. The members decided that the changes were needed for their sustainability, conservation of the waterbody and good governance".

Overall CBO performance

The full set of indicators used in the CBO assessments were combined into thematic scores. Which have been used to track changes within individual CBOs and within regions and environments, to rank the performance of CBOs, and to quantify performance at the organisation-institutional level.

Fig. 3 summarises the number of CBOs that showed an improvement or worsening of their scores between 2007 and 2009, combining all participating CBOs. Several factors, of which the adaptive learning network process is only one, affect CBO performance, but it is notable that over two-thirds improved their resource management and became more pro-poor. The changes in the linkages theme reflect some changes in the component indicators but are mainly because the CBOs received less help from government bodies in 2009. This can be explained by conflicts being reduced and CBOs feeling less need for Union Parishad's, for example, to support them.

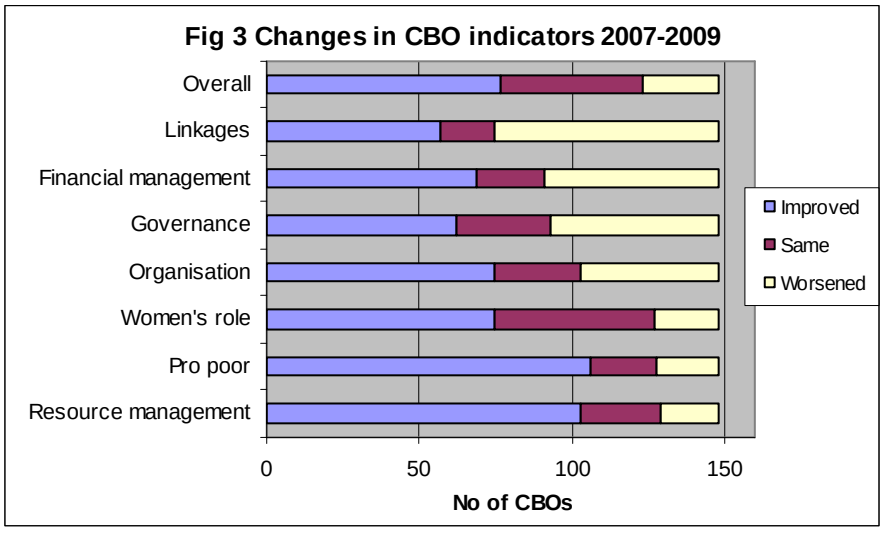
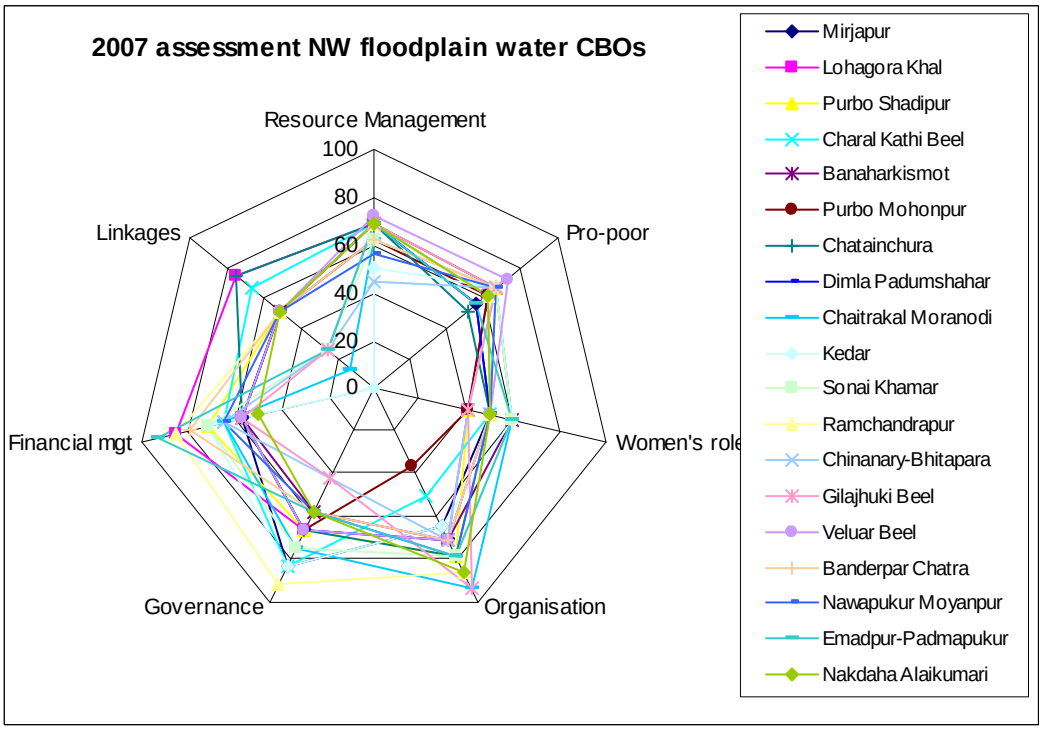
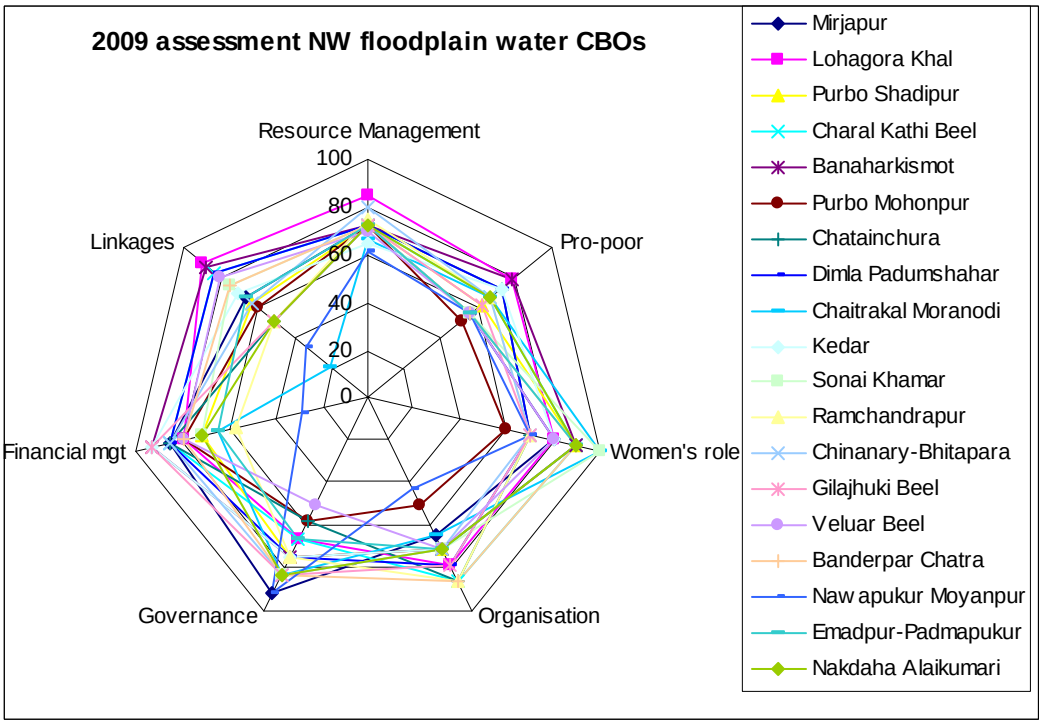


