

The Strategy of Empowering Poor for Wetland Resources Conservation in Bangladesh

Md. Mijanur Rahman and Anwara Begum

Fisheries Program, Caritas Bangladesh, 1/C, 1/A, Pallabi, Miripur-12, Dhaka-1221, Bangladesh
Telephone: +88-02-8017609 (O), E-mail: mijan_nir@yahoo.com

KEYWORDS Wetland Conservation. Community. Institution. Community Based Management

ABSTRACT The Management of Aquatic Ecosystems through Community Husbandry was demonstrated in three wetlands of Bangladesh that facing a wide range of ecological threats, representing the users' communities of the management areas to participate in the process of wetland governance for restoring resources. A long-term study from 1999 to 2008 was conducted with 5,202 households' members forming 250 Resources User Groups to launch livelihood schemes for alternative income and to reduce dependency on wetland resources. The Resources User Groups were united into 13 Federations of Resources User Groups for institutional sustainability that took over all responsibilities for operating savings of their members and revolving funds for livelihood activities and adopting sustainable conservation measures of wetland resources with oversight provided by the co-management committees. The process of developing management capacities made them efficient and knowledgeable to implement all sorts of activities and to overcome problems. Ownership of the savings and the revolving funds developed confidence, self-identity and skills and boosted up economic empowerment. Adoption of livelihood activities created self-employment opportunities of users for alternative means of earnings that reduced dependency on wetlands to let the resources re-establish. Cohesiveness among the members, networking between community institutions and linked up with co-management committees and service providers generated an effective social capital. The resources users were empowered with a collective effort to build institutions and implement sustainable use practices resulting in wetland resilience of the resources.

INTRODUCTION

Wetlands in Bangladesh have the characteristics of four landscape units - floodplains, freshwater marshes, lakes and swamp forests and variously estimated at 7.5 to 7.8 million ha of total areas (Rahman 2005). Bangladesh floodplains are one of the world's most important wetlands, harboring hundreds of species of fish, plants and wildlife (Thompson and Mazumder 2008). It historically makes an important contribution to the livelihoods of rural poor of Bangladesh. Over 70% of households in the floodplains catch fish either for income or food (Minkin et al. 1997). Overall, the fisheries sector in Bangladesh accounts for 3.74% of total GDP, 4.04% of foreign exchange earnings and 58% of animal protein intake (DoF 2009).

Unfortunately, anthropological activities and environmental disturbances are responsible for degradation of resources, which have in turn

adversely impacted the on the economic and nutritional status of the poor including fishers. Adoptions of new agriculture technologies, construction of flood embankments and road networks have altered the ecology of floodplains significantly (Khan 1993). In the past institutional arrangements for improving fisheries management and for resource users' participation received very limited attention. The government's focus was to collect revenue from fisheries rather than sustainable management. Since early 1990s, situation has gradually changed, at least on a pilot scale. Initiatives have started to empower fishing communities and enable them to take management decisions themselves for sustainable use of the fisheries. A series of initiatives from Government of Bangladesh (GoB) and Non-Government Organizations (NGOs) has tested community based fisheries management approaches in different types of water bodies and a number of lessons have been learned, which has been thoroughly reviewed in various workshops and associated publications (Middendrop et al. 1999; Dickson and Brooks 2007).

The Management of Aquatic Ecosystems through Community Husbandry (MACH) project was formulated to develop new approach to

Address for Correspondence:

Md. Mijanur Rahman
Fisheries Program, Caritas Bangladesh
1/C, 1/A, Pallabi, Mirpur-12, Dhaka-1221, Bangladesh.
Telephone: +88-02-8017609 (O), +8801711400275
E-mail: mijan_nir@yahoo.com

floodplains and wetlands resources conservation and management with the aim of ensuring sustainable productivity of all wetland resources - water, fish, plants and wildlife - over an entire wetland ecosystems, not just a single water body and thereby to help ensure food security and increase biodiversity. The project was supported by the GoB and United States Agency for International Development (USAID) from October 1998 to June 2008 and implemented by four partner organizations, working closely with the Department of Fisheries (DoF) and Ministry of Fisheries and Livestock (MoFL) of the GoB. The MACH project was a process project that had developed overtime a co-management to revive wetland productivity and biodiversity by sitting limits on fishing, creating wetland sanctuaries, and restoring habitats by excavating deeper areas of wetlands as fish refuges and planting swamp and riparian trees. Co-management has been promoted in the belief that a shift from top-down management to sharing decisions and responsibility between resource users and government would improve the quality of decisions and local compliance with management plans. Therefore, the intention of co-management is to empower fishers both as an end in itself and in the expectation of better management (Viswanathan et al. 2003). Community-based management expects to improve fishers access, livelihoods and the sustainability of fishers (Sultana and Thompson 2007).

