

WOMEN-LED FISHERIES MANAGEMENT – A CASE STUDY FROM BANGLADESH

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Abstract

Although women constitute 50% of the total population of Bangladesh, only 18% are economically involved in the total labor force. They are involved in diversified work within their homesteads. However, during times of family needs and economic crisis, women are involved in non-traditional jobs. In the fisheries sector, Muslim women are traditionally not involved in fishing but they are involved in fish drying and salting. In the Hindu dominated areas such as Goakhola-Hatiara, women are involved in fish catch as well as the collection of other aquatic resources as one of their livelihood strategies. Women and subsistence fishers are taking the lead in managing a common capture fishery resource in Goakhola-Hatiara with the support from an NGO for perhaps the first time in Bangladesh. However, the role of women in the Beel Management Committee is not well defined. Under the leadership of women the socio-economic conditions have changed and the social capital has increased.

Introduction

The overwhelming majority of women in Bangladesh are not only poor but are also caught between two vastly different domains: one determined by culture and tradition that confine their activities inside homesteads, and the other shaped by increasing landlessness and poverty that forces them out into wage employment for economic survival.

By custom, the life of a woman in Bangladesh is shaped by the patriarchal, patrilineal and patrilocal nature of the social system. Her reproductive role is emphasized by social, cultural and religious traditions. Traditionally, to fulfill this role, a girl is married off at puberty and is immediately locked into her reproductive role, although this is gradually changing. The various elements of the social system interact to make women dependent on men, or at risk when deserted by men. This system produces a rigid division of labor and segregates the labor market by sex. The household is the primary production and consumption unit. Men generally own and manage family land and control women's income and labor. Women contribute a great deal to the economy and to the family. Not only do they participate in agricultural and industrial labor, they are also responsible for housework such as cooking, cleaning, washing, and collecting firewood and water. In addition, they assume full responsibility for childcare and caring for the old. Nevertheless, a woman's contribution goes unrecognized in the national accounts because it is unvalued and invisible.

The role of women in society is seen as subsidiary to that of men and having its principal concern with the household, reproduction and childcare, and family management. The distortions show particularly in

- average literacy - 38% for women, 52% for men (BBS 1998);
- age at first marriage - 20 for women and 28 for men (World Bank 1998);
- participation in education - women comprise only about 30% of secondary and higher enrollment (BBS 1998); and

- work - only 18% of women participate in the labor force (United Nations 2000) - and have significantly lower wages when they do - but contribute 80% of the unpaid family work.

However, rural women of various minority groups are more liberated and are more advanced than the majority population of Muslim women.

From the 1980s, the status of women and the amelioration of their disadvantaged position in Bangladesh has been a major concern of the NGO movement. Whatever the limitations, there have been impressive strides in the empowerment and economic emancipation of women under the programs of the Grameen Bank and national NGOs such as the Bangladesh Rural Advancement Committee (BRAC) and Association for Social Advancement (ASA), that have raised the economic role and voice of women in rural society throughout the country.

In Bangladesh, fishing is the second most important occupation in the non-farm sector, but only 3% of working women are estimated to be involved in fisheries (BBS 1996). The role of women in fisheries encompasses social and economic tasks both within and outside the family in order to sustain the activities of fishing communities. Traditionally, fishing was a Hindu occupation and only men in the fishing communities were engaged in catching fish. The only exception to this was some old and widowed Hindu women who caught fish for their household consumption as well as for sale in the southern part of the country. Now, not only the old and widows, but also all poor women irrespective of religion, age and marital status are found to catch shrimp fry in the coastal areas of Bangladesh. About 80% of the work force in shrimp fry collection are women and children. This change has happened due to the high poverty level and the growth of shrimp farming which created both a need and demand for a low-cost ways of earning money. In 2000, from personal observations, the price of each shrimp fry was around Tk 1-2 and on an average, each woman could earn about Tk 5,000 (US\$ 95) in a fry-catching season, which is from January to March.

