

Towards sustainable co-management organization: a case study of the Baikka *Beel*, Moulvibazar, Bangladesh

Shahidul Islam Bhuiya

Department of Fisheries, Ministry of Fisheries and Livestock, The People's Republic of Bangladesh, Bangladesh

Correspondence: Shahidul Islam Bhuiyan, Senior Fisheries Officer, Department of Fisheries, Ministry of Fisheries and Livestock; Email: tirmijstt@gmail.com

Received: 06 Mar 2014, Received in revised form: 22 Aug 2014, Accepted: 26 Aug 2014, Published online: 27 Aug 2014

Citation: Bhuiya SI (2014) Towards sustainable co-management organization: a case study of the Baikka *Beel*, Moulvibazar, Bangladesh. Journal of Fisheries 2(2): 119-124.

Abstract

The present study was conducted in Baikka *Beel*, Moulvibazar, Bangladesh from July, 2012 to October, 2012. This paper examined the role and performance of the CMOs in the *Beel* management and the challenges faced by the CMO members. Primary information were collected through focus group discussions using conceptual framework. Organizational development, leadership development, capital formation, women and gender development and conflict resolution were used to examine the performance of the CMOs. The result revealed that the RMO and FRUG were in satisfactory level in sustainability except RMO network. However CMOs were facing some challenges. These included policy level (amendment of Fish Act 1950 regarding permanent sanctuary, lease period extension complexity, no national and social recognition of CMO members, less awareness program to the non-CMO respondents, few scope of media highlight and no fund especially in RMO network operation) and operational level (no vehicle to rush to protect the poaching, no provision of honorary for RMO members, less training in capacity building and regional and statewide interactions). At last some recommendations were made for both policy and operational level. Finally new project could be implemented through the implementation of the research findings towards sustainable CMOs.

Keywords: CMOs, co-management organizations, sustainability, conceptual framework, wetland conservation, NRM, natural resource management, Baikka *Beel*

INTRODUCTION

Co-Management (CM) has a profound impact on natural resource management (Plumers *et al.* 2006). In relation to natural resources, the term management can be defined as the 'right to regulate and transform the resource by making improvement'. These activities can be performed by single individual or jointly by groups of individuals or as a result of cooperation among different groups. (Borrini-Feyerabend *et al.* 2004) prefer using the term co-management, which they define as follows: Co-Management of natural resources is used to describe a partnership by which two or more relevant social communities collectively negotiate, agree upon, guarantee and implement a fair share of management functions, benefits and responsibilities for a particular

territory, area or set of natural resources. Co-Management is the idea that the responsibilities and resources are shared among multiple partners (Pinkerton 1989, Berkes *et al.* 1991). More simply, co-management is any sharing of rights and responsibilities between or among governments, users, and other stakeholders (Ahmed *et al.* 1997). Co-management systems capitalize on the knowledge and capacities of user groups and other stakeholders to improve resource management in a variety of ways. A comprehensive study of co-management of fisheries has identified seven resource management functions that can be enhanced by joint action of users and resource managers: (1) data gathering; (2) logistical decision-making (such as who can harvest and when); (3) allocation decision-making; (4)

protection of the resource from environmental damage; (5) enforcement of regulations; (6) enhancement of long-term planning; and (7) more inclusive decision-making (Pinkerton 1989). As a result of improved management function in these areas, management systems may be more legitimate, sustainable, equitable, and effective. (Jentoft and McCay 2003, Degnbol *et al.* 2003).

It is now unequivocally established that much of the success of co-management regime pivots around the performance of Co-Management Organizations (CMOs). Developing successful community based co-management arrangements that ensure sustainable wetlands, productive fisheries and meet the needs of resource users and other stakeholders is a challenge. Policy makers, donors and other external actors have a vital role to play in meeting this challenge. The study area of Baikka *Beel* situated in Hail *Haor* in Moulvibazar district permanent fish sanctuary composed of three *Beels* named *Chapra*, *Magura* and *Jaduria*. The Baikka *Beel* constitutes one of the most reputed sanctuary in Bangladesh. This is a vitally important site of the IPAC project in terms of fish biodiversity and an established history of co-management.

This study focuses on the role and sustainability of co-management organizations- notably: the Resource Management Organization (RMO), Federation of Resource User Group (FRUG) and RMO network in the management of Baikka *Beel*. This study explores the formation, role and performance of the CMOs, analyses the challenges faced by the CMOs, and recommends several operational and policy level for the sustainability of CMOs.

