Fisher Livelihoods in the Sundarbans

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Abstract

In this paper I investigate the livelihood strategies of fishers in two villages of the Sundarbans, a mangrove forest located at the southern extremity of the Ganges River Delta. Data were collected using questionnaires and focus group discussions to elicit responses from area fishers and shrimp enclosure owners. I first note that fishing is a primary occupation for many households in the Sundarbans, and next identify several problems related to fisher livelihoods, including health and sanitation, drinking water, money lending, and natural disasters. I argue that the livelihoods of fishers will improve only with a focus on practical livelihood issues and conclude with recommendations for improving the livelihood conditions of fishers in the Sundarbans.

Introduction

The Sunderbans is the world's largest contiguous mangrove forest, covering about 600,000 hectares in Bangladesh alone. It serves as habitat for around 334 species of flora and 375 species of fauna, including the endangered royal Bengal tiger (Wikipedia 2010). The Sundarbans is a World Heritage site and is composed of three wildlife sanctuaries: Sundarbans East Wildlife Sanctuary, Sundarbans South Wildlife Sanctuary, and Sundarbans West Wildlife Sanctuary. The total area of the World Heritage site is 1,400 square kilometers, out of which 910 square kilometers is land and 490 square kilometers is water (Banglapedia 2005). The three sanctuaries are intersected by a complex network of tidal waterways, mudflats and small islands of salt tolerant mangrove forests. The Sundarbans has been recognized globally for its importance as a reservoir of biodiversity.

Located in the southern extremity of the Ganges River Delta, the Sunderbans plays a significant role not only in the local livelihoods of Bangladesh's southwestern region but also in the national economy. Approximately 2.5 million people live in small villages surrounding the Sundarbans. During certain seasons of the year the area provides a livelihood for an estimated 300,000 people working as wood-cutters, fishermen, honey collectors, and leaf collectors (UNESCO 2010). Recently, population pressure and rural infrastructure development have resulted in rapid depletion and degradation of natural resources and biodiversity, threatening the very survival of the Sundarbans, as well as the livelihoods of many rural people.

The fisheries sector in Bangladesh's coastal zones provides an important source of income and employment. In 2002-2003, a total of 445,000 tons of marine fish were

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harvested in Bangladesh. The coastal zone also accounts for forty percent of total pond-fish production and thirty six percent of inland capture fisheries (MoF 2003).

In this paper I explore the livelihoods of fishers in the Sundarbans, focusing specifically on fishing activities, the local money lending system, and the roles of fishers in resource management. My goal is to provide policy makers and NGO personnel with information that will allow them to implement more effective poverty alleviation programs for fisher communities.

Background

Burigoalini Union in Satkhira District is famous for its mangrove forests that lie directly adjacent to the Sundarbans. Burigoalini Union is sixty five kilometers from the Satkhira District Center. The majorities of people living there are directly or indirectly dependent on fishing, with river fishing and shrimp enclosures providing the main occupations. A large number of women and children also collect shrimp fry and crabs. There are 2,800 shrimp enclosures in the study site, which covers an area of 2,125 hectares. The area has highly productive fisheries.

Little information is available in Bangladesh on natural fisheries and even less is available on fishers and their livelihoods. Policy decisions are often based on national level priorities that tend to overlook the needs of local people, especially the poor, and this poses a severe threat to local livelihoods (Chowdhury 2005).

Fishing is a major contributor to the livelihoods of poor fishers in Bangladesh, including pregnant women. A study of fishers' livelihoods along the lower Khul Patua and Chunar Rivers in western Bangladesh suggests that a majority of fishers are involved in fishing or wild crab harvesting (Ahmed *et al*. 2010).

The Fish Act of Bangladesh 1983 states that no person shall manufacture, fabricate, import, market, store, carry, transport, own, possess or use monofilament synthetic nylon fiber nets (known as *current jal*). The act also prohibits the destruction of, or any attempt to destroy, fishes by the poisoning of waters, as well as the depletion of fisheries with pollution caused by trade effluents or otherwise. Finally, the act prohibits or regulates the erection and use of fixed engines (DoF 2002).