Although fry-catching by women is now quite accepted in the coastal areas, fishing by women is not yet a regular and common picture. Some Hindu women catch fish in the canals and waterbodies near their houses with rods and hooks, but rarely with cast nets. Women usually catch fish by hand in shallow water and paddy fields, particularly in the coastal areas. It is even more unusual for women to have a say in management decisions regarding fisheries. The case study in this paper illustrates an exception to these norms and reports the role of women in management of a floodplain fishery in southwest Bangladesh and the outcomes of that for the community.

The Case Study Site

Goakhola-Hatiara Beel is a seasonal beel (a depression flooded in the monsoon season) covering at its maximum extent around 250 ha. It is located 17 km from the headquarters of Narail District in southwest Bangladesh. The beel is connected by Goakhola Khal (canal) to Afra Khal (a secondary river), which connects to the Bhairab River some 3 km downstream of the beel. Local rainfall is the main source of water in the beel. All of the land in the beel is private and is cultivated mainly with paddy. The area is submerged under 1.2-1.8 m of water for five to six months of the monsoon each year.

The five villages around the beel, Hatiara, Goakhola, Bakali, Mandiarchor, and Debbhog, are entirely Hindu communities. In December 1996, there were 355 households living around the beel, of which 89 were already Banchte Shekha group members. Banchte Shekha is an all-women NGO in Bangladesh. In another survey in 1999, the number of households decreased to 333 of which 3% were female-headed households. Almost all the households catch fish some time in a year, over a third of this fish is sold, and the remainder of fish is used for home consumption.

NGO Activities

Banchte Shekha started working in the villages around the beel in 1987 following a severe flood. Finding

that there were many poor women who were interested to benefit from its activities, Banchte Shekha identified this area as one of their programs to improve the lives of destitute women. From November 1996 to 2000, Banchte Shekha received limited grants totaling Tk 731,557 (about US\$ 15,000) from the Community Based Fisheries Management (CBFM) Project to include the management of common fish resources in the activities of poor women's groups (funded by the Ford Foundation and implemented through the Government of Bangladesh by the Department of Fisheries and NGOs and coordinated by ICLARM-The World Fish Center). Before this project, it had already helped its participants with adult education, training in poultry rearing and vaccination, and provision of credit. For the CBFM project, Banchte Shekha appointed a full time organizer experienced in fisheries to be responsible for all project-related activities. The main activities and achievements of Banchte Shekha under the CBFM project have been

- forming seven groups with 205 members (all women);
- providing training in fish culture, fishery management and additional income-generating activities to all 205 group members (25 attended more than one training);
- mobilizing the group members to save about Tk 60,000 by March 1999;
- providing credit to groups in these villages. Since 1997, these groups have received an average of about Tk 180,000 per year (about Tk 900 per year) in credit linked with CBFM project from Banchte Shekha;
- participating in regular meetings with the Department of Fisheries (DOF) and the community (fishers, farmers and leaders); and
- forming a local fishery management committee which has taken up the activities discussed below.

The Management System

The CBFM project aimed to develop and test models for sustainable and equitable fishery management based on support for communities from NGOs and the Department of Fisheries (DOF). The objective in Goakhola-Hatiara Beel has been to conserve and enhance the natural fishery by ending the complete harvest of fish after the monsoon; by enabling more fish to move into the beel from the river; by reducing fishing pressure in the early monsoon; and by helping the households compensate for any short-term loss of income or food by developing poultry production and supplementary income sources. To achieve this, Banchte Shekha mobilized and expanded its all-women groups in 1997, but realized that coordination with all stakeholders was necessary. From late 1997, the formation of a beel management committee (BMC) was facilitated. The 27-member BMC and a separate sluice management committee were formally constituted in March 1998. The latter did not prove effective and in January 1999 it was disbanded and the BMC was reformed. The BMC comprises 8 female group members and 19 men, including fishers, landowners, and union parishad representatives. The cashier who controls the funds is a woman.

