

## Socio-economic conditions of the fishermen community of Ichamati river in Santhia upazila under Pabna district

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**Abstract:** Socio-economic conditions and livelihood status of the fishing community of Ichamati river jolkor in Santhia upazilla under Pabna district were studied during January to June, 2006. Data were collected from randomly selected 250 fishermen through participatory rural appraisal and personal interview using a well structured questionnaire. The fishermen used four types of fishing gears such as net, trap, Hooks & line and wounding gear. The Muslims were the majority (64%) among the fishing community. The family size of the respondents varied from 5 to 11 (average 6.56) and their annual income ranged from Tk. 30,000 to 38,000. Twenty three percent fishermen were illiterate, 34% could sign their name only, while 26% were literate. The majority of the fishermen (78%) lived in *katcha* houses and they were depended mainly on the local quack or village non qualified doctor for health care. Over 70% fishermen had little access to pure drinking water and their sanitary conditions were very poor. The natural fish production and species diversity of the *jolkor* has been declining over the years where as stocked fish production is increasing gradually. There is no sound management policy for harvesting the aquatic resources of the waterbody. Therefore, the competent authority should pay heed to the management policy of the waterbody for the upliftment of the fishermen community and to develop their livelihoods.

**Key words:** Socio-economic, livelihood, production, gear, fishermen.

### Introduction

Bangladesh has vast area of waterbodies in the form of rivers canals, *haors*, *beels*, reservoirs like Kaptai Lake, oxbow lakes (*boars*), ponds, tanks seasonally flooded area and the Bay of Bengal. It is resourceful in terms of fish biodiversity having about 260 fresh water fish species and 475 marine fish species, 24 fresh water prawn species and 36 marine shrimp species (DoF, 2009). Besides, Bangladesh has also imported 8 high yielding varieties (HYV) of fish from abroad (Islam, 2000). The fisheries sector plays an important role in the socio-economic development, nutrition, employment generation and poverty alleviation of large number of people and foreign exchange earning of Bangladesh. The total fish production in Bangladesh was 2.44 million mt in 2006-2007 of which inland capture fisheries played the vital role. It occupied 41.3% (DoF, 2009). Inland fisheries resources cover an area of 4.43 million ha of which 91% comprises of natural fisheries and 9% of closed water culture fisheries. An estimated 1.03 million ha of rivers and estuaries, 2.83 million ha of floodplains, 1, 14,161 ha of *beels* and 69,000 ha of Kaptai reservoir offer tremendous scope and potential for fish production (DoF, 2006). The average rate of production from floodplain is about 600-700 kg/ha which can be increased manifold (DoF, 2001). A large number of peoples are associated with fish production, fishing, marketing, processing, and other related activities. About 1.28 million peoples were directly related with fisheries activities and fish farmers in Bangladesh were about 3.08 million. Another 12 million people indirectly earn their livelihoods from fisheries related activities but they are one of the most vulnerable communities in Bangladesh. They are poor by any standard, over the years economic condition of the fishermen has further deteriorated. Alam and Bashar (1995) estimated the average per capita annual income of riverine fishermen families to be Tk. 2442/- which is about 70% lower than the per capita income of the country as a whole. Being an isolated community fishermen were deprived of many amenities of life. Actual condition of the fishermen community in general must be assessed to know the real status of riverine fishing as a source of income. The main

objective of the present study was to determine the socio-economic status of the riverine fishermen, the existing fish production practices and to assess the diversity of fish species and fishing gears used in the Ichamati river *jolkor* which may contribute largely in the formulation of appropriate management measures for the Ichamati river *jolkor*.

### Materials and Methods

**Study area:** The research work was performed in the Ichamoti river *jolkor* which is one of the most important wetlands fishery resources in the Santhia-Bera upazilla of Pabna district. It was famous for its reserve of aquatic life and is the heart of local fishermen community. It is 42 km length having two km at Bera upazilla portion and approximately 40 km at Santhia upazilla portion of Pabna district, average width is 100 meter and its water area 412 ha. From the month of January to May it remains inundated with water supplied by water pumping station to a depth up to 6-7.5 meter and the remaining months around 4.5 meter depth. The river was being used as irrigation canal for the supply of water for crop cum fish cultivation. During September 2001 to June 2006, the Fourth Fisheries Project (FFP) activities was implemented by the Grameen Matsho O Pasusampad Foundation, a sister organization of Grameen Bank with the financial assistance of DFID and World Bank where a total of 2020 fishermen having 855 professional, 502 occasional, 663 subsistence type representing 8528 households within the two sides of the river area.

