

Building on an earlier exploratory study, in 2007–2008 the CGIAR's Standing Panel on Impact Assessment (SPIA) undertook an initiative in collaboration with seven CGIAR centers to augment the evidence of policy-oriented research (POR) impacts within the CGIAR system, and to further the development of methodologies in this challenging area of impact assessment. Seven case studies were commissioned. This impact brief describes the major results that emerged from the WorldFish Center. The summary version of the full case study report can be found in: Pemsil, D.E., Seidel-Lass, L., White, J.L., and Ahmed, M.M. 2008. Community-based fisheries management project in Bangladesh. In: CGIAR Science Council. 2008. *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. (Available at <http://impact.cgiar.org/>)



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WorldFish

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 (through 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 policy affecting some 12,000 government-owned water bodies – a policy based on short-term, revenue-orientated leasing to the highest bidder. This institutional arrangement excludes poor fishers, while at the same time encouraging leaseholders to over-exploit the fisheries.

In the light of these challenges, research on alternative management approaches for the inland fisheries resources of Bangladesh was initiated. One approach is community-based management, whereby control of the fishery resource is handed to local community groups for an extended period. Pilot projects that implemented this approach in a small number of water bodies started in Bangladesh in the mid-1980s and were subsequently scaled up. However, in order for such an approach to be successful, a dramatic change was needed in the attitudes, and operations of the institutions that manage inland water fisheries resources.

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Research on community-based fisheries management

A number of research projects on community-based fisheries management (CBFM) in Bangladesh have been coordinated and led by the WorldFish Center. The overall goal of these projects was to: "improve inland fisheries management policy and policy processes adopted by the Government of Bangladesh (GoB) and non-governmental organizations (NGOs), resulting in more sustainable, equitable and participatory management of resources". Research was implemented in collaboration with national partners, including the Department of Fisheries (DoF) and a number of NGOs, through the course of several projects between 1987 and 2007. The DoF, as the relevant technical department under the Ministry of Fisheries and Livestock (MoFL), was the government implementation partner in practice, while the MoFL was responsible for approving the initial project activities.

Work on improved management of openwater fisheries started in the mid-1980s under the government's New Fisheries Management Policy (NFMP). Between 1987 and 1994, WorldFish coordinated two projects in collaboration with the DoF, Bangladesh Center for Advanced Studies and various NGOs. Based on lessons learned from these two projects, two successive phases of CBFM projects were implemented in which the ownership of project water bodies was formally handed over from the Ministry of Land (MoL) to the MoFL. The first phase (CBFM-1, 1995–1999) was carried out at 19 sites, and focused on the development of prototype CBFM approaches and institutional arrangements that could be replicated. A range of fisheries management models was tested and diverse institutional approaches were explored, such as the management of watersheds by community-based organizations (CBOs) and the provision of support to women to manage their own fisheries CBOs. However, questions remained about the sustainability of CBOs, and their ability to coordinate activities across extensive floodplains.

In the second phase (CBFM-2, 2001–2007), these concepts and arrangements were further tested and extended to a larger number of water bodies (116 sites in 22 districts). One hundred and thirty CBOs, mainly comprising poor fishers, were created to manage the water bodies, assisted by the DoF and partner NGOs. Project beneficiaries received training in fisheries management, alternative income-generating activities, and compliance with fisheries law. Improved management practices such as the establishment of fish sanctuaries, closed seasons, and bans on harmful fishing gear were implemented. During CBFM-2 particular attention was paid to the conditions that need to be met to ensure that CBOs are sustainable and that inland aquatic resources management is efficient and equitable. Furthermore, a process for integrating CBFM approaches into official policies was initiated and promoted.

This brief summarizes research¹ undertaken to analyze the extent to which changes in awareness and opinion among key agencies and policy-makers, and the content of new policy documents, can be attributed to the WorldFish-led CBFM projects.

Expected impact pathways

The impact pathway (see Figure 1) shows the hypothetical information channels for the policy influence of the CBFM project. This was expected to be mani-

festated at three different levels: national, intermediate, and local. At a national level, key stakeholders were the DoF, various ministries (including MoFL), and other government bodies, such as the Planning Commission (PC). Project influence was exerted mainly via policy briefs and reports, workshops and conferences, field visits by government officials to the project sites, and study tours to related projects abroad.

Key stakeholders at the intermediate level were government institutions up to district level and various NGOs. The major elements comprising the pathway of influence at this level were the training of technical staff, study tours to related projects abroad, day-to-day interaction with the project during its implementation, and training and advocacy materials.

At a local level, communities were the key stakeholders, and especially those households or individuals involved in fishing. Influence was exercised via CBOs participating in the project, through the training of fishers, folk theatre performances, and TV and radio broadcasts. The major purpose of these interventions was to increase awareness of project activities and foster understanding of fisheries management approaches being implemented by the CBOs.