The main activity of the BMC has been to implement improvements in fishery management. The idea of keeping kuas as over-wintering sanctuaries for fish was introduced following training conducted by the DOF, ICLARM-The World Fish Center and Banchte Shekha; and ideas generated from a training program in the Philippines arranged for project staff; and a visit to a floodplain beel where the Center for Natural Resource Studies has been working in the Tangail District. In January 1998, the BMC agreed that five kuas would be rented for Tk 22,500 from the grant to Banchte Shekha, complete with their standing stock of fish. The women members of Banchte Shekha guarded these kuas during the day, and men in the BMC and husbands of the women guarded them at night. Participants aided by public announcements informed the general community not to poach in these kuas.

The brood fish moved into the flooded fields at the beginning of the rainy season in April 1998, inhabited and later spawned in the sanctuary kuas. The BMC had set a ban on fishing for three months after

spawning to permit the fish to grow but some fishing started. The natural mortality of these fry was also high because of drought. After the boro (rice-growing season) paddy harvest, the sluice gate was opened and water and larger fish could enter from outside. Overall with increased spawning and ample monsoon water the growth of resident species was better than in previous years. The same system of renting kuas has continued each subsequent dry season.

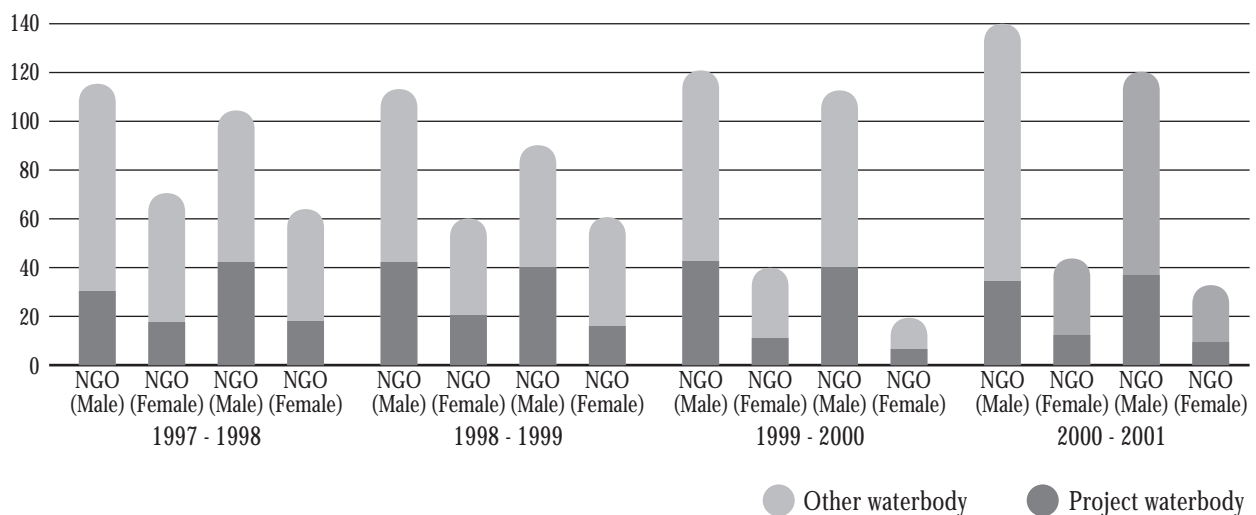
The sluice management committee was intended to operate the sluice to ensure fish could migrate into the khal and beel. However, this has proved difficult since fry and juvenile fish occur in the river outside the sluice in April-June when the gate is closed to keep out floods, which would damage standing boro paddy crops. While in June-July, when it is safe to open the gate, there are fewer fish moving nearby. Moreover, the community believes that most of the fish entering the khal swim on into seasonal beels further upstream, and so have not placed much emphasis on sluice operation.