Though laws regarding fishing practices exist, fishers' awareness of appropriate practices (fishing methods, tools, seasons, laws, and so forth) is low. Several studies have determined that set bag net fishing is highly destructive to natural resources (Islam *et al.* 1993, Khan *et al.* 1994), however these nets are still widely used for harvesting post-larvae shrimp. This is because during periods when fishing is banned, fishers have no other options for work. Indiscriminate fishing of wild fish, shrimp, and crabs with high levels of by-catch has an impact on biodiversity in the Sunderban ecosystem. A prohibition against this practice has, however, not been firmly enforced because of the lack of alternative livelihoods for poor fishers, lax enforcement, and personal gains to elites from illegal harvesting.

The WorldFish Center (2008) suggests that money lending has a strong negative effect on fishers' livelihoods. Informal sources of credit still play vital roles in Bangladesh's rural economies. Though moneylenders (*mohajon*) generally lend money at interest rates of 120 to 240 percent per annum, most fishers still resort to them for financing. In order to repay their loans fishers often have to hand over their entire catch to the moneylenders. Often they do not even know the price of fish on a particular day and so are unaware of potential revenues. Although micro-finance institutions and local NGOs provide access to micro credit, a majority of fishers utilize traditional informal loans from moneylenders (WorldFish Center 2008).

In this paper I address three key issues: 1) poverty and fisher livelihoods; 2) the role of fishers in resource management in terms of their fishing practices; and 3) how the local money lending system affects both poverty and resource management. This information is vital for alleviating poverty and creating better fisheries management in the Sundarbans.

Methods

Data for this paper was collected in two villages, Burigoalini and Abadchandipur, located in Shyamnagar Upazila, Satkhira District, which is adjacent to the Sundarbans West Reserve Forest (Figure 1). In addition, I collected secondary data from various sources including the internet, journals, publications, and government and NGO reports. Some demographic data was also collected from Union Parishad sources.

I began data collection by visiting Shyamnagar Upazila and consulting with the Senior Upazila Fisheries Officer, community leaders, and key informants; as well as members of the local government. These initial visits offered me a better understanding of local livelihoods, socio-economic conditions, and fishery activities. Prior to choosing a study area, I made a preliminary visit to two villages in Shyamnagar Upazila. For primary data collection I developed a questionnaire which I used to elicit responses from participants. I drafted a set of interview questionnaires for eliciting desired information from fishers according to a format developed by Mukherjee (1995). I pre-tested the questionnaire by interviewing several fishers; I then rearranged the questionnaire and modified it to reflect the realities of the study site. The final questionnaire included questions about the sample fisher's family size, age, sex, occupation, educational level, fishing practices in rivers and shrimp enclosures, shrimp fry collection methods, and financial and economic situation (Appendix 1).

I selected twenty fishers from each village as respondents for the questionnaire. Out of the twenty respondents in each village, five were shrimp farm owners and fifteen were fishers; about half were male and half female. I selected shrimp enclosure owners systematically in order to have spatial separation between enclosures. Fishers were selected based on their availability for interviews. I also selected fishers according to the diversity of their occupations in order to cover different livelihood patterns in the villages. Respondent belonged to one of three categories: 1) shrimp

enclosure owners, 2) male fishers, and 3) female fishers. The two villages' total number of shrimp enclosure owners was 120, while the total numbers of fishers were 180 males and 100 females. The numbers and category of sample fishers in the two villages are shown in Table 1.

Table 1: Number and type of fishers in each village interviewed in the survey

Village	Shrimp enclosure owners	Fishers (male)	Fishers (female)	Total
Burigoalini	5	8	7	20
Abadchandipur	5	7	8	20
Total	10	15	15	40

After an initial visit and discussions with the selected fishers and shrimp enclosure owners I prepared a data collection schedule. Data collection was done two times per month at the convenience of the respondents. The study was conducted from August to December 2009. I set up appointments to meet with respondents for interviews so that they would be available and conducted semi-structured interviews with each respondent individually. Upon completion of each interview the questionnaire was checked and verified to make sure that answers to each item listed had been properly recorded.