Project-level impacts

A survey of CBOs working with the project was conducted in 2007, half a year after the CBFM-2 project had ended, in order to assess project-level impact. Of the 129 CBOs interviewed, some 123 were still active and practicing CBFM beyond the duration of the project – a very encouraging result. Furthermore, most CBOs were hopeful that they could continue to practice CBFM beyond the current lease period of the water body. The majority of CBOs (74 percent) also reported an increase in fish production, despite an increase of some 30 percent in the number of fishers accessing the water body. Rule breaking, both by CBO members and other community members, was reportedly low and did not increase after the project ended.

Unfortunately, a data set on some 2,800 households from 44 water bodies that had been collected under CBFM-2 could not be used to further assess project impact. It was not considered suitable for eliciting project-level benefits for two main reasons: firstly, because the control group was small and was not directly comparable to households at project sites, and, secondly, because the impact of changes in fisheries management could not be aggregated from the

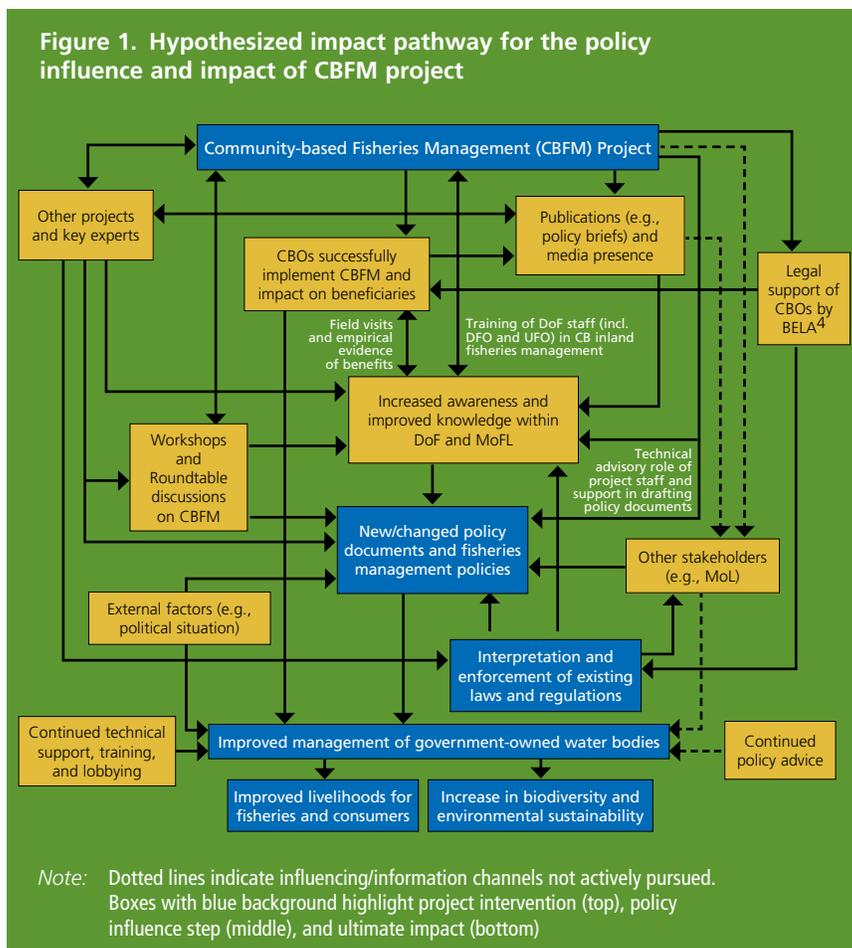
household results to provide meaningful information at the water-body level.

Project policy influence

Given that other institutions and projects are also working in the field of inland fisheries management in Bangladesh, this analysis attempted to identify the influence of the CBFM projects on other major players, especially policy-makers, and vice versa. To analyze how far recent changes in the awareness and opinions of policy-makers and other key agency staff, and in the content of new policy documents, can be attributed to the CBFM project, 26 expert interviews were conducted. The interviewees included staff of relevant government institutions (with decision-making capacity), and individuals involved in project activities or working in the wider area of community-based management or inland fisheries management.

The overwhelming opinion of the experts was that the awareness of inland fisheries management among officials in major decision-making government bodies (DoF, MoFL, and PC) has changed dramatically in the past few years. All the experts interviewed had a clear idea of general CBFM concepts and a positive opinion of this approach. They further stressed that CBFM works, and that they had seen this through field visits and in the documentation of the project. While most acknowledged that a number of players are active in this area in Bangladesh, there was consensus even among representatives of the other major projects on the pioneering role of the WorldFish Center-led projects and the technical knowledge contributed by the WorldFish Center. The majority of experts flagged CBFM as the way forward for inland fisheries management in Bangladesh. This in itself is an important attitudinal change – especially in government bodies.