**Data collection:** Two hundred and fifty fishermen were randomly selected and interviewed for collection of data during January to June 2006. A well structured questionnaire was prepared, pre-tested and finally used for collection of relevant data. Questions related to socio-demographic condition, income of fishermen, family members and other relevant aspects of river fishing were included in the questionnaire. For questionnaire interviews, simple random sampling method was followed for 250 fishermen in the Ichamati river. Fishermen's were interviewed at the river sites during fish catching.

Besides this, Participatory rural appraisal (PRA), focus group discussion (FGD) was conducted with fishermen. FGD was used to get an overview of particular issues such as, trend in fish biodiversity, socio-economic condition of fishermen and gears used etc.

After collecting data through questionnaire interviews and FGDs, cross-check interviews were conducted with key person such as, Upazilla Fisheries Officer (UFO), Assistant Fisheries Officer (AFO), and relevant NGO workers for confirmation of the relevant information.

**Data Analysis:** Collected data were scrutinized carefully before the actual tabulation. After completing the pre-tabulation task, processed data were transferred to a master sheet and completed with a view to facilitating tabulation. Considering the objectives of the study a number of tables were constructed. Simple tabular analysis was adopted in the study.

### Results and Discussion

In the present study, three types of fishermen were found in the Ichamati river viz. Professional (61.2%), Casual/part time (28.4%) and Subsistence (10.4) fishermen (Table 1). With the onset of monsoon fishing activities were increased due to increasing the availability of fish. Participation of increased number of fishermen in the monsoon period coincides well with the findings of Alam (2004) and Hossain (2007).

**Table 1.** Type and number of fishermen in the Ichamati river

Type of fishermen	Professional	Casual	Subsistence
Number of fishermen	153	71	26
% of fishermen	61.2	28.4	10.4

Several types of fishing gears were found to be operated into the Ichamati river *jolkor* area. These gears were classified as nets, traps, hooks & line and wounding gears. A number of gears like *berjal*, current *jal*, *jhakijal*, *thelajal*, *moiyajal*, *bair*, *chandibair*, *borshi* and *koch* were observed to be operated in the *jolkor*. The fishing gears that were currently being used by the fishermen of Ichamati river *jolkor* were similar to those reported by Rahman *et al.* (1993).

In the present study a total of 40 species of fishes were recorded in the catches of nets, traps, hooks & line and wounding gears as used by the fishermen in the Ichamati river *jolkor*. The result of the present study agrees well with findings of Hossain (2007) who recorded 36 species of fish in Mokesh beel in Kaliakoir under Gazipur district. The age distribution pattern of the fishermen in the present study is demonstrated in Table 2. The result shows that the fishermen were mostly young (39.6%) and middle-aged (32.4%) who could afford much energy and labour in catching fish. The rest (28%) were the old fishermen. The age structure of the fishermen in the present study coincides with findings of Alam (2004) and Hossain (2007). The family size of the fishermen varied from 5 to 11 with an average of 6.56. The families were mostly joint type as reported by Alam (2004). Dasgupta (2004)

and Hossain (2007) also observed similar type of families in Gazipur and Mymensingh district.

**Table 2.** Distribution of age groups of fishermen of Ichamati river

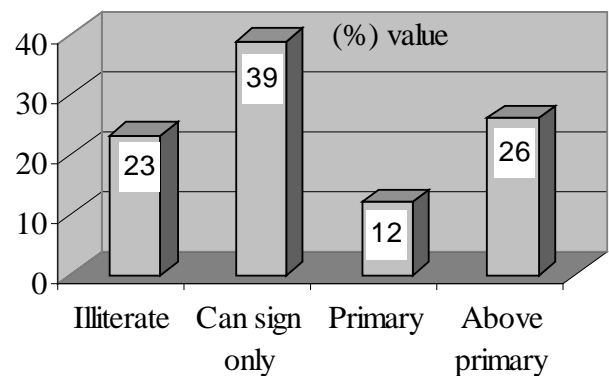
Age group	Young (<30 years)	Middle aged (31-50 years)	Old (>50 years)
Number of fishermen	99	81	70
% of fishermen	39.6	32.4	28

Religion is an important attribute in the cultural arena in any society. About two third of the fishermen community in the studied river *jolkor* were Muslims and one third of the fishermen community was Hindus (Table 3). The dominance of Muslims in the fishing community as observed in the present study indicates that Muslim were coming to this profession in increased number through breaking the previous norms and value of the society which were due to the economic hardship and lack of employment scope in other sectors.