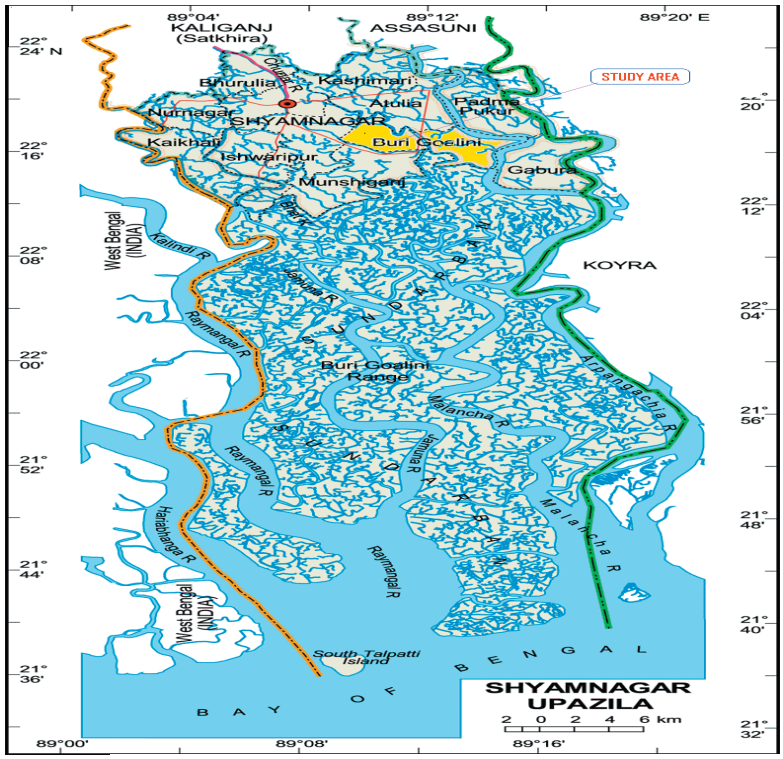


Figure 1: Map of the study area

In order to crosscheck interview data as well as gain an overall impression for each village, I also used participatory research assessment tools such as focus group discussions (FGD). I conducted three FGD in each of the two survey villages (one FGD for each fisher category). In addition to the selected respondents, family members from each group also participated in FGD. I used a checklist of structured questions for the FGD, which corresponded to the topics covered in the individual interviews.

At each stage of the survey, data were checked, edited, coded and transferred into computers at the field site. Some data collected were in local units of measurement familiar to respondents, so these units were converted into international units before transfer to the computer. Data were processed using Microsoft Excel. Preliminary data sheets were compared with the original coding sheets to ensure accuracy during data entry.

Results

Poverty and Fisher Livelihoods

The average family size of surveyed households was 5.6, which is slightly higher than the average of 5.48 for Satkhira District (BBS 1995). The average family size of shrimp enclosure owners, male fishers, and female fishers were 5.1, 5.8, and 5.8 respectively.

Most fishers live in very poor housing conditions. In terms of construction materials, two categories of houses were found, *katcha* buildings (temporary huts made of mud, bamboo, and Nypa palm (*Nypa fruticans)* thatching, with dirt floors) and *pacca* buildings (permanent homes made of bricks or tin sheets). Many poor people live on *khas* (government owned land) where tin housing materials are provided by the local government's engineering department. Out of thirty fishers (both male and female), twenty five live in katcha houses and five live on khas land. All shrimp enclosure owners had permanent pacca or semi-permanent housing.