METHODOLOGY

Study area: The research was conducted in villages named Hajipur and Baruna situated in Kalapur union under Srimongal *Upazila* (Sub-district) of Moulvibazar District, Bangladesh (Figure 1). The main criteria for choosing these villages were: i) the villages were near to the Baikka *Beel* area and ii) The CMOs are located in this village. These CMOs were directly and indirectly managing the Baikka *Beel*. The other three sites are surrounded with some other *Beels*. The site was very important considering CMOs management aspects. Several conservation measures have been taken up including: fish and bird habitat restoration, swamp reforestation to reducing the soil erosion in the hilly *chara*, fish fry release in open water to reintroduce the endangered fish species. The co-management system in Baikka *Beel* has been functioning under the guidance of the *Upazila* Fisheries Conservation and Development Committee (UFDCD) in Srimongal *Upazila* with the help of the Endowment Fund. For the financial sustainability of

the RMO the MACH project provided the endowment fund for carrying out such development work as excavation, improve the condition of habitat restoration and after all organize the awareness program. This *Beel* is also famous due to a large number of migratory bird visiting the *Beel* every year and the existing of a devoted *chital* fish sanctuary.

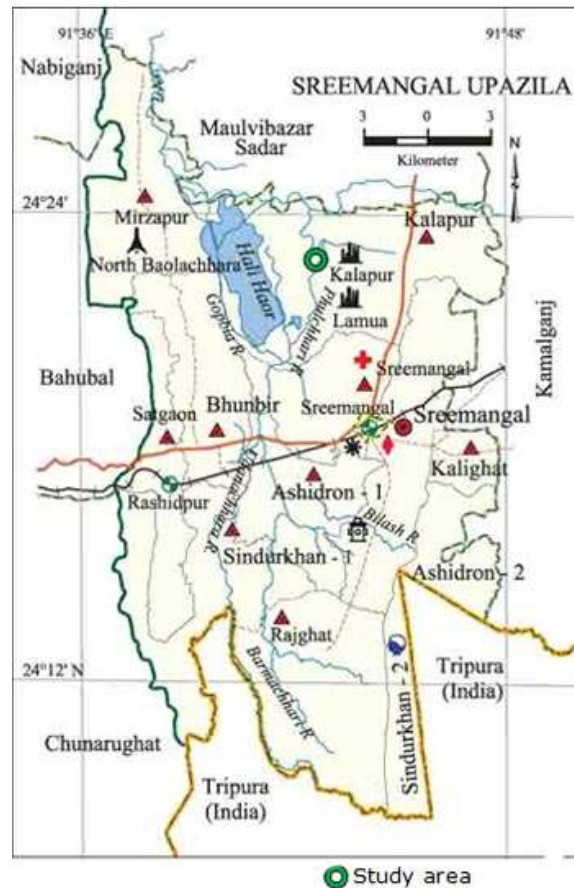


Figure 1: Map of Sreemangal *Upazila* (sub-district) showing location of the study area

Baikka *Beel* has experienced substantial co-management intervention— especially through the activities of the widely known Management of Aquatic ecosystem through Community Husbandry (MACH) and the Integrated Protected Area Co-management (IPAC) projects.

Study duration: The research was conducted for a period of three months from July 2012 to October 2012.

Primary data collection methods

Focus Group Discussions (FGDs): For finding out challenges three FGDs were carried out among three CMOs (RMO, FRUG and RMO Network) using a check list. From the RMO general body consisted of a total of 41 members; 12 respondents were randomly selected for

the FGD. A total of 421 members, 22 formed the FRUG general body from that 12 respondents randomly selected for the FGD. An intensified FGD was conducted with FRUG to find out the challenges. A total of 24 members, 9 members formed the RMO Network executive body. Twelve respondents randomly selected for the FGD.

Group Discussion: For assessing the role and performance regarding sustainability of the CMOs, a conceptual framework developed by Khan (2010) was broadly used. The original framework has been modified and revised to fit into the context and purpose of the research. In this discussion five important indicators such as organizational development, leadership development, capital formation, woman and gender development and conflict resolution were used. For each indicator total score was 10 and finally converted into percentage. According to total percentage achieved by the CMOs, the CMOs were ranked between critical and very well performed (Table 1).

Table 1: Score and indicative status for assessing the studied CMOs (Khan 2010)

Score	Indicative status
<19%	Critical
20-39%	Weak
40-59%	Moderate
60-79%	Satisfactory
80-100%	Very well Performed

Data analyses: All the collected data from primary and secondary sources were tabulated by using the Microsoft Excel. After tabulation, the data were analyzed according to find out the result.

