

Study on Socioeconomic Status of Fishers in Little Feni River of Bangladesh

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Abstract: The Little Feni River is a transboundary coastal river which tidal waves, environment and fish biodiversity had a significant impact on livelihood of the adjacent fishing community. A total 100 fisherman dependent on Little Feni River was interviewed during the period of July 2020 to June 2021 at Companigonj upazila, Noakhali, Bangladesh. Among the respondent, 58% were full-time fishermen while 90% preferred group fishing. The majority of fisherman (44%) were under the age of 25 and 54% were illiterate. Fishermen who preferred to live with joint family were found 54%, whereas 14% had eight or more family members. Average yearly income of most of the fishermen (42%) was between BDT 56, 000-70, 000, where 30% earned less than BDT 41, 000. Poultry raising by 32% women of the fisher's family provided support to the family. Although drinking water facility in the area was adequate, with 100% of fisherman using tube-well water, sanitation situation was poor, with 66% of fisherman using traditional toilets and 8% having no sanitary facilities. Linkert scale ranked lack of credit facilities as primary constraint. Factors of unstable livelihood were graphically displayed. Factors of insecure livelihood were diagrammatically display by problem tree. Poor socioeconomic situations encouraged fishermen to engage in year-round overfishing without regarding government regulations related to aquatic biodiversity.

Key words: Livelihood status • Fishermen • Little Feni River • Constraints

INTRODUCTION

Riverine fishing plays a significant role to sustain livelihood around the world and forms a key source of the diet [1-3]. Fish and the fishing industry are an important source of income and employment for many nations around the globe [4-7]. The rivers provide vast opportunities and potential for augmenting fish production and socioeconomic safety of the surrounding people [8]. Rivers provide full-time and part-time employment for 1.78 million peoples [9]. Riverine resources support Bangladesh's national economy by creating jobs, reducing poverty, supplying animal

protein and generating foreign exchange [10-15]. About 16.5 million people rely on the fisheries sector for their living, either directly or indirectly. In Bangladesh, 10% of total population directly or indirectly depended on fishing for their livelihood [16]. Geographically, Bangladesh's traditional riverine fisher communities are scattered across the country as are its rivers [17]. Most Bangladesh's fishing communities experience similar challenges that prevent them from enhancing their catch and income from fishing.

Fishermen are one of the most vulnerable communities in Bangladesh, living from hand to mouth and regarded as the poorest among the poor [18].

According to Hannan [19], fishing is regarded as a low-class occupation in Bangladesh and that fishermen are traditionally poor. Riverine fishermen livelihoods are fully depended on existing fisheries resource in the river [20-23]. Fishing is the primary earning source of fishermen households along the river. Due to various factors such as unequal availability of fish throughout the year, lack of technical knowledge, lack of fishing equipment's, credit facilities they are not capable to lead ordinary life. In the society, Fishermen are deprived in case of education, health, sanitation, power, financial resources and other activities [24-30]. Hence, the socioeconomic conditions of the fisherman are unsatisfactory. They are unable to earn enough money to fulfill basic family demands. Numerous amenities disappointed most of the fishers.

The livelihood conditions of the fishing community are not at all pleasant because they constantly struggle to survive [10]. A livelihood is sustainable if it's able to withstand stresses and shocks, recover from it, sustain, or even improve its current and future capabilities and assets and not degrade the natural resource base [31].

Sustainability of fish diversity of Little Feni River plays an emerging function in enhancing socio-economic status of fishermen. It is a transboundary river, originates from the Hill Tripura in India flow through Cumilla district in the southeast and enters Noakhali district near Gunabati. Following its southern course, the Little Feni River eventually meets up with the Bamni River to the northeast of Sandwip Channel which influence with brackish water. In terms of fishing for living and food, the river within its 162 square km river basin acts as a baseline for thousands of people. The role of the fisheries resources in this river is very crucial to reducing poverty and supplying food to poor fishers. The Little Feni River's seasonal abundance of fish species has a direct impact on the socioeconomic conditions of fishermen. The average annual per capita income of fisherman is BDT 2, 442 i.e., almost 70% less than national per capita income [16]. However, the socioeconomic position of these fishermen is not optimal, as fisheries resources are depleted due to uncontrolled fishing using highly destructive fishing devices, leading to severe financial hardship. Considering the foregoing, the present study was designed to assess the socioeconomic status and problems that the fishermen of the Little Feni River confront.