I classified land holdings into three categories: landless (0 hectares); small (0.01-0.05 hectares); and large (more than 5.0 hectares). I found that among the thirty fishers, both men and women, that five were landless and twenty five were small landowners (own only their homestead). All ten shrimp enclosure owners were large landowners; their landholdings including shrimp enclosures and agriculture land. The average land holding size of shrimp enclosure owners was 22.48 hectares. The largest and smallest land area of the shrimp enclosure owners were 40 hectares and 6 hectares.

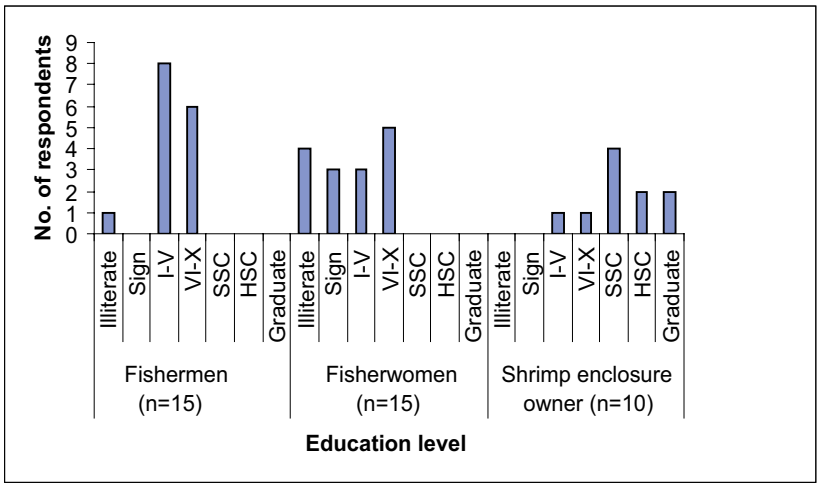
The Sundarbans is vulnerable to natural catastrophes such as cyclones and floods. Frequent cyclones and floods, such as cyclones Aila and Sidr, have destroyed the homes of residents along with other livelihood assets such as fishing gear. During such catastrophes many lives are lost and physical infrastructure, such as roads, bridges, and transport links, are wiped out. The lack of adequate cyclone shelters in the vicinity seriously affects the lives and livelihoods of the fisher community. Cyclones have high costs in terms of human and physical capital. According to

Haque and Blowfield (1997) coastal fishing communities, by their very nature, are more exposed to severe weather hazards than most agricultural areas.

I found that shrimp enclosure owners have the most education, and that fishers have the least. In general the lowest level of literacy for a shrimp owner is equivalent to the highest level that fishers have reached. Of the fishers, the women have a much higher level of illiteracy and semi-literacy (47%) than male fishers (7%); on the other hand, none of the shrimp enclosure owners is illiterate or semi-literate. Among the 15 male fisher respondents, most have been to primary school but no one received a Secondary School Certificate (SSC) or attended any other form of higher education. Approximately 7 percent of male fishers are illiterate and cannot write their names; approximately 53 percent have attended grades I-V; and the remaining 40 percent have attended classes VI-X. Among the 15 female fisher respondents very few went to school. Most of the women attended primary school, but very few completed it. According to my survey, among female fishers 26 percent are illiterate and cannot write their names, nearly 20 percent are semi-literate (can sign their names), about 20 percent have attended grades I-V, and the remaining 33 percent have attended grades VI-X. Among the 10 respondents who owned shrimp enclosures no one was illiterate. Most owners have completed their SSC, a few have received their high school certificate (HSC), and a few have education beyond high school (Figure 2).

From interviews, I learned that health facilities in the surveyed sites are inadequate. There are no government hospitals or health centers near the villages. People frequently suffer from diarrhea, fever and other diseases. Shortage of clean drinking water is a common phenomenon. There are no tube wells in either village, and all interviewees said that they generally drink rain or pond water. Following Cyclone Aila people avoided drinking pond water because of contamination. After Aila some NGOs provided small amounts of drinking water, but the supply is insufficient for the villagers, and it must now be purchased.

Figure 2: Education levels of different household categories in the Satkhira study area.