RESULTS

Based on detailed interviews with the key informants, the formation process of Baikka *Beel* CMOs is schematically demonstrated in Figure 2. The RUGs (Resource User Groups) are formed by the membership of the poor people/fishermen; each RUG consists of 15-30 members. A total of twenty two RUGs have been formed. One FRUG (Federation of Resource User Groups) is formed selecting 1 member from each RUG. FRUG operate mainly the AIGA (Alternate Income Generating Activity) within the RUGs. RMO is formed selecting 60% members from FRUG and resting 40% from different community people like farmer, elite and poor fishermen. RMO Network is formed 3 members from each RMO in Hail *Haor* area. The RMO Network composed of 24 members in the general body. Adding that, there were 8 RMOs in Hail *Haor* area. RMO and RMO network were involved in wetland resource

management. Two members of RMO network have been selected in the regional network.

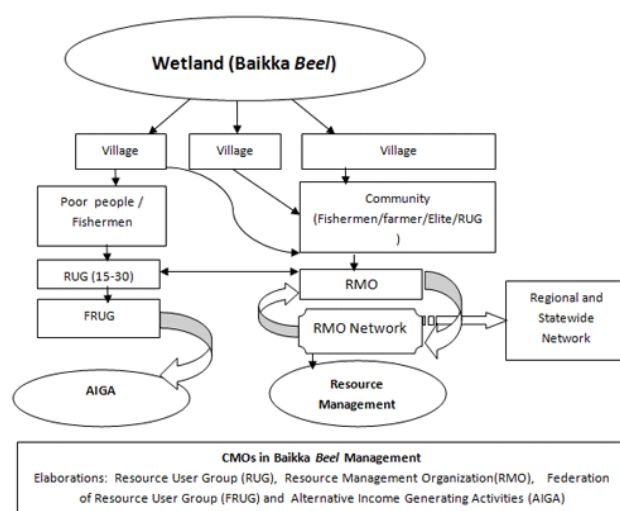


Figure 2: The process of formulation of CMOs in the Baikka *Beel*

The role and performance of the selected CMOs (RMO, FRUG and RMO network)

RMO: They stopped dewatering of those water bodies under their direct management, banned using fixed gears, particularly barriers (*pati bundhs* - mat made up of split bamboo), re-introduction of locally lost or threatened fish species. Ensure women participation, capital formation as well as auditing in timely and perfectly. Regarding all these, the following impacts were observed. Increase in number of some endangered fish species such as Chital (*Notopterus chitala*), Ghania (*Labeo gonio*), Pabda (*Ompok pabda*) and some SIS species (*Amblypharynodon mola*, *Botia dario* etc.) also. The RMO members were interviewed in a group discussion with conceptual framework for their self-assessment. The role and performance of RMO achieved 77% score indicated that it was functioning at a satisfactory level (Figure 3).

FRUG: Increase the Alternative Income Generating Activities (AIGA). Twenty four women were engaged in tailoring. The seed money allocated to AIGA in 2004 reached almost double up to the year 2012 (BDT 2 million to BDT 3.4 million). The role and performance of FRUG achieved 89% which indicated that FRUG was in 'very well performing' condition (Figure 3).

RMO network: The role performance of a network of community organizations was a powerful tool in establishing the process of co-management for achieving shared learning includes study tours, newsletters, annual conferences, regional coordination meetings, and regular informal meetings of community leaders and advisors working in nearby localities. Networking was also

important for being a pressurized agent against the other parties.

The RMO network achieved 44% score in the conceptual framework (Figure 3). That indicated RMO network was in moderate condition.

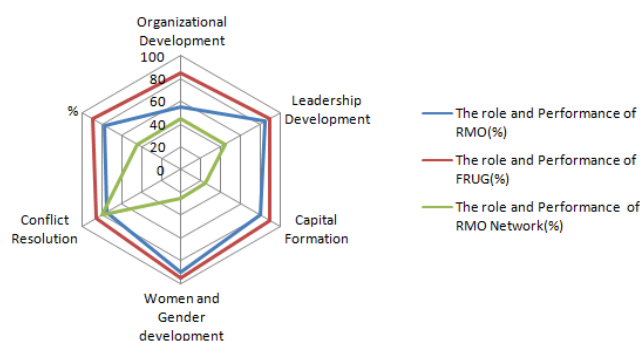


Figure 3: Comparative scores relating to the role and performance of selected CMOs

The condition of RMO in the indicator of organizational development was comparatively low. Nonetheless RMO was performing at a satisfactory level because women were very active to take part in different meetings. In RMO network in all five indicators except conflict resolution was in moderate condition.