MATERIALS AND METHODS

The field study was conducted in the Little Feni River's surroundings at Companigonj upazilla in Noakhali,

Bangladesh over the period of a year, from July 2020 to June 2021 (Figure 1). A total 100 fisherman along the Little Feni River were interviewed to gather primary data, which was then augmented by several methodological Participatory Research Approach (PRA) tools such Focus Group Discussions (FGD) and Crosscheck Interviews (CI) with key informants. Overall, 7 Focus Group Discussion was conducted from three villages and each of FGD was held with 15 to 20 participants. To verify the accuracy of the data from the FGD, Crosscheck Interviews (CI) were conducted with key informants (Upazila chairman, Union chairman and Union member).

To create a comprehensive view of the socioeconomic status of fishermen of the Little Feni River, a draft questionnaire was prepared and pre-tested with a small number of fishermen. The final questionnaire was improved, rearranged and updated in accordance with the pre-testing findings. The final survey questionnaire consisted of questions on sociodemographic status, fishermen income, family size, family type and variables that affect fish catch in the Little Feni River. Overall socioeconomic conditions and interrelationship between socioeconomic parameters based on fishing activities of fishermen were gathered by the questionnaire from fishermen of Little Feni River.

Table 1: Variable and their empirical measurement

Variable	Measurement
Sex	Male or Female
Religion	Muslim or Hindu
Age	Sequential age in completed year
Experience	Number of years engaged in fishing
Family status	Joint or nuclear
Family size	Number of family members
Fishermen Types	Duration of Fishing in a particular year
Education	Higher educational achievement
Sanitation	Condition of sanitary toilet
Electricity	Availability of electricity in fishermen house
Training	Achievement of instruction about fishing
House	Physical structure of living house
Health	Reception of health service
Drinking water	Source of drinking water
Primary Occupation	Main occupation beside others
Women participation	Women's contribution in the income
Income	BDT (Thousand) per year
Fishing	Grouped or individual
Gender issue	Unequal access between boys and girls
Recreation	Recreational source both fishing and free time
Savings	Saving of money from income
Credit	Formal or informal credit sources



Fig. 1: Map of the Little Femi River showing the study area

The empirical measurements of the chosen variables are shown in Table 1. MS-Excel 2010 and SPSS software (version 16.0) were used to compile and analyze all the data to determine the mean and percentage. The Arc GIS (version 10.00) program was used to modify the study area map. The socio-economic constraints of fishermen were also estimated using Likert scale technique. After data analysis, the findings were presented in textual, tabular and graphical formats to understand the fisher's current livelihood status.

The constraints faced by fishers in the area were ranked using a Likert scale with values of 4, 3, 2 and 1. The fishers were subsequently asked to rank their

constraint as "very critical, " "critical, " "to some extent critical, " or "not critical." To assess whether the factor in question was critical or not, the variable mean score of 2.5 was used. The variables with a mean score of 2.5 or higher were deemed critical, while variables with a score of less than 2.5 were not.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Fishermen: The overall socioeconomic profile of the fishermen of Little Femi River in the study area is presented in Table 2. In the present study, 100 fishermen were interviewed where 98%