It was stressed that relevant policy changes are in progress: for example, there is explicit mention of CBFM as the preferred management approach in two recent national strategies². However, major constraints to the spread of CBFM remain. For example, the MoL, which continues to have overall responsibility for the management of government-owned water bodies, still pursues a highest-bid leasing strategy;



MoL was only marginally involved in the project and was not kept well informed of its activities. In addition, the project-driven nature of the recent changes may constrain further influence. A number of experts stated that the future and potential expansion of CBFM depend on the availability of external funds. This is despite the high level of awareness at the DoF, and their efforts to ensure government funds are allocated for implementing CBFM.

Formal and informal information exchange

Capturing the information exchange pathways among key stakeholders is important for understanding the diffusion of the ideas and opinions that lead to policy change. In many cases, important information follows informal pathways or network structures rather than the formal, often hierarchical, structures of organizations or governments. A survey was sent out by e-mail to 32 experts from the PC, MoFL, DoF, partner NGOs, and staff from other related projects, and 21 completed questionnaires were returned. Social network analysis based on graph theory was used to analyze

the communication links among key stakeholders³. As a first step, the analysis concentrated on two questions:

- To whom did the CBFM partners provide information on the project?
- What were the sources of information for actors in the DoF, MoFL, and PC?

Analysis of network graphs also aimed to reveal whether or not an informal network structure evolved that connected participants in CBFM beyond the formal structure of the project, and if so, to identify the most central, and thus most important, actors in the network. Combined with the influence narratives and the formal institutional framework, this survey helped to identify new information network structures and assess the relevance of individual actors in the dissemination of CBFM-related information.

The analysis showed that the DoF receives information from a wide range of actors, including MoFL, NGOs, major projects, and the WorldFish Center. Surprisingly, the DoF respondents stated that “no important information on inland fisheries management is provided by the Bangladesh Fisheries Research Institute (BFRI)”. The BFRI is the national institution in charge of research related to fisheries and aquaculture.

Respondents from within the MoFL, in contrast, did receive information from BFRI. MoFL staff also stated they had received important information from the CBFM project. The PC, as the major decision-maker in the allocation of government funds, received information directly from the major projects (including CBFM), rather than getting it via the MoFL, the ‘official channel’ for this information. Furthermore, PC respondents rated the information obtained from the DoF as “important”, compared to “less important” information received from MoFL.

Analysis of the communications links through which information was provided by CBFM-2 partners to external actors revealed that three participating NGOs⁴ communicated with the largest number of external actors, while the WorldFish Center and the DoF were most crucial in providing information to the major policy players.

The expert survey and the social network analysis identified the central actors in the area of inland fish-

eries management in Bangladesh. The central actors in informal information networks may differ from those that might be expected given the formal, institutional roles of individuals. Analysis of the information sources for the major government institutions responsible for inland fisheries management and for decisions on future policy confirms the central role of the WorldFish-led CBFM project. The WorldFish Center was seen as a crucial ‘honest broker’ between the NGOs and national government institutions. As an outcome of the project, NGO profiles have been raised and there are now direct communication channels between some of the NGOs and government bodies.

The future of CBFM

This impact assessment study has clearly shown the changes in opinion and awareness of CBFM among relevant policy-makers. Thus, the policy-informing and influencing role of the CBFM project has been successful and major policy documents now make explicit mention of the CBFM concept as a viable management approach. It is, however, still too early to assess whether this influence will really result in a larger-scale change in the management of inland water bodies in Bangladesh. It seems that although major changes in attitude have taken place in most of the concerned government bodies, institutional arrangements and financial constraints could still hamper future scaling up of CBFM. It will be crucial to have a national CBFM ‘champion’ to continue pushing for the CBFM approach, irrespective of externally funded projects.

Notes

- 1 This brief summarizes research described in full in: Pemsil, D.E., White, J.L., Ahmed, M. M., Chen, O.L., Kanagaratnam, U., and Seidel-Lass, L. (forthcoming). *Policy-Oriented Research Impact Assessment: Community-Based Fisheries Management Project in Bangladesh*. Technical Report. The WorldFish Center: Penang, Malaysia.
- 2 Planning Commission. 2005. *Unlocking the Potential – National Strategy for Accelerated Poverty Reduction*. General Economics Division, Planning Commission, Government of People’s Republic of Bangladesh: Dhaka, Bangladesh; and Department of Fisheries. 2007. *Inland Capture Fisheries Strategy*. pp. 61–75. In: *National Fisheries Strategy and Action Plan for the Implementation of the National Fisheries Strategy*. Department of Fisheries (DoF), Ministry of Fisheries and Livestock, Government of People’s Republic of Bangladesh: Dhaka, Bangladesh.
- 3 For a detailed introduction to Social Network Analysis see: Wasserman, S. and Faust, K. 1994. *Social Network Analysis: Methods and Applications*. Cambridge University Press: Cambridge, UK.
- 4 CNRS – Center for Natural Resource Studies, CRED – Center for Rural and Environment Development, and BELA – Bangladesh Environmental Lawyer Association.