All the fishers whom I interviewed lacked basic knowledge of health and sanitation and incorrectly answered questions on topics such as water-borne diseases and hand-washing. There were no latrines in many of the households in the villages, and as a consequence residents suffer from various diseases. Shrimp enclosure owners, on the other hand, do not face these types of problems. All the owners I interviewed have built sanitary latrines and reservoirs for capturing rain water near their homes. They also have first priority in taking water from the village reservoirs provided by NGOs. In this way the shrimp enclosure owners unfairly take over essential resources meant for everyone.

I found that primary sources of income are diversified, with fishing (both of cultivated and wild fish) as the dominant income source. When I asked respondents to specify their primary occupations, 70 percent of respondents reported fishing as their primary occupation; 10 percent reported being engaged in agriculture, approximately 5 percent reported different government and non-governmental jobs; and approximately 8 percent reported being involved in some kind of business. Landless and marginal (have only homestead land) fishers reported that their main occupation is daily and seasonal labor in the shrimp enclosures, fish/shrimp fry collection, and crab harvesting. Seventy percent of female fishers were employed by a shrimp processing factory (Figure 3). The main incomes of the shrimp enclosure owners come from shrimp cultivation.

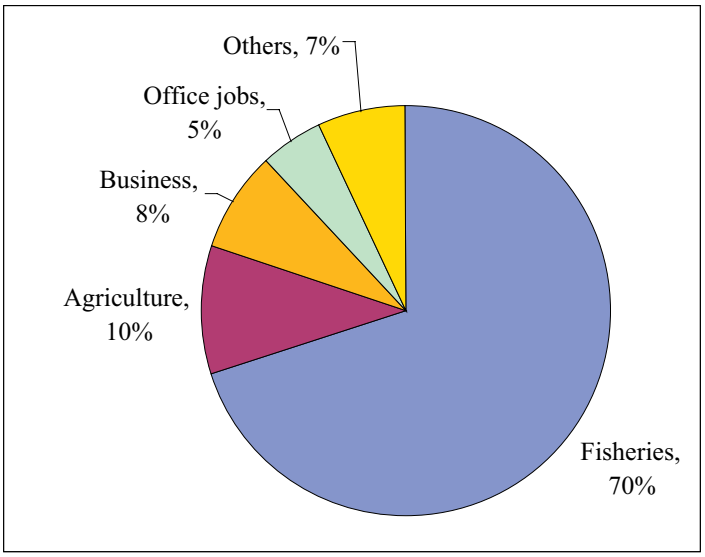


Figure 3: Occupation of households in the surveyed area (n=40)

I also looked at gender differences between male and female fishers. I found that women are engaged in food preparation, child care, washing, family health care, and shrimp processing, while men are in charge of decision making and firewood collection. Almost everywhere else in the world, wood collection in rural areas is traditionally a woman's job. But here in the Sundarban the case is different. When

men enter the forest for crab harvesting, they collect fuelwood at the same time. Women never enter the forest for fuelwood because these areas are very prone to tiger attacks.

As might be expected, fishing is the most important income source for male fishers. In contrast, the main source of income for female fishers is daily labor in shrimp enclosures and factories. Daily wages in the enclosures and factories vary from 70 BDT (1.01 USD) to 130 BDT (1.87 USD), with women receiving lower wages for the same work (Table 2). Harvesting shrimp/fish fry and crabs from natural sources also contributes to the incomes of fishers. Poor people often fish and collect crabs in canals and ditches in the vicinity of their villages as secondary sources of income.

Plate 1: Female fishers working in a shrimp processing factory

Plate 2: Collecting post-larvae shrimp from a natural source

The main expenditures among fishers are for food, followed by health care, clothing and loan repayments. Shrimp enclosure owners save their money for developing their houses, improving sanitation conditions, and other housing assets. The income of female fishers is lower for two reasons: one is gender-based wage differences, and the second is that women are restricted from fishing from boats.