Table 2: Socioeconomic characters of fishermen of Little Feni River

Variables	Categories with Percentages (%)	Total	Relevant works
1.Sex	Male (98%) Female (2%)	100%	[32]
2.Age (years)	Child (1-19 years) (6%) Young (20-35 years) (44%) Middle (36-50 years) (36%) Old (51 years- above) (14%)	100%	[33]
3.Religion	Muslim (76%) Hindu (24%)	100%	[34]
4.Family status	Joint (54%) Nuclear (46%)	100%	[35]
5.Family size	Small (2-4) (18%) Medium (5-7) (68%) Large (8-above) (14%)	100%	[36]
6.Educational status	Illiterate (54%) Sign only (26%) Primary (16%) Secondary (4%)	100%	[36]
7.Sanitation	Kacha (66%) Semi-pucca (26%) No sanitation (8%)	100%	[37]
8.Electricity	Yes (68%) No (32%)	100%	[35]
9.House	Kacha (80%) Semi-pucca (20%)	100%	[38]
10.Health	Village (64%) Upazila (21%) Private (3%) Kobiraj (12%)	100%	[37]
11.Drinking water	Own (24%) Shared (32%) Neighbors (30%) Cyclone center's (14%)	100%	[34]
12.Gender issue	Education (26%) Health (16%) Food & others (14%) No issue (44%)	100%	[39]
13.Recreation	Mobile (70%) Television (17%) Radio & cassette (11%) Newspaper (2%)	100%	[16]

were male and 2% were female. Out of 2 female fishermen, both were widow and they were only earning member of their family. They ensured that they were fully depended on fishing activities. In religious view, it was found that most of the fishers were Muslim (76%) where least portion were Hindu (24%). The age of the fishermen ranged from 10 to 65, with a mean of 35.96 years. The community of fishermen had an unsatisfactory level of education, which meant that 54% of them were illiterate. Most fisher's families were too poor to continue their education. Additionally, some families tried to educate their children, but failed due to the crackpot of their children. Most of

the fishermen (54%) lead life with joint family where 14% fishers had large family member. Joint family defined such way; where brother, sister, father, mother, grandparents and other family members leave together. Based on financial thinking, fishermen believe that joint family is convenient than nuclear family. Most of fishermen lead their life in kacha (80%) house where very small number of fishers had Semi-paka (20%) house. As like housing condition, poor sanitary conditions were also observed from study area. Study showed that, 66% fishermen had kacha toilet where 8% had not any sanitary facilities. However, 32% fishermen had not any electricity facilities

Table 3: Job related characters of fishermen of Little Feni River

Variables	Categories with Percentages (%)	Total	Relevant works
1.Experience	Low (<15yrs) (46%) Medium (16-30yrs) (36%) High (<31-above) (18%)	100%	[40]
2.Fishing	Group (90%) Individual (10%)	100%	[39]
3.Types of fishermen	Fulltime (58%) Seasonal (32%) Subsistence (10%)	100%	[39]
4.Training received	Yes (29%) No (71%)	100%	[35]
5.Women participation	Livestock and Poultry rearing (28%) Livestock rearing (22%) Poultry rearing (32%) Vegetable (15%) Handicraft (3%)	100%	[39]
6.Income	BDT. 25, 000-40, 000 (30%) BDT. 41, 000-55, 000 (18%) BDT. 56, 000-70, 000 (42%) BDT. 71, 000-above (10%)	100%	[36]
7.Savings	Bank (8%) Cooperative societies (16%) Personal (10%) No savings (66%)	100%	[37]
8.Credit	Money lender (22%) Bank (16%) NGO's (46%) Relatives (10%) Neighbors (6%)	100%	[41]
9.Primary Occupation	Fishing (78%) Agriculture (16%) Day labor (4%) Shopkeeper (2%)	100%	[42]

and due to this problem with poor financial condition, their main recreational source was mobile (70%). All the members of fisher community (100%) had access to safe drinking water facilities from different sources. Majority (64%) fishermen ensured that their family was depended on village doctor due to low income. In the fisherman's household, a gender disparity was detected between boys and girls regarding education (26%), food & others (14%), health & dress (16%), although 44% had equal access to the study region.

Job Related Characteristics of Fishermen: Fishing activity of Little Feni River found as a family occupation. Most fishermen made sure that their ancestors worked as fishermen and their families encouraged them to continue the tradition.