The first step in developing wetland management was intensive community consultations to identify local wetland threats and develop a consensus on solutions in the form of participatory action plans. The second step was to establish the institutional framework for communities and local government to co-manage the wetlands on their door ships. Three types of institutions were created at village, wetland and local government levels, as well as one union level federation. Resources User Groups (RUG) were formed for livelihood diversifications of users to overcome their hardship because of fishing restrictions to regenerate wetlands and to reduce pressure on fisheries by helping the poor to gain access to new and more profitable livelihoods. Federations of Resources User Groups (FRUG) were formed for ensuring institutional sustainability of the individual groups (RUGs) toward resources management and alternative livelihood activities. The Resources Management

Organizations (RMOs) were established to protect and sustain wetland resources. About 60% of the total members belong to RMOs came from RUGs and represent the interests of their respective RUG when they attended the RMO. Upazila Fisheries Committee (UFC) comprised of local administrators, elected local councilors and community representative from RMOs and FRUGs was formed to coordinate wetland management activities within their boundaries. This paper focuses on how the poor community mobilizes their resources to develop alternative livelihoods and to changes in living style by improved fisheries resources management.

MATERIALS AND METHODS

Study Sites

The three major wetlands representative of the wetland ecotypes of Bangladesh that facing a wide range of development pressures and ecological threats were selected as study sites. Hail Haor in Moulvibazar district in northwest Bangladesh is a wetland region fed by 59 hill streams and renowned for its fish and birdlife but threatened by siltation and soil erosion caused by farming practices in surrounding hills. Lower Turag-Bongshi river basin in Gazipur and Tangail districts faces encroachment by agriculture, irrigation works and industrial pollution. Upper Kangsha-Malijhee river basin in Sherpur district in north central Bangladesh is prone to flash floods worsened by deforestation of surrounding hills.

Resources User Group Formation and Capacity Building

Resources user Groups (RUG) were membership bodies limited to poor people who depend on wetland resources for food or income. Before group formation, awareness raising and motivational sessions were employed to increase stakeholders understanding on the importance of wetland resources management. The participatory rural appraisal (PRA) was used to identify actual wetland resources users and livelihoods of the local communities. Regular visits to the communities were also paid. All stakeholders were brought into the process, including local councilors, small businessmen, landowners, teachers, poor fishers and the landless. Once

identified, Resources User Groups (RUG) were formed considering certain criteria such as the extent of dependency on wetland resources, economic condition, education and occupation for ensuring the active participation of poor households in wetland resources management process. Each RUG comprised of 15-30 men or women and elected a chairperson, a general secretary and a cashier. RUGs were formed at the beginning and thereafter groups and membership increased modestly to fill in gaps in coverage, with the emphasis moving to capacity building to ensure sustainability of the group system. Membership was based on making regular personal savings for building their own capital in weekly group meetings according to the rate fixed based on their individual capacity. They were mobilized in the RUG to perform the group activities (Fig.1) and to involve in resources conservation. They were provided training with issue-based awareness rising sessions on wetland resources, nutrition, adult education, primary health care and sanitation. In addition, basic trainings on group development, leadership, social issues, and self-finance were provided looking at the aptitude and analyzing the need of the recipient.

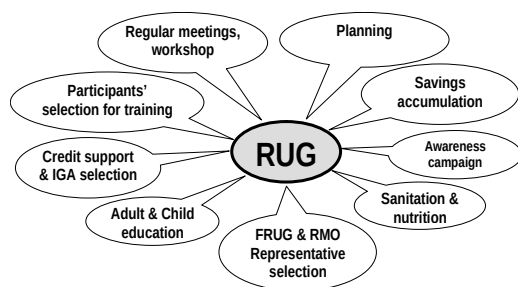


Fig. 1. Activities of RUG

Alternative Livelihoods and Micro-credit

The resources users had to limit fishing and use of resources for adopting wetland conservation measures that included fishing closure period, banning harmful fishing practices and establishing sanctuaries where fishing was banned round the year. Therefore, alternative income generation schemes were introduced in addition to their principal occupation to improve livelihoods and to conserve wetland resources

reducing dependency on wetlands. They were provided access to micro-credit and revolving loan finds (RLF) to start alternative livelihood activities. Credit activities were operated according to the approved guidelines. They were trained in skills on alternative livelihood activities and credit that they could apply when they used the loans to establish income generation schemes. Profit-oriented, locally available and demandable activities were offered to support the livelihoods.