The challenges faced by the selected CMOs

Challenges faced by RMO: Some crucial challenges both in policy level and operational level were identified and ranked by the respondents or RMO members (Table 2).

Challenges faced by the FRUG: Some crucial challenges were identified and ranked by the respondents of FRUG members (Table 3).

Carrying on microcredit activities was a challenge because Bangladesh Bank declared to stop the microcredit activities by the NGOs without prior permission of microcredit regulatory authority. As FRUG was performing microcredit activities within the community, permission was essential. There was lack of budget in arranging some AIGA training programs on capacity building. It also decreased the loan defaulter indirectly. The loan was spending in activities not mentioned in the scheme due to low capacity building. Social service department was not willing to audit thinking that it was an additional work for them was also a big challenge.

Challenges faced by RMO Network: In Table 4, some crucial challenges were identified and ranked by the respondents (FRUG members)

Table 2: Challenges faced by the RMO

Challenges	Respo-ndents	%	Remarks and clarification.
A) At Operational level			
Poaching	12	100	Mainly in winter season, easy to access and easy to fly away, <i>khas</i> land given to landless at periphery.
Long distance and no honorary	12	100	About 8 kilometer distance the RMO office and no honorary
Lack of active participation	9	75	Defeated group of executive election
Complexity in Endowment fund	8	66.7	No proper guideline when no <i>Beel</i> under RMO management
Not enough Security guard	5	41.7	The monthly pay and no. of security guard was not sufficient
B) At policy level			
Lease period complexity	12	100	Every 5 year lease period extension needed. <i>Beel</i> under lease.
Political/Elite interference	12	100	Inclusion of new member in the RMO, transfer of officials
Commercial fish farming	12	100	About 8 commercial fish farms were established around the periphery.
Climate Change	12	100	Water depth was very low, sedimentation and drought
No up-to-date Fish Act	9	75	No exemplary punishments after breaching the Protection and Conservation of Fish Act.
Less media highlight of their good performance	7	58.3	Not conscious about the effect of media highlight

Due to multiple responses percentage not reaching up to hundred

Table 3: Challenges faced by FRUG

Challenges	Number of respondents	%	Remarks and clarification
No permission of microcredit	12	100	Permission from Bangladesh Bank
First installment period short	12	100	First installment starts from the first month
Not available training program	6	50	Capacity building was not up to the mark

Table 4: Challenges faced by the RMO Network

Challenges	Respondents	%	Remarks and clarification
No Office	12	100	It is the address of the RMO Network.
Now no <i>Beel</i> belongs to RMO	12	100	RMO do not work well without <i>Beel</i>
Not enough fund	8	66.7	Not enough fund for activities.
Less regional and statewide interactions	7	58.3	The by-law yet not approved.

Due to multiple responses percentage not reaching up to hundred

DISCUSSION

The comparative role and performance of the CMOs reviewed that the condition of RMO in the indicator of organizational development was comparatively low. The reason behind this was mainly executive committee election. Every two years interval election was held according to the by-law of RMO. There were two panels election. After election the defeated group became inactive and avoid regular meeting. It also reviewed that the condition of FRUG in organizational development was high because of selection system of executive committee. Considering all the factors, RMO was performing at a satisfactory level because of handsome amount of endowment fund was allocating every year, some dedicated RMO members and women were very active in participating different meetings.

In the selected five indicators the role and performance regarding FRUG was found very well because a large number of dedicated leaders in the executive committee and a handsome amount of AIGA revolving fund. In RMO network in all five indicators except conflict resolution was in moderate condition. The reasons were; no office, no fund, yet no approval of by-law. In conflict resolution, the score was high because they had strong management in conflict resolution.

Women and gender development was an important indicator of sustainability of CMOs. RMO and FRUG secured high score regarding in this indicator and indicated that these two CMOs were in sustainable condition.

For the management of permanent fish sanctuary there was no honorarium/incentives for the RMO members. This finding will be a challenge for the sustainability of RMO as well as sustainable natural resource management. Similar comment was also made by Finlayson (2003) who stated that incentives for local involvement in environmental management would assure more sustainable out CMOs.

Political or elite interference influence the CMO committee and local government. This results also similar with the findings of Maynard (2006) that describes elite may manipulate community structures for their own political purposes, to push through particular projects or to misappropriate funds. Further, people in conflict-affected and fragile contexts may be vulnerable to manipulative authorities and fearful to voice their opinions, particularly when they are contrary to elite interests.

