

## Liquid assets: community-based fisheries management in Bangladesh

### Key fact:

The community-based fisheries management (CBFM) initiative has developed a series of management approaches for ensuring equitable access to fisheries resources for community-based organisations (CBOs), which has resulted in over 60 per cent of fishers in project areas experiencing significant increases in their fishing incomes.

### Summary:

The aim of the CBFM initiative was to provide research-based approaches so that sustainable management of inland fisheries could be handed over to CBOs. Fish sanctuaries have been established in over 80 waterbodies with the result that production of fish has risen, the income of CBFM fishers has increased, and biodiversity has improved. CBFM-type approaches have been included in the Government of Bangladesh's new Inland Capture Fisheries Strategy and fisheries aspects of the Poverty Reduction Strategy Paper (PRSP). At regional and global levels it represents a substantive body of evidence demonstrating that co- and community-managed approaches can result in more productive and sustainable fisheries, at the same time as safeguarding the livelihoods of poor fishing households.



Fishing in Sunamganj district, Bangladesh (WorldFish)

Pilot projects began in the mid-1980s, but to scale up benefits, the approach of major institutions in charge of managing inland water fisheries needed to change. The overall goal of CBFM projects has therefore been to improve inland fisheries management policy and stimulate more sustainable, equitable and participatory management of resources.

### Facts & figures<sup>1</sup>

- ❖ 164 fish sanctuaries have been established in 81 waterbodies under the CBFM approach.
- ❖ The project involved 14,000 CBO group members and a further 9,000 direct beneficiaries.
- ❖ As a result of CBFM, annual fish production per hectare per year increased on average by 22%, 29%, 12% and 22% for closed *beel* (lake or depression), floodplain, open *beel*, and river habitat, irrespective of production in control sites which did not show significant increases.
- ❖ Through CBFM-2, total production gains of 1,230 tonnes per year were achieved (worth US\$0.9 million).
- ❖ CBFM fishers were able to increase their earnings from fishing by an average of 21% compared to 15% for fishers in control areas.
- ❖ Fishers' incomes from fishing in floodplains and rivers increased by 104% and 60%, respectively, whereas fishers' incomes in open *beels* only rose by 9% and fishers in closed *beels* had fishing incomes fall, largely due to excessive operating costs (lease fees, stocking costs).
- ❖ Extrapolated on a project-wide basis: over 2,000 fishers in floodplains and almost 16,000 fishers in rivers, or 65% of fishers in project areas (two-thirds of whom are classified as poor), have experienced significant increases in their fishing incomes.
- ❖ Poor households in CBFM-2 areas improved their standard of housing (17% decrease in bamboo walls) and improved sanitation (32% increase in number of houses with toilets).
- ❖ Fish consumption was significantly higher ( $P < 0.05$ ) in CBFM sites compared to control sites.

## Liquid assets: community-based fisheries management in Bangladesh

Fish from Bangladesh's vast inland waters are vital to millions of poor people, but catches and species diversity have been declining due to problems such as habitat degradation (siltation and conversion to agriculture), increased fishing pressure, destructive fishing methods and acute shortages of dry season wetland habitat. The situation has been exacerbated by fisheries policies for 12,000 government-owned waterbodies (*jalmohals*) being based on short-term, revenue orientated, leasing. This excludes the poorest fishers and encourages leaseholders to over-exploit the fisheries.



The community-based fisheries management (CBFM) initiative has developed a series of fisheries management approaches for ensuring equitable access to fisheries resources for community-based organisations (CBOs). So far, a total of 164 fish sanctuaries have been established in over 80 waterbodies under the CBFM approach. The project involved 14,000 CBO group members and a further 9,000 direct beneficiaries. When interviewed in 2007 as part of an impact study, the majority of CBOs (74 per cent) reported increases in fish production, despite an increase (30 per cent) in the number of fishers accessing the water body. Fish catch monitoring has shown increased fish abundance and diversity. One hundred and twenty three CBOs were still active and practising CBFM, indicating the potential longevity of the intervention.

The CBFM project is unique because of the length of time over which community-managed fisheries approaches have been implemented (11 years), the depth to which they have been studied and the number and diversity of sites in which approaches were tested. CBFM type approaches have been included in the Government of Bangladesh's new Inland Capture Fisheries Strategy. At the regional and global levels it represents a substantive body of evidence demonstrating that co-managed and community managed approaches can result in more productive and sustainable fisheries, at the same time as safeguarding the livelihoods of poor fishing households.