Fig. 4 illustrates just for 19 CBOs in the north-west region that all were originally formed by the Small Scale Water Resources Sector Project, the spread of performances and how their performance changed as measured by scores derived from the assessments at the start and after two and a half years of the adaptive learning process. Already before they joined in the adaptive learning network the majority performed reasonably well in areas such as resource management, organisation, governance and financial management, but were relatively weak in their involvement of women and linkages with other bodies. By the project end almost all had strengthened their performance, or at least not become worse, in all areas, with notable improvements in women's participation and linkages (although there remains a considerable spread in how well they have made links).

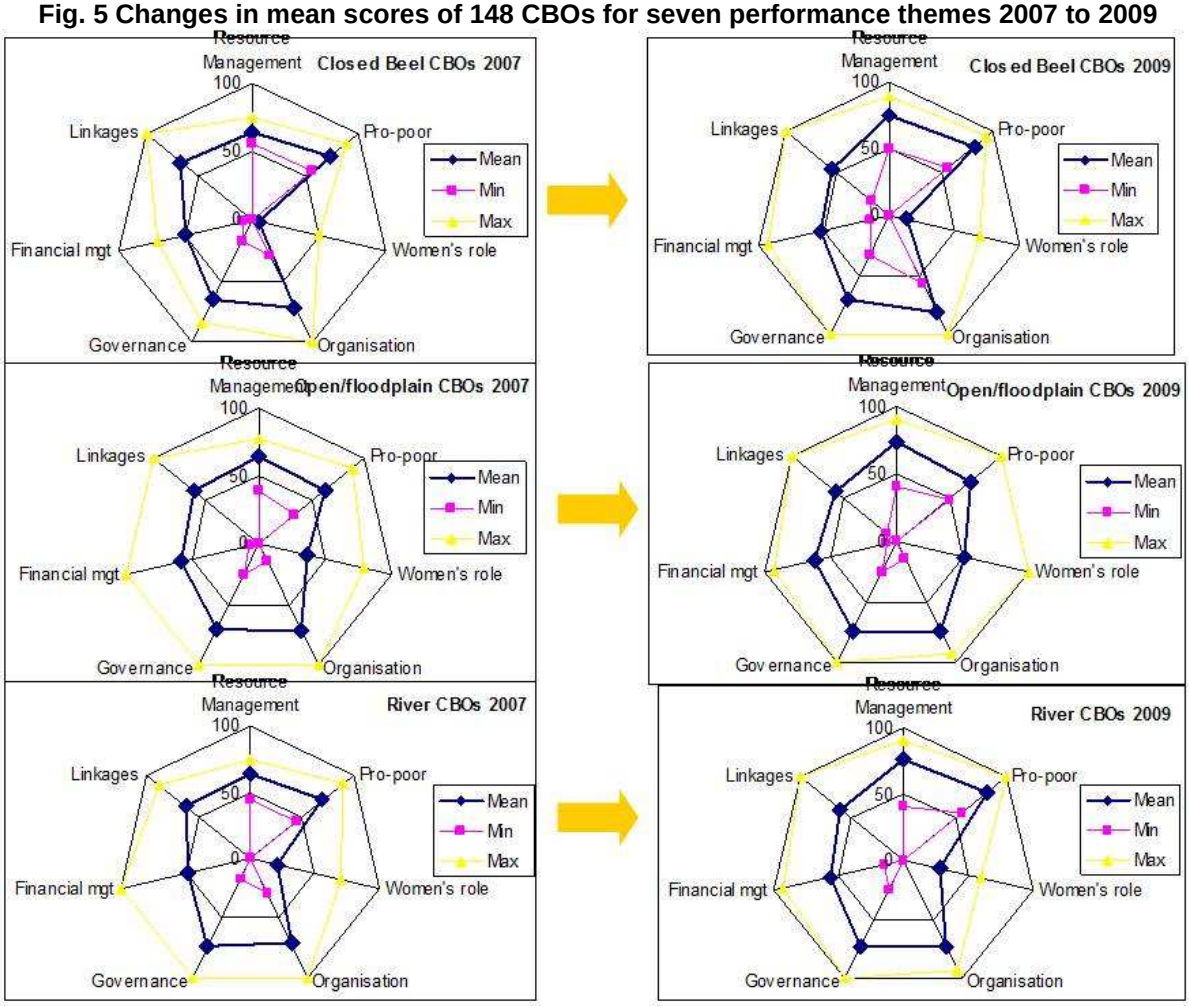
Fig. 4 Example of changes in individual CBO performance from assessments





These scores have been summarised in Fig. 5 to show the mean scores and ranges for each environment (of course no individual CBO achieves either all the highest or all the lowest ratings). The river CBOs strengthened their resource management, but in other indicator themes still show a wide spread in their capacity and performance. The closed *beel* CBOs considerably strengthened resource management and their organisations, but they found less need to link with outside agencies in 2009 and were more able to resolve issues by themselves.

Fig. 5 Changes in mean scores of 148 CBOs for seven performance themes 2007 to 2009



These changes are also tested for statistical significance (see Table 8) - comparing environments and also regions. This confirms significant improvements in resource management and participation of the poor in CBOs from all three environments. The role of women was significantly strengthened in open *beel*/floodplain and river CBOs but not in closed *beels* (where a normal condition of membership is sharing in costs and the work of team fishing – they are essentially professional fisher-only organisations). Interestingly women's role did not increase significantly in the centre-east region where there are no closed *beels*, indicating that the gains were concentrated among open *beel* and river environments in the other regions.