Results and Impacts

Women and Aquatic Resource Use

Women have been fishing in this area for a long time. However, only about 8% claim that they are full-time fishers, while 56% of them fish on a part-time basis and the rest are subsistence fishers. They fish for family consumption. Most of these women have been fishing for less than 10 years (56%), 40% have fished for more than 10 years and a small percentage of 4% have fished for more than 20 years. Usually, girls start fishing in this area from the age of 9-10. On average, women fish 5.5 months a year and within that period, less than 20 days per household in the project water body. For these women, the peak fishing months are from mid-September to mid-November, but they start fishing from mid-August and finish in January. Male members of the family fish for more days than female members (Fig. 1). It would also appear that the average number of women-days for fishing has fallen in four years, but the amount of time spent fishing in Goakhola-Hatiara has not fallen as much as total fishing. Women in non-participant households fish there less than those from participating households, suggesting that the project has maintained at least fishing access for women.

Fig 1. Person-days per household fished in Goakhola Hatiara.



Women mainly use hook and line (88%), gill net (4%), cast net (4%) and traps (4%) for fishing. When water recedes, all women involved in fishing catch fish by hand. Usually they fish in the morning (64%) and afternoon (24%), while only a few (12%) fish during the middle of the day. These women are mostly elderly widows who do not have to cook for the family. Most of the women (68%) fish for 5 to 6 hours a day, 24% of them fish for 1 to 2 hours a day and a few fish for more than 6 hours a day. On average they catch 1.12 kg per day, 52% of which is used for family consumption and the rest they sell for income (interview survey). Everyday, they spend about Tk 3 on fishing and they earn about Tk129 per week. Eighty-four per cent of their earnings from fishing goes for family expenses such as daily needs, children's education, and health care. The rest is spent on NGO loan repayments and other minor needs. About 44% of the women are involved in other income-earning activities such as agricultural labor, sewing and snail collection. These are seasonal occupations. Most of the women have been involved in these occupations for several years. On average, they earn about Tk. 40 per day from these activities. About 70% of the women rated their economic condition as bad. According to these women, the catch of Meni (*Nandus nandus*) increased over the last 5 years. This species was earlier almost extinct from this area and is consistent with the catch monitoring data. Other species they reported are Koi (*Anabus testudineus*), Baim (*Mastacembelus armatus*), and Jatputi (*Puntius sophore*).