**Table 3.** Distribution of religion and housing condition of the fishermen of the experiment

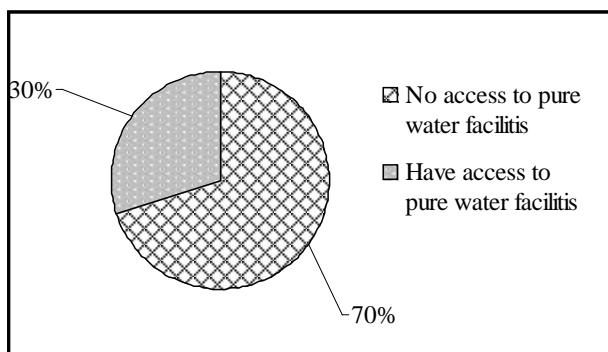
	Religion		Housing condition		
	Muslim	Hindu	Katcha	Semi pucca	Pucca
Fishermen	167	83	195	37	18
Percent	66.8	33.2	78	14.8	7.2

Three types of housing conditions were observed with the fishermen in case of Ichamati river *jolkor*. Housing conditions were categorized as Katcha (rough, rural) – made of bamboo and tree leaves with mud flooring, semi pucca – made of wood or/and tin and pucca (proper, good quality) – made of brick. It was observed that 78% of the fishermen had katcha houses (Table 3), which reflect the deplorable and distress condition of the fishing community. The similar scenario regarding housing conditions were also reported by Alam (2004) and Hossain (2007) in Gazipur Sadar and Kaliakoir upazilla under Gazipur district.



**Fig. 1.** Percentage of education level in the fishermen in the study area.

Education is an essential pre-requisite for human resource development and an indicator of social advancement. The result of the present study is presented in Fig.1 where the height percentage (39%) could only sign their name followed by 26% above primary and 23% were illiterate. The literacy rate as prevailing among the fishermen community of Ichamati river *jolkor* is more or less similar to those found elsewhere (Alam, 2004; Hossain, 2007). The income profile is strong economic indicator of national development. The fishermen in the surveyed area were mostly poor, their annual income ranged closely between Tk. 30,000 and Tk. 38,000. This level of annual income coincides with the average national income (US\$ 456) in Bangladesh as documented in Bangladesh Economic Review (2006). Hossain (2007) indicated that fishermen in Kaliakoir upazilla under Gazipur district had annual income ranging from Tk. 24,000 to 40,000. On the other hand, Alam (2004) found a much higher level of income in case of *beel* fishermen in Gazipur Sadar upazilla under Gazipur district.



**Fig. 2.** Scenario of pure drinking water facilities in the study area.

Health facilities enjoyed the fishermen community were very poor and unsatisfactory. The fishermen mostly depended on local quack or village doctor who had no knowledge about modern medical science. The tendency of the fishermen to obtain improper poor medical service from the village doctor appeared to be due to financial inability of the fishermen to bear the medical expenses. About 70% of the fishermen had little access to drinking pure water as they had no tube-well of their own. However, 30% of the fishermen had own tube well and they could drink pure water. Availability of health facilities and pure drinking water to the fishermen community in the present study were more or less similar to those found elsewhere (Alam, 2004; Hossain, 2007).

Training is a strong weapon for enhancement of knowledge and development of skill for accomplishment of a specific job in an easy and effective manner. The fishermen associated with the Ichamati river had some limited scope to receive training from Fourth Fisheries Project and Grameen Matshyo O Pasmusampad Foundation. On an average, 26% of the fishing community had received training on fisheries related activities. This level of training support extended to the Ichamati river fishermen is comparable to that reported by Hossain (2007) in case of fishing community in Mokesh *beel* in

Gazipur district. This training facility is inadequate and needs further intensification and wider coverage.

Three types of marketing channels which were very common in Bangladesh were in operation in the Ichamati river *jolkor* system where the middlemen or intermediaries derived the maximum financial benefit. The shorter is the marketing channel the more is the benefit to the fishermen. Effective measures and initiative from the Government and local NGOs should be taken to make sure that the fishing community get reasonable price for their fish. Result of the present study indicated that the socio-economic condition of the fishermen is sub-standard with very low annual income, leading an inhuman life and they are using traditional three fishing techniques. Fish production and species diversity have declined due to the change in habitat, siltation, over exploitation, indiscriminate use of gears and jute rotting and as a whole due to absence of a sound management policy. Therefore, successful model river management policies should be adopted to protect the species as well as for sustainable fish production from Ichamati river *jolkor*. It is recommended to set up educational institution in fishermen's village to improve their educational status, so that they can understand some rules and regulations regarding the use of gears and seasonality, to establish institutional credit systems to provide soft term loan to the fishermen, to ensure institutional arrangement to continue regular stocking of fish fingerling in the *jolkor* system with strict regulations on prohibition of fishing during certain period of time. Finally, the fishermen should be encouraged to sell their fish to the market directly without involvement of the intermediaries to increase the benefits as a whole.

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