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Status of the Fishermen Living at the Tangon River Bank- A Case Study from the North-west of Bangladesh

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Abstract

This study intended to provide information on the fishermen engaged in fishing in the Tangon River, Thakurgaon. To assess their existing status, some essential socio-economic information e.g. literacy, religion, health hazards, sanitation and medical facilities, family structure, income level, types of fishermen, fishing, and constraints were taken into account. Results indicated that the majority of the fishermen (77%) belonged to the age class >35-50 years and were dominated by Muslims (89%). Three educational categories were recorded where illiteracy was main (52%), 24% had a primary level of education, and 24% could only sign. This survey revealed that the fishermen near Tangon River are leading measurable life due to great financial hardship. Therefore, proper conservation and management measures must be taken to enhance the fisheries biodiversity in the river so that the fishermen can harvest sufficient fish on a sustainable basis. The government, as well as non-government organizations (NGOs), should take appropriate initiatives to enhance their living standard and to improve such techniques/alternatives that can benefit the underprivileged fishermen to hold present fishing profession in the Tangon River.

Key words: Fishing, Fisherman, Socio-economic status, Tangon River

Introduction

The fisheries sector of Bangladesh has been playing a vital role in socio-economic development, reducing protein deficiency, providing employment opportunities, and earning foreign exchanges. The fisherman (locally known as Jele/Jailla) is a term used to describe people who make a living by catching fish (Rahman, 2019). They are one of Bangladesh's most vulnerable and underprivileged communities because their income is below the marginal level (Alam and Bashar, 1995; Kabir *et al*., 2012). Besides, the livelihoods of fishermen largely depend on the river fishery resources (Khan *et al*., 2013). Fish is the major protein source in the Bangladeshi diet, accounting for almost 60% of total animal protein consumption, with per capita fish consumption reaching 62.58 grams, which is greater than their daily protein need (60 gm) (BBS, 2017).

However, sustainable fish production is dependent on management and technological advancement, as well as the socio-economic aspects of fishermen, which is an area of interest for researchers aiming to recognize restrictions and improve the current situation (e.g Kabir *et al*., 2012; Ali *et al*., 2014; Mia *et al*., 2015). Furthermore, overfishing due to population growth and exploitation of the fishermen by moneylenders pose a threat to poor fishermen's livelihoods (Khan *et al*., 1994).

Tangon River is an important riverine ecosystem passing through the Indian state of West Bengal and the northwest part of Bangladesh. This river is crucial in the reduction of rural poverty and the provision of nutrition to the poor fishing community. In a view of this, the current study was assumed to know the existing status of the fishermen of the Tangon River in Bangladesh.

Materials and Methods

Study area

The current investigation was conducted at Tangon River, located at Pirganj Upazila under Thakurgaon district in the North-west part of Bangladesh (Figure 1). This survey was carried out from January to April 2017 among the fishermen engaged in fishing in the Tangon River.

Data collection

75 fishermen were selected randomly at Saguni Bridge (25º50′03″N and 88º23′06″E) and Rail Bridge (25º49′32″N and 88º23′07″E) in Tangon River for collecting primary data through a structured interview schedule comprising both close and open formed questions. The interview schedule was pre-tested to see if any changes, additions, or alterations were required. Fishermen were also approached with participatory rural appraisal (PRA) tools such as focus group discussions (FGD). FGD was used to get an outline of some particular issues such as the existing fishing system, livelihoods, and constraints of fishermen. Interviews and FGD sessions were held at the river bank. After data collection through interviews and FGD, it was necessary to check the information accuracy. Therefore, cross-check interviews were conducted with the key person such as the Upazila Fisheries Officer (UFO) and relevant NGO workers for the ratification of collected information.

Data analysis

The data were analyzed in MS Excel 2010 and presented in graphical, tabular, and descriptive forms.