Table 2: Monthly income and expenditure of the study area

	Average Income (BDT)	Average Expenditure (BDT)	Highest (BDT)	Lowest (BDT)
Shrimp enclosure owner	16,700	12,200	24,000	10,000
Fishers (male)	2,487	2,487	3,000	1,800
Fishers (female)	1,473	1,473	1,800	1,000

Most fisher households suffer from food deficiencies two to three months each year. But in 2009 food shortages lasted from four to six months because of Cyclone Aila. During this period no work was available in the shrimp enclosures. From the questionnaire-based interviews, I found that shrimp enclosure owners consume three

meals a day, while fishers, both men and women, only have sufficient food for two meals per day. Shrimp enclosure owners frequently consume fish, meat and milk, but fishers consume only small amounts of fish protein and seldom eat meat or drink milk.

Fishers' Role in Resource Management: Awareness and Fishing Practices

Fishers in the Sundarbans use a variety of different traps (set bag net, push net, cast net, and hooks and lines). From June to August fishing is banned in natural areas and there are also bans on many types of destructive fishing tools, such as set bag nets (*behondi*), monofilament nets, and so forth. During periods when fishing is banned no alternatives sources of food or income are available to fishers. My survey found that all fishers other than shrimp farm owners have to catch fish illegally in order to meet their daily needs when fishing is not tenable. No other alternative income generating activities are available in the off season or during bans. I also found that all the fishers I interviewed are indifferent about fishing laws and regulations-that is, they know about the laws but are forced to disregard them in order to feed their families during restricted periods.

Local fishers have been offered various training and awareness raising programs from the upazila administration and some NGOs in the area. The topics of these programs include health, water and sanitation, and fisheries techniques and laws. Most shrimp enclosure owners that I interviewed have received updated information, knowledge, technology, and training, and have also participated in social and cultural activities related to all of these topics. However, I found that fishers who do not own shrimp farms have less access to these resources. They received no training in fishing methods, even if those trainings were targeted towards them. They are also less aware than shrimp farm owners of prohibitions against fishing in sanctuaries and other fishing laws. Hence, they are less responsive to these rules.

Dadon, the Local Money Lending System

All fishers use credit obtained from different sources. Formal credit is provided by different NGOs (BRAC, Susilon, Gonomokhi, Gono Unnayon Federation). Informal credit also plays major roles in mitigating household financial crises. The interest costs of capital from money lenders are very high in the informal sector (5 to 15% interest rate per month). Fishers have to sell their catches to buyers (*paikars)* through shops/warehouses (*arot)* of moneylenders (*dadondar*) where they are charged a 5 to 10 percent commission on their sales. Strict requirements imposed by banks mean that even larger-scale operators in the fisher community do not have easy access to bank credit.

During the crab harvesting season, fishers depend on NGOs and moneylenders for funds. This is a big problem for fishers. Poor fishers collect crabs and then sell them to moneylenders at a lower rate. The moneylenders then sell the product to the market at higher rates. Ultimately profit from the harvesting of crabs goes to moneylenders.

Conclusion

The present study has identified the livelihoods of the fishers and shrimp enclosure owners who inhabit the western region of the Sundarbans. I found that both male and female fishers live with poverty and do not reach their daily basic livelihood requirements. They are also exploited and oppressed by shrimp enclosure owners. In general, poverty remains a major obstacle to poor fishers' ability to gain and maintain access to critical livelihood assets. Among fishers, respondents expressed that declining income from fishing, due in part to recent cyclones, as well as the low rate of household savings, suggests that fishers likely cannot improve their living standards. Based on these results, I conclude that the livelihoods of fishers can improve only if policy makers focus on practical livelihood problems, such as the lack of alternative income generating activities during bans on fishing; money lending systems and the capture of resources by elites; and serious lacks in infrastructure for health and sanitation, especially during cyclones.