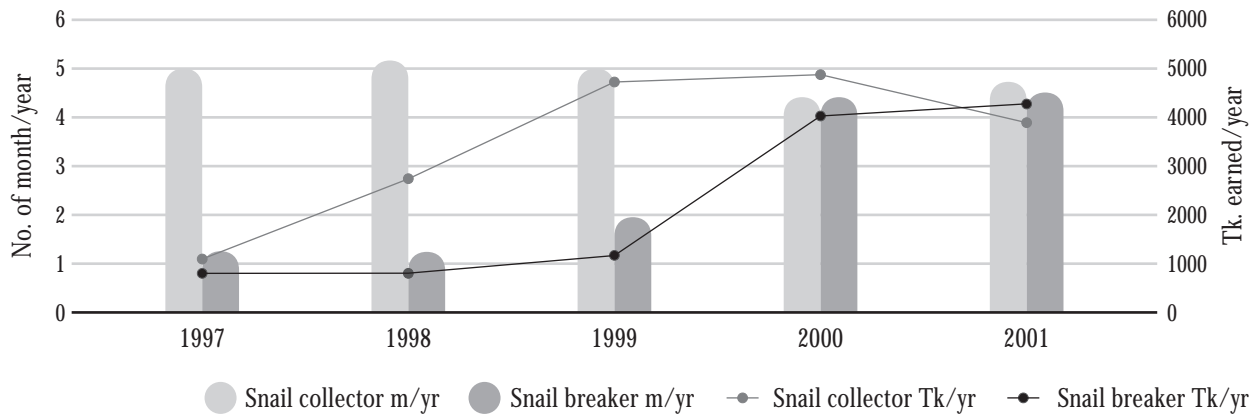
In Goakhola-Hatiara, small-scale snail collection for feeding ducks is a long-established practice. However, large-scale snail collection and snail-breaking are new initiatives. These initiatives arose with the growth of prawn (*Machrobrachium rosenbergii*) farming. Commercial prawn farmers were feeding commercial feed to the prawns, but the price of commercial feed is high. As an alternative, prawn cultivators started to use snail meat as feed because it was cheaper than commercial feed. They started to buy snail meat at Tk 6-7 per kg. When the demand for snail meat increased, women and children started collecting snails in their spare time. A network of local snail collection centers sprang up where snails were bought from collectors and women were employed at these centers to break the snails. Ninety-six per cent of these women are poor and come from laboring households or from marginal farmers' households. From samples of 25 snail-collecting households and 26 snail-breaking households, an average of two people are involved respectively in collecting or breaking of snails. About 92% of the households have been collecting snails for more than 10 years but snail-breaking on a commercial basis is only 5 years old (85%). About 10 to 15 years ago snails were collected for feeding ducks. However, in recent years about 60% of snails are used for prawn culture and 40% for duck rearing. In 1997 women were collecting snails mostly for household use, but when they saw that they could sell snails at a fair price, they started to collect snails for sale. However, within a few years competition arose among snail collectors and with the same effort, they now collect less than they originally did (Table 1) and therefore earn less than in previous years. They usually spend their income on daily expenses and the children's education. Commercial snail-breaking has increased over time and so has the income from snail-breaking. Even after fish conservation measures in the beel were introduced for three months during the early monsoon each year from 1998, the estimated snail catch per collector from Goakhola-Hatiara has decreased very rapidly (Table 1), but snail-breaking is still a good income source for women in the area (Fig. 2). Snail collectors still collect snails for almost the same period of time of the year.

Table 1. Amount of snails collected and sold per woman in Goakhola-Hatiara Beel.

Year	Kg/year
1997	2,248
1998	3,062
1999	2,864
2000	1,819
2001	1,174

Source: interviews with 25 women

Fig 2. Number of months collected/broken snail and yearly income.



Women not only fish and collect and break snails, but they also collect other aquatic plants from the beel, such as stems and fruit of *Nymphaea nouchali* (water lily, shapla, shaluk), root stocks of *Aponogeton* sp. (ghechu) and leaves of *Limnocharis flava* (kengkong, kalmi) for household consumption. The women report that due to conservation, aquatic plants are available in abundance and no one has to buy those.

Socio-economic Aspects

The baseline household survey of 1996 was repeated in 1998, but two years is a short period to observe major changes in the welfare of households in the area. Impact assessment is ongoing in the area. Fishing only contributed 22% of participants' household income and 14% of non-participants' incomes in 1996. Reported average household income from fishing has fluctuated between years but was more than restored in 1998 over the previous year's low (Table 2). At the start of the project, the NGO participants on average owned 0.65 ha of land compared with 0.93 ha of land for all other households in the area. The NGO participants closed to some extent the gap with other households with regard to housing and sanitation during the first two years of project support

Table 2. Changes in fishing income, house construction and sanitation 1995-1998.

Household income from fishing (Tk pa)	NGO	non-NGO
1995-1996	7,220	5,620
1996-1997	3,030	1,210
1997-1998	9,460	6,110
Tin/tile/concrete roof (% households)		
1996	64	73
1998	87	88
Water sealed latrine (% households)		
1996	17	27
1998	50	54

Source: Household surveys of the same 60 NGO and 60 non-NGO households in three years

Use of credit has become more widespread for both participant and non-participant households during the past three years, and reflects increasing numbers of households taking loans from NGOs and from relatives (Table 3). However, when combined with asset sales, the non-participants still mobilize more working capital.