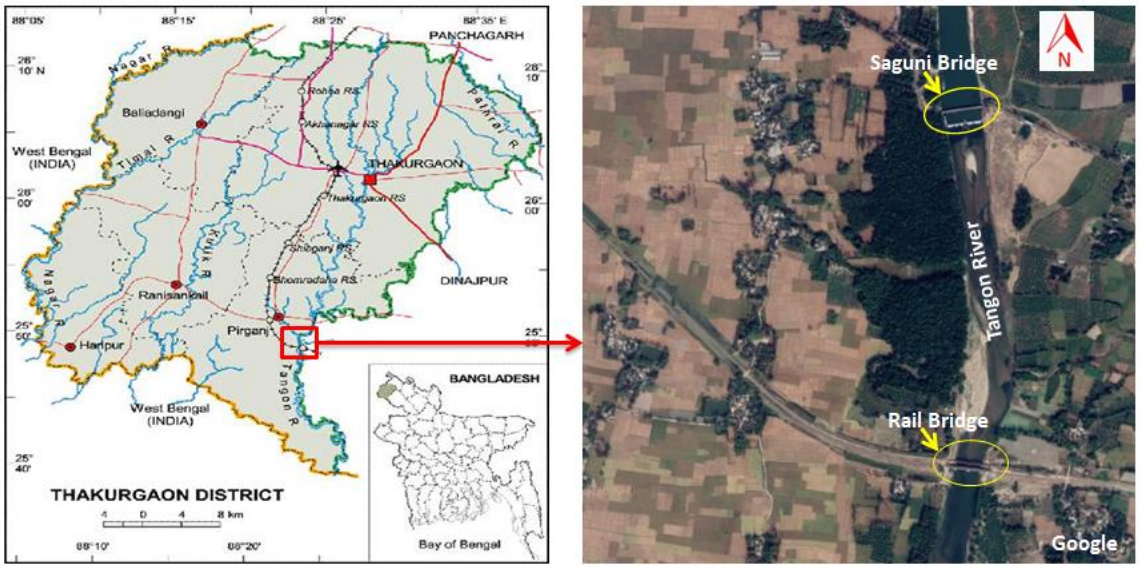

Fig. 1. Map of Thakurgaon district showing the study area

Results and Discussion

Socio-economic conditions of the fishermen

Age structure is an essential indicator to determine the position and role of a fisherman in his community. The fishermen were categorized into three groups according to their age. It was found that most of the fishermen (77%) of the Tangon River belong to the middle age group of >35-50 years and the number of respondents was 58, 15% was >50 to 65 years and the number of the respondent was 11, other 8% was 20 to 35 years and the number of the respondent was 6 fishermen. These findings are comparable to the other reported studies. Ali *et al.* (2014) reported age group of 21 to 40 years was the highest (60%) and > 60 years were the lowest (5%) of the fishermen in the Lohalia River. Hossain (2012) also found middle age group was highest (40%) among the fishermen in the Punarvhaba River while Rabbani (2007) reported age group of 25 to 50 years was maximum (46.67%) and >50 years were the lowest (25%) of the fishermen in the Karatoa River.

In the present study, 52% of the fishermen were illiterate and the number of respondents was 39, 24% were capable of signing only and the rest had education up to primary level (Figure 2). Ali *et al.* (2014) recorded 60% were illiterate, 35% primary and 5% secondary level in the Lohalia River. According to Islam (2009), 2.5% of the fishermen of the Kali River had literacy up to secondary level, 12.5% of the fishermen had literacy up to primary level, 45% can sign only and 40% were illiterate. Rabbani (2007) found that 20% of the riverine fishermen were illiterate, 71.67% had a primary level of education and 8.33% had only a secondary level of education of the Karatoa River.

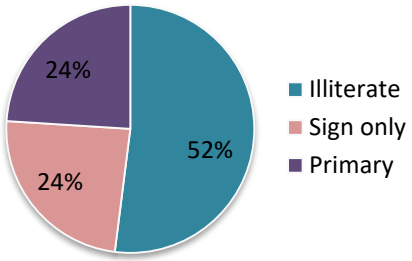

Fig. 2. Educational status of the fishermen in the study area

The fishermen communities of Bangladesh comprise people of numerous castes. From the current survey, it was observed that 89% of fishermen were Muslim and 11% were Hindu of the Tangon River. Rahman (2008) found 92.5% were Muslim and the remaining 7.5% were Hindu among the fishermen of the Jamuna River. During the current study, the family types of the fishermen were divided into two categories. It was found that 67% of fishermen lived with nuclear families and 33% of fishermen lived with joint families. According to the number of family members, the fishermen's families were classified into three groups. The maximum percentage was found in the 5 to 7 member's family (63%) and the number of respondents was 47 fishermen, 2 to 4 member's family was 26% and the number of respondents was 20, 8 to 10 member's family was 11% and the number of respondents was 8. Ali (2013) studied the fisheries and livelihood of fishermen in the Atrai River and found that 12.5 % of

fishermen had a small family, 37.5 % had a medium family, and 50% had a large family.

In the present study, it was found that the housing condition of 58% of fishermen was unconstructed, 11% semi constructed and 31% constructed. Rabbani (2007) revealed that 76.67% of the fishermen's houses were unconstructed, 15% of fishermen's houses were semi-constructed, and 8.33% of fishermen's houses were constructed of the Karatoa River. Furthermore, Rahman (2008) investigated the socio-economic status of fishermen of the Jamuna River found the majority of the fishermen's (57.5%) houses were unconstructed. In the present study, it was found that most (68%) of the fishermen had electricity facilities, whereas the rest of the fishermen did not have electricity facilities at their residence. Hossain (2012) noted that 36% of the fishermen of the Punarvhaba River were far away from electricity facilities while 64% of the fishermen had electricity for their well-being. However, it was found that 32% of the fishermen of the Tangon River could not take electricity facilities for their poor economic condition.