The RMO network had no fund for their sustainability of co-management organization. This result was also similar

to the findings of Zakhilwal and Thomas (2005). They mentioned that due to insufficient funding local populations could lose trust in the community-based approach.

The involvement of poor community people was very important in the planning, implementation and monitoring of developmental scheme for assuring transparency other-wise the elite do not trust their developmental activities. Similar statements also mentioned by Mansuri and Rao (2003) and Cliffe *et al.* (2003) that showed strong mechanisms for transparency—e.g. public meetings, publication of decisions etc. could help to counter the risk of elite capture.

CONCLUSION AND RECOMENDATIONS

CMOs play a vital role in the conservation of wetlands and in the maintenance of biological diversity. Amendment of Protection and Conservation of Fish Act 1950 introduces Sanctuary Act made government better to form a revenue set-up for permanent fish sanctuary. Including of criteria into the amendment for taking part in the *jalmohal* (deeper wetland in floodplain areas) leasing system by co-management organization (RMO) are also good initiative. A selection system of executive committee may increase the active participation and voluntary spirit.

Based on the above identified challenges, following recommendations were made: (i) creation a series TV program and presentation film on wetlands especially in areas where permanent fish sanctuaries are located; (ii) immediate permission of Microcredit Regulatory Authority for operating the micro-credit activity by the FRUGs; and (iii) regional and statewide interaction to solve the challenges by raising a voice and drive interagency collaboration, sustainable RMO Network is a must.

ACKNOWLEDGEMENT

The author is highly acknowledged to the funding agency USAID for funding through the Integrated Protected Area Co-Management Project.

REFERENCES

- Ahmed M, Capistrano AD and Hossain M (1997) Experience of Partnership Models for the Co-Management of Bangladesh Fisheries. *Fisheries Management and Ecology* 4(3): 233-248.
- Berkes F, George PJ and Preston RJ (1991) The evolution of theory and practice of the joint administration of living resources. *Alternatives* 18(2): 12–18.

- Borrini-Feyerabend M, Pimber, MT, Farvar A, Kothari M and Renard Y (2004) *Sharing Power: Learning by Doing in Co-management on Natural Resources throughout the World*, IIED and IUCN/CEESP, Cenesta pub., Tehran, Iran.
- Cliffe S, Guggenheim S and Kostner M (2003) *Community-Driven Reconstruction as an Instrument in War-to-Peace Transitions*, CPR Working Paper, no. 7, World Bank, Washington, DC
- Degnbol P, Carlberg A, Ellingsen H, Tonder M, Varjopuro R, Wilson C (2003) *Integrating fisheries and environmental policies*. Nordic Council of Ministers, TemaNord. 521 pp.
- Finlayson M (2003) *Ecosystem assessment: links between science and community- the common ground*. *Ecological Management & Restoration* 4: 3-4.
- Integrated Protected Area Co-Management, IPAC. www.nisorgo.org, accessed on 25 January, 2009.
- Jentoft S and McCay BJ (2003) *The place of civil society in fisheries management: a research agenda for fisheries co-management*. In: *The Fisheries Co-management Experience. Accomplishments, Challenges and Prospects* (eds.) D.C. Wilson, J.R. Nielson and P. Degnbol). Kluwer academic Publishers, Dordrecht, pp. 293-308.
- Khan NA (2010) *Towards a conceptual framework for capacity assessment of local institutions in natural resource management*. *Journal of Development Studies* Dhaka University. p. 120.
- Mansuri G and Rao V (2003) *Evaluating Community-Based and Community-Driven Development: A Critical Review of the Evidence*, Development Research Group, World Bank, Washington, DC.
- Maynard K (2006) *Community driven Development Approaches in Conflict Affected Countries: challenges and opportunities*. The World Bank, 1818 H Street NW, Washington, DC 20433, USA. pp. 1-89.
- Pinkerton E (1989) *Attaining better fisheries Management through Co-management Prospects, Problems and Proportion*. In Pinkerton, E. (ed.), *Cooperative Management of Local Fisheries: New Directions for Improved Management and Community Development* (U. of BC Press 1989).
- Plummer R (2006) *A resilience-based framework for evaluating adaptive co-management: Linking ecology, economics and society in a complex world*. *Ecological Economics* 61: 62-74.
- Zakhilwal O and Thomas JM (2005) *'Afghanistan: What Kind of Peace? The Role of Rural Development in Peace-building'*, Working Paper, 'What Kind of Peace is Possible?' Governance and Social Development Resource Centre project. www.nsi-ins.ca/english/pdf/Afghanistan_WKOP.pdf, accessed on 20 January, 2010.