However, whether intentionally or not, they engaged in this profession. The fishermen's professional experience in fishing varied widely; the minimum was a year and the maximum was 45 years, with a mean value of

20 to 30 years. Majority fishermen (78%) ensured that their primary occupation was fishing. Maximum fishermen (90%) of this river preferred group fishing than individual fishing. The Little Feni River fishermen consider that group fishing is more convenient than individual fishing. All the fishermen were not engaged with fulltime fishing (58%), there were also found seasonal (32%) and subsistence (10%) fishermen. Seasonal and subsistence fishermen exposed that; besides fishing they were also involved with other activities due to unequal accessibility of fish throughout the year. On the other hand, fulltime fishermen regard that, they hadn't any opportunity to conduct other jobs. Majority fishermen (71%) ensured that they hadn't received any training from government or nongovernment agency. Study revealed that, trained fisherman had more income than untrained fishermen. Wide ranges of annual income were observed from the fishermen community. Annual income of majority fishermen (42%) was ranges between BDT.56000-70000 where least portion of fishermen (10%) had annual income

71000-above BDT. Women of fishermen household were participated in Poultry rearing (32 %), Livestock and Poultry rearing (28%), Livestock rearing (22%), Vegetable cultivation (15%) and Handicraft (3%) for supporting their family. Majority fishermen hadn't any saving due to low income and large family size. Though, they lead their family with financial crisis but also tried to save. Fishermen had accessed to formal and informal loan facilities to support their business. Most fishermen (46%) taken loan from NGOs (BRAC, Prosikha, Grameen bank, ASA), while 22% obtained credit from local moneylenders, 16% from the government and private banks, 10% from relatives and 6% from neighbors. Fishermen admitted that they had to pay exorbitant interest on credit.

Socioeconomic Constraints Faced by Fishermen: The socioeconomic constraints faced by the fishermen of the Little Feni River were analyzed by using Likert scale technique [43, 44] and the results are presented in Table 5. Based on fishermen response Linkert scale identified lack of credit facilities as their main constraints where climate changing problem was identified as second critical problem. In addition, the present study also identified lack of adequate fishing crafts, river erosion, a lack of education owing to poverty and lack of other sources of income during Hilsa banning period as serious problems in the study area. However, the fishermen in the study area were not at risk from inadequate health facilities, a lack of fishing gear, imbalanced diet due to poverty, household pressure from having a big family, lack of training facilities, poor sanitation, water tides, or cyclones. The majorities of fisherman are uneducated, live hand-to-mouth and they are disregarded in all aspects of society. Due to poverty, they were unable to support their children education; therefore, their children frequently chose to go fishing instead of attending school. Consequently, generation after generation, they continue to be illiterate and incapable of contributing to the advancement of their community. This indicates that the government should concern for the fishermen by supporting them with interest-free bank loans and other means of support throughout the prohibition period of fishing.

Problem Tree Analysis: As a bottom-up method, problem tree analysis was used to graphically depict the problems of fishers, its causes and effects. The problems faced by fishermen of Little Feni River were identified using a participatory rural appraisal (PRA) tool (Figure 2). In a group brainstorming session, participants came up with "Reduce fisheries resource" as the main problem, after considering its causes and effects. Water pollution,

habitat degradation, indiscriminate fishing and capture of immature fish were the four main causes for the decline in aquatic biodiversity, according to problem tree analysis. Shaharior *et al.* [45] and Chowdhury *et al.* [46] identified the similar problem in Tetulia and Naaf River of Bangladesh, Bangladesh. However, Roy *et al.* [47] who conducted research on hilsa fishermen noted a decline in hilsa production from the Ganga River, India.

CONCLUSION

One of the traditional occupations of the individuals interviewed in the current study was fishing. Due to poverty, the socioeconomic condition of fishermen was not satisfactory. Lack of credit facilities, lack of education due to poverty, insufficient health facilities, insufficient fishing craft were premier obstacles to lead sustainable livelihood. In this circumstance, government and other agencies should take compatible step to uphold the socioeconomic status of the fishermen.

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