From this survey, it was found that 85% of the fishermen used unconstructed sanitary, 7% semi-constructed, and 8% of the fishermen had no sanitary facilities. Islam (2009) found that 7.5% of fishermen had constructed toilets, 42.5% had semi-constructed and 50% of the fishermen had unconstructed toilets of the Kali river. The present study showed that 68% of the fishermen were dependent on village doctors, 32% got health services from the Upazila health complex which indicates poor health facilities of the fishermen. Hossain (2012) observed that 40% of the fishermen's households of the Punarvhaba River were dependent on village doctors, 23% got health service from Upazila hospital, and 30% from kobiraj. Islam (2009) studied on Kali River and observed that 95% of fishermen's households drank water from tube wells, whereas 5% drank Kua water. According to Islam (2012), 100% of the Tangon River fishermen used tube-well water for drinking, supporting the current study.

The monthly income of the fishermen was in ranged from approximately >5000-8000 BDT and the annual income ranged from approximately >60,000-96,000 BDT. Mia *et al.* (2015) studied the Meghna River and noted the lowest income from BDT 25,000-50,000 per year by 5% of the fishermen, and the highest income from BDT 100,000-200,000 per year by 52.5% of the fishermen.

Fishing Status

It was observed that most of the fishermen were related to the fishing whole the year. They were divided into two categories professional and subsistence. Among them 97% were professional and only 3% subsistence. During the off-season when the catch rate decreases and low income is earned from fishing, the majority of the fishermen gave extra service in agricultural activities, livestock rearing, labor, small business to fulfill their family demands. Rahman *et al*. (2015) found that 76% of the fishing community of Talma River was involved in fishing as their primary occupation (professional), 16% in agriculture, and 8% in daily labor. In the Tangon River, fishermen caught fish all year round except mid-April to mid-June (Baishakh and Jaistha Bengali month). Fishing time was day and/or night. Mondal (2012) observed that the highest (48%) of the fishermen spend 11 to 12 hours/day fishing in the Meghna River which is more or less similar to the current study. Fishing duration varies with season and fish availability. In the study area, fishermen caught fish without any boat by using mainly *jhaki jal, thella jal,* different types of traps, hooks, and lines (*borshi*) etc. Some photographs of fishing in the Tangon River are shown in Figure 3.

Afroze (2014) found 93.33% of the fishermen used boats and only 6.67% of the fishermen caught fish without a boat by using mainly *jhaki jal, thella jal,* and *chai*. They also used nets *tuni jal*, different types of traps, bair, and hooks and lines (*borshi*). Ali (2013) found eight types of fishing gear to be used by the fishermen in the Atrai River. The gears were *jhaki jal, ber jal, current jal, thella jal, khara jal, daun, bair,* and *borshi.* Islam (2012) noted 8 types of fishing gears which include *jhaki jal, ber jal, current jal, thela jal, khara jal, chandi bair, bair,* and *borsi* to be used by the fishermen in the Tangon River. In the present study, fishermen caught fish without a boat due to lower water depth. In the rainy season, they used bhura (made by banana trees) for fishing. In this study, fishermen to consumers is the main marketing channel. Fishermen to aratdar (wholesaler) to consumer is another marketing channel. Islam (2009) also observed two kinds of fish marketing channels exist in the Kali River which were fishermen to consumers and fishermen to retailers to consumers. Mondal (2012) studied the catch composition and marketing of fishes of the Meghna River also found two types of marketing channels which include fishermen to consumer and fishermen to aratdar to wholesaler to retailer to consumer.

Fig. 3. Photographs of fishing in the Tangon River

Problems faced by the fishermen

Fishermen living at the Tangon River bank faced many problems. Lack of employment during the fishing prohibition period (ranked I) was the major problem in the study area (reported by 66.7% of the fishermen, Table 1). It was also noted that fishermen did not receive necessary training (ranked II) and credit facilities (ranked III) from the extension agents (both GOs and NGOs). Lack of technical knowledge, illegal fishing by influential persons, increasing char land, and lack of modern fishing gears/technologies are other key constraints in the current survey. Problems faced by the fishermen of the Tangon river were more or less similar to the findings of Paul *et al.* (2013), Afroze (2014), Kamruzzaman and Hakim (2016).

Table 1. Frequency distribution of problems faced by the fishermen (N=75)

Problems	Percentage	Rank
Lack of employment during fishing prohibition	66.7	I
Lack of training facilities	50.7	II
Lack of credit facilities	40.0	III
Lack of technical knowledge	25.3	IV
Using jhar/katha materials (bamboo/tree branches) to catch fish by political/influential person	24.0	V
Increasing char land	13.3	VI
Lack of modern fishing gears	9.3	VII

Note: *Multiple responses were considered.*

Conclusions

The existing status of the fishermen in the Tangon River adjoining areas was not satisfactory. The fishermen are unable to catch the necessary amount of fish to generate minimum income to maintain their family and as such, they are in great financial hardship. The government authorities should ensure at least their basic rights such as education, health, nutrition, sanitation, fishing laws, and training. National and international NGOs should afford credit facilities and alternative livelihood opportunities for the fishermen.

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