Led by the WorldFish Center, and supported by DFID, the project has involved a number of Bangladeshi partners including the Department of Fisheries and a number of NGOs. With assistance from these partners,

130 CBOs, comprising mainly poor fisherfolk, were created to manage the waterbodies. During the second phase of the project (CBFM-2), particular attention was paid to the conditions needed to ensure that the CBOs would be sustainable and the management of inland aquatic resources efficient and equitable.

As a result of the initiative, securing fisheries access for poor fishers has improved the nutrition and health for their family, their social status and education. Poor households have improved their standard of housing and sanitation, with an increase in the number of houses with toilets. Spending on health, savings, land and festivals was also noted to have increased, whilst fish consumption was significantly higher in CBFM sites, compared to sites where the approach was not implemented. Awareness has also improved. Overall, CBFM approaches in Bangladesh improved fishers' access to open water fisheries, and enabled poor fishers to catch diverse small fish for their consumption. Bi-monthly household fish consumption was significantly higher at CBFM sites compared to control sites.

Whilst it is difficult for cultural reasons to involve Bangladeshi women in open-water fisheries activities, using female-managed CBOs in Narail and Jessore demonstrated that it was possible for women to manage and operate floodplain fisheries just as well as male-managed groups. Training and information dissemination activities have contributed towards increased awareness and understanding of community people, including women, about the importance of biodiversity and fish conservation.

This project has had an impact on national and regional fisheries policy. For example, there is explicit mention of CBFM as the preferred management approach in the *Fisheries Sub-Sector PRSP Road Map* of 2006 (Planning Commission, 2005) and the *2007 Inland Capture Fisheries Strategy* (DoF, 2007). Further, the impact study demonstrated changes in opinion and awareness of CBFM amongst policymakers from government institutions and others working in community-based management or inland fisheries management. All 26 experts interviewed had a clear idea of the basic concepts of CBFM and a positive opinion of this approach, considering it a way forward for inland fisheries management in Bangladesh. They recognised that the approach works, and that they had seen this through field visits and in the documentation of the project. The majority felt that more participation and involvement of resource users (i.e., the smallscale fishers) in resource management is important and desirable. This is an important policy shift, especially among government bodies.



Although it is still too early to tell whether this will result in a larger-scale change in the management of inland waterbodies in Bangladesh, the Government *Jalmahal* (water body) Management Policy 2009 was finalised by the Cabinet in June 2009 and was published by the Gazette, a national newspaper, the following month. The main objective is to enhance production through conservation of fisheries resources and biodiversity, and give priority to fisherfolk for the leasing of waterbodies. The World Bank is also currently finalising plans to invest in substantial scaling up of co-managed community approaches for more effective and sustainable aquatic resource management essential to the livelihoods of millions of poor rural people in Bangladesh.

### Testimonial:

- **Kabita Biswas, 50, leader of Bakuli's community-based organisation:** Kabita was awarded the prestigious National Fish Fortnight Trophy 2005 for her exemplary leadership in managing and protecting her community's fishing resources. Born into a traditional Hindu family, she attended school until the ninth grade but was just 14 when she married Nipen Biswas, a fisher and a farmer. Life was not easy and her family mostly survived on the daily fish catch which her husband caught in Maliate beel (CBFM water body in Narail district). With support from a local NGO called Banchte Shekha (CBFM project partner, NGO), which offered training to teach women new skills in poultry rearing and homestead gardening so that they could improve their family income, Kabita has managed to improve her situation. As a result of her hard work, including repairing of fishing gears, carrying brush piles for the establishment of fish sanctuaries, and keeping watch on the *beels* to protect them from poaching in waterbodies, she now has a spacious painted five-room home complete with concrete roof, concrete toilet and well constructed tube-well.

## Additional case study information

### Cost and benefits:<sup>2</sup>

Applying average cash value gain from 116 government-owned and privately-owned CBFM waterbodies including *beels*, rivers and floodplains, it was calculated that the annual net additional income for each fisher (based on average value US\$1.2 per kg fish in 2009) was US\$112 and US\$9.0 for other beneficiaries, adding up to a real annual impact of US\$3.98 million for CBFM beneficiaries alone.

### DFID contribution to research:

- While DFID did not support phase one of the CBFM project, over US\$5 million was provided by DFID to support the second phase of the project (CBFM-2).
- DFID-attributed funding over the years was extremely important in supporting the development and uptake of CBFM approaches.
- The DFID Research into Use Programme (RIU) provides supports to WorldFish in Bangladesh (2008-11).
- DFID provides ongoing core-funding to WorldFish.