Table 3. Credit coverage 1995-1998.

Credit and asset sales (Tk/household)	NGO	Non-NGO
1995-1996	8,350	7,890
1996-1997	6,460	10,160
1997-1998	6,230	11,700
Percentage households received credit (from NGO)		
1995-1996	25 (10)	19 (0)
1996-1997	53 (28)	38 (17)
1997-1998	66 (37)	50 (18)

Source: Household surveys of the same 60 NGO and 60 non-NGO households in three years

Better access to credit is only part of the results of Banchte Shekha's program. Out of 60 participant households sampled at the start of the project, 93% were still Banchte Shekha group members in late 1998, but only 25% of these received credit in the previous two years. Moreover, 37% of these households joined groups formed by other NGOs and 50% of these households reported receiving credit from those NGOs in the same two years. Credit is not an objective in itself. The main productive uses made by households were to purchase livestock and to buy inputs for cultivation.

The initial changes linked with the project are fishery resource improvements, development of local institutions, increased responsibility for fisheries for poor women, and training and credit for NGO participants. These are complex and difficult to assess. However, both NGO participants and other households reported significant improvements in participation, influence over fisheries, decision-making and well-being. Moreover, the direct NGO participants reported significantly greater improvements than other households in their participation in fishery decisions, in ease of decision-making over fishery rules and in household well-being. This suggests that, by people's own assessments, CBFM has resulted in some measure of empowerment of the participants, in more efficient decision-making institutions (for example, before, the community never took coordinated decisions regarding the common property fishery), and in direct livelihood gains.

Institutional Changes

The main institutional change has been the BMC established by the local community with advice from the Government and NGOs. Participation in the process has been good: at least 90% of the NGO participants attended one or more meetings on CBFM in both 1997 and 1998, while about 50% of non-participants attended at least one meeting.

However, the project arrangement has not so far been able to overcome administrative complexities regarding public land in the area. Since starting CBFM activities, Banchte Shekha has made attempts to gain control of and improve the khal fishery resource on behalf of the participants. Its plan is to re-excavate the khal to make it deeper, as it is thought that this would improve the khal as an over-wintering area for fish, and might also make pen culture possible. Banchte Shekha applied for food-for-work resources for excavation through DOF, but Government approval is required. Therefore they tried to obtain rights over the khal (although since 1995 it has not been leased out) at the district level but were referred to the Upazila (sub-district) administration, under whose jurisdiction the khal has been placed. The Upazila took no decision on whether to award the lease, and in fact has not collected money from the khal fishery, nor has it mobilized any assistance for re-excavation due to pressure to allocate resources in other areas.

Conclusions

Progress in developing community management of this seasonal floodplain beel can be summarized as follows:

- The work of Banchte Shekha has had a positive impact for its women members and Banchte Shekha has worked in collaboration with the wider community.
- Empowerment: women and subsistence fishers are taking a lead in managing a common capture fishery resource for perhaps the first time in Bangladesh, but the role of women in the BMC is not well defined.
- Equity: the community has no notable divisions. Most people use small-scale gear to fish so that benefits are evenly spread. Both NGO members and other households own kuas. However, there are still problems of encroachment or fishing by outsiders and the community lacks rights over the khal.
- So far, the BMC did not address issues of sustainable limits on exploitation of other aquatic resources important to women, notably snails.
- Co-management arrangements: the BMC is functioning but its sustainability, and ability to manage financial resources and resolve competition for water between fish and agriculture remain to be seen.
- Snails have become an important additional income source for women but more women are now collecting them and they may be overexploited. In future, they need to be included in the plan for sustainable use of the beel.
- The BMC is generally accepted in the local community but only has informal links with the local Government. More formal links and recognition could strengthen the institutions and help ensure a long-term future for the sanctuaries.

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