Table 8 Changes in mean performance of CBOs by theme (% of maximum score)
a) by environment

Theme	Closed Beel (26 CBOs)			Open Beel (86 CBOs)			River (36 CBOs)		
	2007	2009		2007	2009		2007	2009	
Resource Management	64.6	75.3	*	64.7	73.1	*	64.1	75.7	*
Pro-poor	74.1	82.7	*	63.2	69.9	*	69.4	80.7	*
Women's role	5.0	12.7		37.0	50.8	*	20.0	28.1	*
Organisation	72.0	80.8	*	72.3	73.3		71.4	72.4	
Governance	64.4	69.9		70.0	73.3		73.8	72.2	
Financial	50.5	52.5		57.9	61.1		47.6	56.2	*
Linkages	49.0	40.8		52.5	46.4		56.3	53.1	
Overall	54.3	59.2	*	59.6	64.0	*	57.5	62.6	*

b) by region

	Centre-east			North-west			South-west		
	2007	2009		2007	2009		2007	2009	
Resource Management	68.8	81.9	*	62.7	73.2	*	63.3	69.5	*
Pro-poor	66.8	79.9	*	67.4	74.0	*	65.8	71.8	*
Womens role	35.3	36.5		23.5	43.1	*	25.0	35.9	*
Organisation	80.2	77.9		76.8	77.6		61.7	69.0	*
Governance	71.7	69.4		64.4	73.6	*	73.8	73.5	
Financial	60.2	59.6		53.4	68.5	*	50.4	48.1	
Linkages	74.4	59.3	*	46.6	55.2	*	43.1	30.7	*
Overall	65.3	66.3		56.4	66.5	*	54.7	56.9	

* - significant difference $p<0.05$ in paired t-test

CONCLUSIONS AND IMPLICATIONS

Conclusions

Rather than declining in performance after mainstream project support had ended, the modest support and peer encouragement and learning provided through the adaptive learning network has been associated with a majority of CBOs strengthening their practices. This is particularly the case in resource management and in empowering the poor within CBOs and/or an improved recognition by CBOs of the needs of the poor in their activities and membership. To some extent CBOs have also developed a stronger role for women.

However, some CBOs have not strengthened their performance. This depends on the interest of their leaders, or membership and in some cases their remit limited their scope to adopt good practices (for example CBOs composed of male fishers who share equally in stocking and harvesting closed *beels* have little scope to involve women or men from other households as that would reduce their benefits and negate the needs for effective fishery management of limiting access to the fishery).

Some good practices have been reinforced and spread among more CBOs, but without peer pressure through the adaptive learning network these CBOs would at best have continued as before. These changes include:

- revising management plans annually,
- holding annual general meetings,
- electing office bearers,
- internal audits, and
- savings and revolving funds.

Implications

The evidence from this large number of CBOs indicates that in general community based management established by creating CBOs and associated institutional arrangements (resource management rules, etc.) is sustainable. The CBOs are sustaining and improving not just themselves as organisations, but also can be seen to have taken more effective actions so that their wetland and floodplain natural resources are healthier and more productive based on learning between CBOs and with minimal outside support. Sustainability is also demonstrated by cases where the CBOs have worked together to overcome either internal conflicts within a member CBO or external threats to one or more CBOs (particularly regarding access to waterbodies). However, the larger threat or concern for the CBOs is whether the government will ensure that CBOs have continued rights to the waterbodies they manage. These CBOs operate and hold use rights to fisheries common pool resources within a framework that is set by the government, but where the controlling decisions are by the Ministry of Land which has no obvious interest in resource sustainability or enhancing user (fisher) benefits unlike the Department of Fisheries and CBOs.

Hence in terms of external environment a modest level of external support to facilitate networking and learning between CBOs has been shown to enhance their sustainability, governance and participation. But there is a gap between extensive experience at the local level and policy: in Bangladesh central government is yet to recognise and enable long term community management rights and decision making in waterbodies and floodplains. The over 150 CBOs confirm the effectiveness and preference for simple local rules such as fish sanctuaries backed by social sanctions and linked with traditional institutions of village courts. But in other regards the CBOs are diverse yet were found to be effective not only in smaller closed beels with well defined CBO membership but also in larger wetlands - rivers and floodplains – used by many diverse stakeholders who try to manage in a more integrated way diverse natural resources including fish that move into connected waters. The leadership capacity and attitudes of CBOs are less easily quantified, but our qualitative evidence and the opinions of the CBO members themselves indicate the importance of “good” leaders and the positive effect in many cases of peer pressure among a network of CBOs.

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