### Research milestones:

- Mid-1980s Work on improved management of openwater fisheries starts under the government's New Fisheries Management Policy (NFMP).
- 1987-94 WorldFish coordinates two projects in collaboration with the DoF, Bangladesh Center for Advanced Studies and various NGOs.
- 1995-99 First phase of CBFM project is conducted at 19 sites focusing on the development of pilot CBFM approaches and replicable institutional arrangements.
- 2001-07 Second phase of CBFM project.
- Since 2007 the CBFM approaches in Bangladesh have broad impacts on inland water fisheries management. Key conditions affecting the successful implementation of co-management inland fisheries in Bangladesh become better understood.
- 2010 The World Bank is finalizing plans to invest in substantial scaling up of co-managed community approaches for more effective and sustainable aquatic resource management.

### Photo credits:

WorldFish Center: For high res images contact Mohammed Golam Mustafa ([G.Mustafa@cgiar.org](mailto:G.Mustafa@cgiar.org)) or Susanna Thorp ([s.thorp@wrenmedia.co.uk](mailto:s.thorp@wrenmedia.co.uk))

### Links:

WorldFish Center: [www.worldfishcenter.org](http://www.worldfishcenter.org)

### Main references:

Halls, A. S., and M. G. Mustafa, (2006) *Final Assessment of the Impact of the CBFM Project on Community-Managed Fisheries in Bangladesh*. Report to the WorldFish Center, Bangladesh, September 2006, 83pp

Pemsl, D. E., Seidel-Lass, J.L. White, and M.M. Ahmed, (2008) Community-based fisheries management project in Bangladesh, In CGIAR Science Council, *Impact Assessment of Policy-Oriented Research in the CGIAR: Evidence and Insights from Case Studies*, A study commissioned by the Science Council Standing Panel on Impact Assessment. CGIAR Science Council Secretariat: Rome, Italy.

<http://impact.cgiar.org>

### Other key references:

Dickson, M. and A. Brooks (eds.) (2007) *CBFM-2 International Conference on Community Based Approaches to Fisheries Management*, Conference Proceedings 75, The WorldFish Center Conference Proceedings 75

Gazi Nurul, I., and J. Barr, (Edited by D. Malcolm) (2006) *Livelihoods Impact*, Policy Brief 3, the WorldFish Center, Bangladesh and South Asia Office

Mustafa, M. G., and A.H. Halls, (Edited by D. Malcolm, and A. Brooks) (2006) *Fisheries Yields and Sustainability*, Policy Brief 2, the WorldFish Center, Bangladesh and South Asia Office

Malcolm, D., and A. Muzaffar, (2006) *Capturing the Benefits*, Policy Brief 1, The WorldFish Center, Bangladesh and South Asia Office

RuhAfza, R., T. Vickers, and U. Kanagaratnam, (2006) *Fishing for a Future, Women in Community-based fisheries management*, Booklet 2. The WorldFish Center, Bangladesh and South Asia Office

Note: all CBFM published papers available at:

<http://www.worldfishcenter.org/wfcms/HQ/article.aspx?ID=118>

### Contact for further information:

#### The WorldFish Center

South Asia Office

House 22B, Road 7

Block F, Banani

Dhaka 1213

Bangladesh

Tel : +880 (2) 881 3250, 881 4624

Fax : +880 (2) 881 1151

E-mail: [worldfish-bangladesh@cgiar.org](mailto:worldfish-bangladesh@cgiar.org)

---

<sup>1</sup> Facts and figures sourced from: Pemsil, D. E., Seidel-Lass, J.L. White, and M.M. Ahmed, (2008) Community-based fisheries management project in Bangladesh, In CGIAR Science Council, *Impact Assessment of Policy-Oriented Research in the CGIAR: Evidence and Insights from Case Studies*, A study commissioned by the Science Council Standing Panel on Impact Assessment. CGIAR Science Council Secretariat: Rome, Italy

<sup>2</sup> Islam, N. M. and Dickson, (2006) *Livelihoods Impact of the CBFM-2 Project*, WorldFish Center, Bangladesh Office, Working Paper 2006/02



DFID, the Department of International Development, is the part of the UK government that manages Britain's aid to poor countries and works to get rid of extreme poverty.



This case study has been commissioned by DFID and produced by WRENmedia, as part of a series demonstrating the impact of DFID's funding to agricultural research. The views expressed do not necessarily reflect the Department's official policies.

© Crown copyright 2010

Copyright in the typographical arrangement and design rests with the Crown. The materials contained within this case study (excluding the logos and photos) may be reproduced free of charge in any format provided that it is reproduced accurately and not used in a misleading context. The material must be acknowledged as Crown copyright with the title and source of the publication specified.