Recommendations

I would like to make a number of specific suggestions for improving and developing fisher livelihoods in the Sundarbans. I observed that alternative income generating activities are non-existent in the study area. The government needs to support free education and skill development training for alternative income generation during periods when fishing is restricted.

Also, though there have been government and NGO sponsored training and social activities directed at poor fishers to increase their awareness of fishing laws, health and sanitation, conservation, and social issues, these have usually been limited to shrimp enclosure owners. Donor agencies should investigate this further and be more vigilant about the allocation of these activities in order to make them more fruitful.

Another reason that poor people in the Sundarbans cannot improve their livelihoods is because they cannot escape the local system of money lending. The creation of special banks or other financial institutions that can supply easy loans to fishers would also help to reduce unfair money-lending and exploitation.

Lastly, a cyclone center is critical to the well-being of residents of the study area. When storms strike the most pressing issue is drinking water. There is an urgent need to establish a large number of rainwater reservoir tanks, so that drinking water is available even in the event of a natural disaster. There should also be filters supplied to clean pond water. The government and NGOs play an important role in supplying pure drinking water at all times.

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Appendix I
Study on livelihoods of Shamnagar Upazila Fisheries Communities

District		Upazila	

1.0 FISHERMEN IDENTIFICATION

Village-	Union-	Religion-
Name of Head of Household		
Name of Spouse		

2.0 DEMOGRAPHY & HOUSEHOLD INFORMATION (JOINT/SINGLE FAMILY)

2.1 Family Structure:

Family members (No.): Adult Male: Adult Female: Children under 16:

2.2 Occupation and Employment Status Family Members

No.	Name	Age	Sex	Education	Occupation
1					
2					
3					
4					

3.0 FISHERIES

Issues		Answer/Code	Fish/ Shrimp culture	PL Catc hing	Fish/Crutacean sp. catching		
					Crab	Open water Species	Gher (Species)
1		2	3	4	5	7	8
3.1	Are any members of your household involved in fishing/fish culture?	1-Yes 2-No					
3.2	How many members involved?	Person (number)					
3.3	What type of fishing gear you use?	1- Caste net, 2- Seine net, 3- Set-bag net, 4- Current net, 5- Gill net, 6- Hook and line, 7- Pots and traps					
3.4	Ownership of fishing net used	1- Own net, 2-Rented net, 3- Net on rent					
3.5	Type of fishi ng boat used	1- Mechanized boat 2- General boat					
3.6	Number & name of months involved in fishing activities?	Months/year					
3.7	Wage rate during fishing season	Tk/day					
3.8	Total earning per day during the season? *(Al members)*	Tk/day					
3.9	Do you faced any constraints related to access to fishing resources?	1-Yes 2-No					
3.10	If yes, specify	1-Govt. ban on fishing for certain period 2 Lack of fishing boat, net etc. 3-Limited access to soft credit 4-Shift of fishing ground due to climate change 5-Others, specify					

3.1 Marketing of Fish

Issues	Answer/Code	Cultured fish	PL	Crab/Shrimp
1	2	3	4	5
3.1.1	Where do you sell your fish?	1-Mohajon (dadonder), 2-Local market 3-Distant market, 4- Other		
3.1.2	Do you taken any money as advanced sell *(Dadon)*?	1-Yes 2-No		
3.1.3	Do you face any restriction to sell fish any where/open market?	1-Yes 2-No		
3.1.4	What is the benefit if you able to sell fish in open market?	1-Get fair price 2-Others, specify		
3.1.5	Do marketing structure sufficiently developed in the locality?	1-Yes 2-No		
3.1.6	If not, specify	1-No developed landing station. 2 -Poor road communication 3-Poor marketing facilities. 4 - Others, specify		
3.1.7	Are fish processing facilities available in the locality?	1-Yes 2-No		
3.1.8	If not, specify	1-Limited number of ice plant in the locality 2-Insufficient supply of storage and packaging materials 3- Lack of electricity, 4-Others, specify		

3.2 Income

	Income heads	Annual income (Tk)
1. Fisheries		
2. Forest		
3. Livestock		
4. Agriculture Land		
5. Others		
6.Total		