Institution Building

The Resources User Groups were united into Federation of Resources User Groups (FRUG) like community-based organizations to become self-reliant and self-sustaining. These organizations were registered membership-based social welfare organizations under the Social Welfare Department of Bangladesh and responsible for managing savings of their members and credit with oversight provided by the co-management committee. The individual FRUG was formed comprising of 15 to 30 RUGs. General body (GB) of FRUG was formed by the selected three members from every RUG (Fig. 2). Executive Committee (EC) comprised one of the three RUG members who had a two years term in office. Office bearers of the EC comprised of President, Vice-President, Secretary, Assistant Secretary and Cashier and elected in democratic way. Activities of FRUGs and responsibilities of office bearers were guided by the approved constitution. The office bearers were developed skills on organization management, credit and financial management and planning through different trainings and exposure visits. These organizations were formally linked with local government (both Union Parishads - elected local councils and upazila or

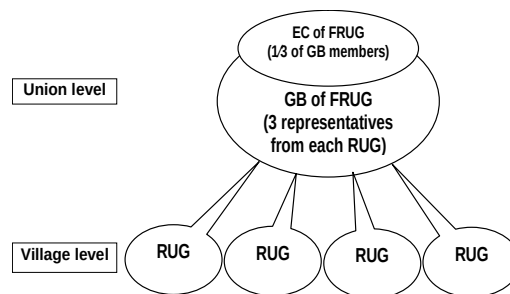


Fig. 2. Structure of FRUG

sub-district administration) through Upazila Fisheries Committees.

Each FRUG was accountable for executing the following activities:

- Hold regular monthly/ yearly meetings to discuss and resolve different issues
- Operate RLF among RUG members for alternative livelihoods
- Ensure loan disbursement and repayment
- Prepare monthly/yearly work plan and budget of FRUGs
- Unite RUGs through communication, coordination, assistance and organizational activities
- Take part in resources management activities in collaboration with RMOs
- Assist to implement fish act and law and take measures in case of rules violation
- Organize different awareness sessions/ workshop on resources conservation measures
- Represent UFC meeting and submit progress report regularly
- Liaison with local government, NGOs and other service providers for getting assistance

RESULTS

The resources users were organized targeting the poor fishing families and other aquatic resources harvesters mostly from the villages close to the wetlands. Two hundred and fifty RUGs were formed comprising of 5,202 households generally those owning under 0.2 ha of land or less, laboring part of the year, having a low education level and making use of the wetlands covered by resources management activities. Of them, around 59% members came from those households who involved in professional or subsistence fishing. Table 1

summarized the status of RUGs at three wetlands. RUG members showed great interest to accumulate savings on weekly basis and deposited more in addition to obligatory savings minimum five taka (one taka =64 US\$). The average savings per member were about 1,671 taka (26.11 US\$).

Awareness raising sessions were included in courtyard and public meetings, rallies and street theater making them responsive on conservation benefits, access rights to resources, decision making and social issues. They were able to understand the potentiality of local resources, their use and management. Almost all members were trained through 506 batches of training courses on group and resource development. These courses covered group management, leadership development, accounts keeping, record keeping and resources management. Group development and resources management trainings were provided immediately after group formation. Based on these trainings they were able to enhance skills, knowledge and cohesion that helped managing group efficiently, resolving misunderstanding which usually occurred among the group members, overcoming anything within the group that affected its activities, and maintaining savings and credit. Primary health care, sanitation and nutrition courses helped improving their quality of life. Incorporating 130 adult literacy courses enabled them to active participation in any events, since literacy was one of the factors in empowering economically disadvantaged wetland users.

Almost 76% of the RUG members received skill trainings on specific trade ranging from poultry, duck and livestock rearing to nursery plantation, mechanics, electricians and sewing that enhanced technical knowledge and efficiency. They were able to overcome the difficulties implementing alternative livelihood

Table 1: Status of FRUGs at three wetland sites

Particulars	Hail Haor	Turag-Bangshi river basin	Kangsha-Malijhee river basin	Total
Number of FRUGs	05	03	05	13
Number of RUGs	87	50	113	250
Number of members	2,004	1,045	2,153	5,202
Men (%)	60	65	67	64
Women (%)	40	35	33	36
Fishers (%)	52	53	71	59
Men in EC (%)	63	66	66	65
Women in EC (%)	37	34	34	35
Fishers in EC (%)	41	53	73	56
Savings (US\$ in million)	0.06	0.03	0.05	0.14
Revolving fund to FRUGs (US\$ in million)	0.13	0.07	0.14	0.34

activities because of training and access to micro-credit. They adopted income-generating activities on 35 types of trades that were alternative to fishing. Typical enterprises included livestock and poultry/duck rearing, fish culture, fish business, agriculture, vegetable cultivation, small trading, tailoring and tree nursery. These aided taking up new occupations altogether, earning an income from non-wetland sources that created employment opportunities for them. The loan repayment rate was almost 96% reflecting the successful outcome.

Resources User Groups were united into 13 FRUGs coinciding with Union Parishad (local council) boundaries those received about 21.5 million taka (0.34 million US\$) as RLF. Staff were employed helping their operations, revolving funds and member groups becoming self-sufficient. They were guided by the approved service rules and monitoring guideline. Office bearers were trained on planning, functioning organizational activities and staff monitoring. They followed good organization practices like approving and collection loans, planning of activity and budget, following democratic principles by electing their office bearers, and adhering transparency and accountability through open meeting and audit. Existence of own office building enabled an effective credit program with self-confidence.

DISCUSSION

Multiple stakeholder groups use wetland resources for income and for subsistence. Emphasis had been placed on empowering the poor resources users through RUGs participating in the process of wetland governance. With the formation of groups and their activities, they were able to understand and identify the purpose of their involvement in wetland resource management. Organizing the communities under a platform is an essential part that forms the common interest group (Begum 2002). Although these RUGs were a strong base for alternative livelihood schemes, capacity building was a slow process, because of lack of managerial capacities and low literacy rate to keep records. It was important developing skills for efficient performance and transparent record keepings. Keeping resolution by them indicated the emergent capacity of the resources users. Group meetings and their educational discussions are the pillars and

sources of inner strength of a process (Costa 1999). Through the process of developing management capacities, they were able to carry out their own analysis to decide upon strategies for overcoming problems. It sometimes became difficult ensuring the poor right to access and decision-making. The space for participation of RUG members into RMOs helped making their voices heard and opinions valued.

Opportunity had been created in the RUG for enhancing financial capital to the members, since they had hardly any surplus income to deposit. It had been able to infuse sense of savings in them, which was the evident from the increasing amount of accumulated fund. Savings habit develops own capital, sense of ownership, self-identity and confidence to embark upon economic activities (Alam and Begum 2005). Micro-credit established strong base of income earnings measures through diversified livelihoods schemes and helped reducing dependency on traditional exploitive money lending systems. Similar result was observed by Mustafa et al. (2007). The incentives of alternative livelihood activities contributed the resources users being able to active participation in the resources conservation by giving them enough income that reduced wetland dependency for periods to let the resources recover. Alternative livelihoods are the key to mitigating the possible impacts of reducing wetland dependency, reduce wetland encroachment and improve wetland ecology (Kabumbuli and Kiwazi 2009). They had full ownership of their savings and revolving funds strengthening skills on decision-making especially on financial matters. Introduction of people-owned and people-managed credit and savings enhanced their sense of ownership, self-identity and confidence and provided economic empowerment in the form of capacities required for engaging in new enterprises.

Effective social capital of the wetland users had been established, which was an important aspect of empowerment. Common understanding and trust among the members of community organizations, bonding these together through site networking among RMOs and FRUGs, bridging the gaps between the community organizations and local government through the co-management committees, and links with service providers enhanced the social capital. Enhancing social capital led them to become involved in various activities for improving their livelihoods and conserving wetland resources in

better coordination. Relationship of trust, common rules, norms and sanctions, and connectedness in groups are what make up social capital, which is a necessary resources for shaping individual action to achieve positive biodiversity outcomes (Pretty and Smith 2004).

Formal recognition of FRUGs through registration increased the credibility as organizations within the community and within the local government system. The resource users were empowered with rights within the legal framework of Bangladesh. Each RUG was small strength and power of the wetland users, while each of the federation was bigger strength and power than of a RUG. FRUGs created the opportunities for the poor wetland users participating in the local government programs for their benefits and gained voice to draw attention of its existence to others.

CONCLUSION

Without the concerted effort to build institutions that empowered the resources users, the majority of people did not have bargaining power and did not understand their rights. Sustainable conservation measures couple with alternative livelihood programs boosted up communities' economic resilience, enabled them to adopt wetland conservation and sustainable use practices, while the creation of new community institutions increased their social capacity. The wetland resilience of the resources on which the users' lives and livelihoods depend had been improved by protecting from further over exploitation and degradation. With fishing communities suffering around the country this lesson could be replicated widely to sustain and improve wetland resources.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the financial support from USAID and GoB implementing the MACH approach in Bangladesh. We would like to thank every member of the project team from Bangladesh Centre for Advance Studies, Caritas Bangladesh, Center for Natural Resources Studies and Winrock International especially Mr. Paul Thompson and Mr. Darrell Depart for their tremendous insights and support. We also acknowledge the contri-

bution of resources user communities in the working areas.

REFERENCES

- Alam SMN, Begum A 2005. Establishing participation: The case of empowering communities in wetland fishery management. *J Hum Ecol*, 17(1): 17-29.
- Begum Anwara 2002. *Impact of Community Management on two Beel Fisheries in Bangladesh*. Ph. D. Thesis, Unpublished. Dhaka: University of Dhaka.
- Costa T 1999. *Beyond Empowerment: Changing Power Relations in Rural Bangladesh*. Dhaka: Community Development Library (CDL).
- Dickson M, Brooks A 2007. CBFM-2 International Conference on Community Based Approaches to Fisheries Management. *The WorldFish Center Conference Proceedings 75*, Dhaka: The WorldFish Center.
- DoF 2009. Fisheries Resources Information of Bangladesh (2007-2008). *National Fish Week 2009*, Dhaka: Department of Fisheries, Ministry of Fisheries and Livestock, Government of Bangladesh.
- Kabumbuli R, Kiwazi FW 2009. Participatory planning, management and alternative livelihoods for poor wetland-dependent communities in Kampala Uganda. *Afr J Ecol*, 47(Suppl. 1): 154-160.
- Khan HR 1993. Water development activities and their impacts on wetlands. In: Ainun Nishat, Z Hossain, MK Roy, A Karim (Eds.): *Freshwater Wetlands in Bangladesh: Issues and Approaches for Management*. Dhaka: IUCN- The World Conservation Union, pp. 23-32.
- Middendorp HAJ, Thompson P, Pomery RS 1999. Sustainable Inland Fisheries Management in Bangladesh. *ICLARM Conf. Proc. 58*, Manila: ICLARM.
- Minkin SF, Rahman MM, Halder S 1997. Fish biodiversity, human nutrition and environmental restoration in Bangladesh. In: Chu-fa Tsai, MY Ali (Eds.). *Open Water Fisheries of Bangladesh*. Dhaka: The University Press Limited, Bangladesh, pp. 75-88.
- Mustafa MG, Islam GN, Khan AKMF 2007. Fisheries and Livelihoods Impact: CBFM Approach Addresses the Key Issues of Improved and Sustainable Management for Poor Fishers. *Booklet 4*, Dhaka: WorldFish Center.
- Pretty J, Smith D 2004. Social capital in biodiversity conservation and management. *Conservation Biology*, 18(3): 631-638.
- Rahman AKA 2005. *Freshwater Fishes of Bangladesh*. 2nd Edition. Dhaka: Zool. Soc. Bangladesh.
- Sultana P, Thompson P 2007. Community based fisheries management and fishers livelihoods: Bangladesh case studies. *Hum Ecol*, 35: 527-546.
- Thompson P, Mazumder A 2008. Fisheries for the future: restoring wetland livelihoods in Bangladesh. *World Resources 2008: Roots of Resilience – Growing the Wealth of the Poor*. Washington DC: WRI.
- Viswanathan KK, Nielsen JR, Degnbol P, Ahmed M, Hara M, Abdullah NMR 2003. *Fisheries Co-management: Findings from a Worldwide Study*. WorldFish Center Policy Brief, Penang: Malaysia.