4.0 FARM HOLDING

Computer Code	Parameter		Response
	4.1 Total land holding		
	FI: Convert the local measurement unit like Bigha/Pakhi/Kani etc to decimal) 1 local unit …… …….. decimal	Homestead area	
		Water body	
		a) Cultivated land	
		b) Land rented	
	4.2 Number of livestock and birds (cïm¤ú` I cvL-cvLvjxi weeiY) : msL¨vq -		
Buffalo-	Cattle-	Goat-	Sheep-

5.0 INCOME FROM FOREST AND WILDLIFE:

Sl. No.	Issues	Answer code	Fire wood	Honey	Others
5.1	Are any members of your household involved in forestry?	1-Yes 2-No			
5.2	How many members involved?	Person (number)			
5.3	Number of months involved in a year?	Month			
5.4	Total earning during the year *(All members)*	Tk			

6.0 SOCIAL AND TECHNICAL TRAINING AND SKILLS

6.1 Formal/informal Training

Sl. No.	**Training Subject**	**Time (year)**	**Training Provider**	**Application level (Effectively-1, Moderately- 2 Not applied-3)**	**Remarks**
1					
2					

7.0 Additional Livelihood Skills:

What additional livelihood skills (Net making, stitching, handicraft, etc.) you possess?

8.0 FOOD SECURITY

8.1 HH Food Securities

Sl. No.	Issues	Number of month(s)
8.1.1	Number of months HH has adequate food to feed its entire members	
8.1.3	Months most difficult to provide adequate food for HH (put tick mark)	

8.2 HH Food Consumption

Food	Rice	Flour	Potato	Dal	Fish	Meat	Egg	Milk	Dried fish	Leaves	Vegetables	Fruits	Others
Peak													
Lean													

Code: 1 = Daily, 2 = 1-3 days/week, 3 = 4-6 days/week, 4 = 1-3 days/month, 5 = Irregular, 6 = Never

9.0 HOUSEHOLD ASSETS

Sl. No.	Type of assets	Code	Estimated market value of stock (TK) (indicate number where relevant)
1	Houses (1 -Pacca, 2 -Kancha, 3 -Tin, 4 -Bamboo, 5 -Wood, 6-others)	1	
2	Latrine (1-Pit, 2-Sanitary/ring-slub, 3-Pacca, 4-Open, 5-others)	3	
3	Drinking water (1-Tube well, 2-Pond water, 3-others)	2	

10.0 SHOCKS AND COPING STRATEGY

Did your household experience any kind of shocks or crisis during the last one year?	Yes No	1 2	
f yes, please mention the type of shocks faced by your household, and coping strategies adopted for each			

	List of shocks	Indicate shocks specifying magnitude	How it was coped with
1	Serious disease of any member	-	
2	Displacement due to Flood/cyclone/ tornado		
3	Serious problem in Gher		
4	Loss of crop due to flood/salinity		
5	Loss of business/investment		
8	Others (specify)		

11.0 PROBLEMES/RESTRICTIONS IN FISHING:

Sl. No.	Issues	Response
1		
2		

12.0 MEMBERSHIP WITH NGOs /SAMITEES:

Sl. No.	Issues	Response
12.1	Do you belong to any group(1.NGO,2. CBO,3. Cooperatives, 4. Samitee, 5. Fisheries Association, 6. Others)?	
12.1.1	If yes, Name the group/association.	
12.1.2	What are the main functions of the society or association?	
12.2	What benefits the society or asso ciation render to you in connection with your business?	

13.0 GENDER ISSUE

13.1 Gender Involvement in Home-based Activities

Sl. No.	Family members involved (No)	% Of involvement		Remarks
		Male	Female	
1	Food preparation			
2	Child care			
3	Washing and cleaning			
4	Decision making			
5	Fuel and fire wood collection			
6	Family health care			
7	Others			

Name of Enumerator: Date: