

## Study on the Socio-Economic Condition of Fishermen of the Punorvaba River under Sadar Upazila, Dinajpur

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### Abstract

The present study was conducted to evaluate livelihood status of fishing community of the Punorvaba River under Dinajpur Sadar Upazila during the period from January to August, 2013. The livelihood status of fishermen were studied in terms of age structure, family size and type, occupation status, educational status, housing condition, drinking water facilities, sanitary facilities, health facilities, credit facilities and monthly income. It was found that most of the fishermen were belonged to the age groups of 36-45 years (40%), represented by 90% Muslim. The family size of fishing community is usually consisted of 5-7 members. Over 45% of the fishermen primarily engaged in fishing. Among them 50% was illiterate and 7% was SSC and above group. About 40% of the fishermen received health service from village doctors, 23% from upazila health complex and remaining 7% got health service from MBBS doctors. Some management strategies such as prohibition of catching brood fish, control of destructive gears, establishments of fish sanctuaries, release of fish fry have been suggested by the fishermen to stop the decreasing trend in the fish catch and to enhance fish production.

**Keywords:** Punorvaba River, livelihood, socio-economics, constraints, fishermen

### INTRODUCTION

Fisheries sector is now one of the leading income and employment-generating sector in Bangladesh. From time immemorial fish and fisheries are an integral part of Bangladesh (Kabir *et al.* 2014). Fisheries sector employs about 1.3 million full time fisher men and 12.5 million part times (DoF 2013). The traditional riverine fishing communities of Bangladesh are as widely geographically scattered as its rivers. The vast majority of the fishing communities of Bangladesh are confronting more or less similar problems that standing the way of increasing catch and hence income from fishing operations. Fishermen are one of the most vulnerable communities by any standard and over the years. Most of them are live

from hand to mouth (Ali *et al.*, 2014). Hannan (1994) stated that fishermen are traditionally poor and fishing is considered as a low-class profession in Bangladesh. The fishermen of this community are socially, economically and educationally disadvantaged and lack their own financial resources. More-over, the caste system of Hindu communities limits or precludes occupational mobility and employment opportunities, as does a lack of education and access to basic information. The gradually declining riverine fish production in recent years has added to their adversities. Livelihood support can have various meanings, ranging from livelihood provision, to protection, recovery and promotion (Maxwell, 1999).

The fishery plays a very important role in alleviation of rural poverty and supplying food to the poor fishing community near punorvaba river of Dinajpur Sadar. Considering the above fact, the present study was carried out to assess the livelihood status and constraint faced by the fishermen Punorvaba River of Dinajpur Sadar.

## METHODOLOGY

The present study was conducted to assess the livelihood status and constraint faced by the fishermen near the Punorvaba River of Dinajpur proper. This study was conducted from January to August, 2013. The study was based on collection of primary and secondary data. Before collecting the primary data a draft questionnaire was developed which was pre-tested with few fishermen. In this pre-testing, much attention was given to any new information in the draft questionnaire in order to reach the objectives of the study. According to the experience gained in pre-testing, the final questionnaire was improved, rearranged and modified. The final questionnaire included the questions on the socio-demographic condition, income of fishermen, family size, family members, factors affecting the level of fish production etc. Primary data were collected through personal interview supplemented by multiple methodological Participatory Rural Appraisal tools such as Focus Group Discussion (FGD) and Crosscheck Interviews (CI) with key informants. All the collected information were accumulated and analyzed by MS-Excel and then presented in textual, tabular and graphical forms to understand the present status of the livelihood status and constraints of the fishermen of the studied area.

## RESULTS AND DISCUSSION

**Socio-economic status of fishermen:** The aim of this study was to determine the socio-economic status of fishermen. Especially, emphasized was given on such variable namely age, religion, education, family size, education of children, annual income, income sources, training exposure, family type, health facilities and other socio economic issues.

**Age structure:** To determine the status and the roles of a fisherman in his community and to know their behavior, age structure is an important factor of responsibilities, privileges, rights and duties, hard workers etc. are closely related with the age. The age of the fishermen varied from 18-45 years. The highest (40%) was in 36-45 age groups (Figure 1). The next in 30% was in young age group where as 30% was represented old age group. Rabbani (2007) recorded age group of 25-50 years was highest (46.67%) and more than 50 years were the lowest (25%) of the riverine fishermen in the Karatua River, which is not similar to the present findings. It might be due to

different area. Islam *et al.* (2013) studied the livelihood of fishermen in Monirampur sub-district of Jessore district, Bangladesh and found that mean age of the fishermen was  $35.22 \pm 9.67$  years with the maximum and minimum of 80 years and 20 years respectively which was much lower than the present findings.

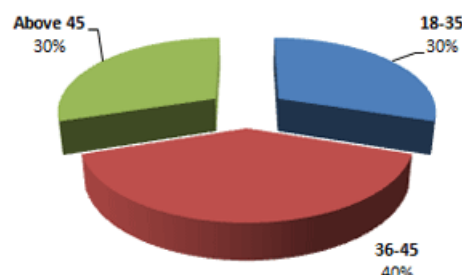


Figure 1: Age group of fishermen

**Religion:** It was observed that Muslims were featuring as the absolute majority of the fishermen in the study area. About 90% and 10% of fishermen were Muslim and Hindu respectively. The fishermen community is mostly neglected by the other sector of people of the society. So normally the poorer section of peoples is engaged in this profession. It is well known that only lower caste of the Hindu community such as Baishya, Sudra, Kayachtha etc. are engaged in this sector. But in this study 90% fishermen are Muslim and 10% are from Hindu community which is similar to be findings of Mahmud (2007) stated that the highest 74% of fishermen were from Muslim community where as only 26% were from Hindu community. However, an opposite result was reflected in a study by Islam *et al.* (2013) who found that all the fishermen were Hindus in their study area in Jessore district. Present findings differ from the statement made by the Islam *et al.* (2013) and indicated that Muslims are now engaging in fish harvesting, which once dominated by the Hindus in past in Bangladesh.

**Educational status of fishermen:** Educational qualification deeply influences on individuals preferences and behavioral patterns. It is also influences on ones performances, skillness and capabilities. In the present study education status of the fishermen and their families have been group in 4 categories viz. (i) Illiterate (ii) below class V (iii) class V passed (iv) SSC passed and above. In case of fishermen, the highest (50%) were illiterate and the lowest (7%) was SSC and above group. Twenty percent was in below V group and 23% was in VI-X group (Figure 2). Similar result was also reported by Islam *et al.* (2013), they mentioned that majority of the fishermen in Jessore district were illiterate which constituted 48% of the total fishermen.

Rabbani (2007) reported that 20% of riverine fishermen were illiterate, 71.67% of riverine fishermen were up to

primary level of education and 8.33% riverine fishermen had only secondary level of education. It might be due to the majority of the fishermen had no education. Most of the sampled fishermen were compelled to enter into the fishing profession in their early stage due to poor economic status of their parents and lack of awareness about education.

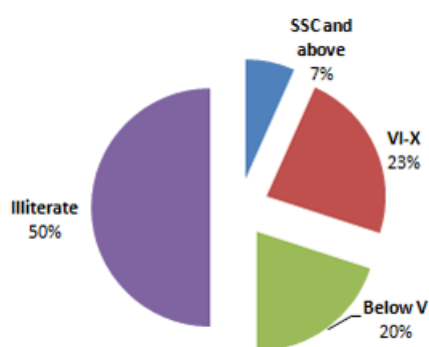


Figure 2: Educational status of fishermen

**Family size:** Family type also a determinants of the family status and the interlinked relationship with the other families as well as inter and intra community's. In this study 27% family has only 2-4 members. The highest 60% family has only 5-7 members. Large family percentage was 13% (Figure 3). Halder (2002) recorded the largest family size (6.67 persons) was in Cast net fishermen and smallest family size (4.50 persons) was in hogra fishermen of Doba Beel. Most of the fish farmer (45%) belonged in the 4 to 5 member's family in Mymensingh district (Ali *et al.* 2009). Average members in the household of the fishermen were found  $3.60 \pm 1.34$  by Islam *et al.* (2013) which is similar to the present findings.

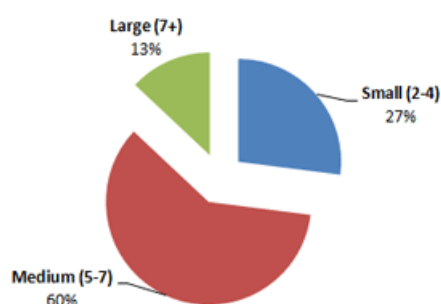


Figure 3: Family size of fishermen

**Educational status of children:** From the survey about 64% of fishermen were found to send their children to school whereas 36% was observed in not schooling of children categories.

**Income sources:** Better understanding of socio-economic status of fishermen, their income source is most important factor. It determines ones friend circles and his status in the community and the society as a whole.

About 45% income from fishing activities and lowest income comes from livestock 4%. 15% comes from various types of agricultural activities and 28% comes from day laboring (Figure 4). Islam *et al.* (2013) found fishing as the primary source of income of the fishermen in Jessore district, Bangladesh. Flowra *et al.* (2009) mentioned that only 4.5% of the fishermen involved as daily laborer in Dahia Beel area of Natore district.

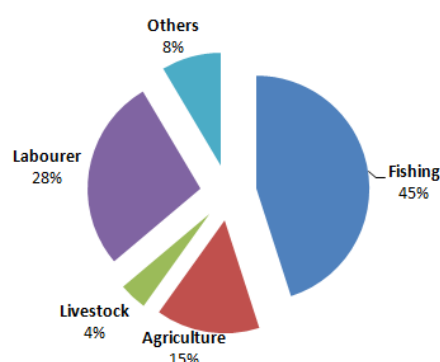


Figure 4: Income sources of fishermen

Hossain (2007) reported that the highest monthly average income was found in the seine net fishermen group and the lowest monthly average income was found in the push net fishermen group in the Kolimar River, Itna, Kishorgonj.

**Annual income:** It has been observed in this study that 60% fishermen had moderate income. The highest income percentage was 37%. Only 3% had lower annual income because they were involved with other activities. Islam *et al.* (2013) found that mean monthly income of the fishermen was BDT 9,470.00 in Monirampur sub-district of Jessore, Bangladesh. A daily income of BDT 51-75 was found for the fishermen of Dahia Beel in Natore district by Flowra *et al.* (2009).

**Training exposure:** It has been observed in this study that only 20% fishermen have training on one or more than one related matter, 80% have no any training. It might be concluded that effectiveness of fishermen for taking modern technique of fishing, social status and knowledge on causes of loss of biodiversity might be increase by arranging training on those aspects.

**Family type:** Family type also a determinants of the family status and the interlinked relationship with the other families as well as inter and intra community's. In this study 37% family were joint and 63% nuclear family. Most of the members of this community were illiterate and early marriage was common scenario in this community.

**Health facilities:** The health facilities enjoyed by the fishermen were not at all satisfactory level (Figure 5).

Generally fishermen took medium health support from unskilled non professional village doctor. In the present study area it was denoted that the highest 40% of the fishermen were dependent on village doctor while 23% got health service from Upazila hospital and 30% got health service from Kobiraj. But only 7% got health facilities from MBBS doctor. Shahriar *et al.* (2010) found that 64% of the fishermen households were dependent on village doctors who did not have any understanding and knowledge of medical science, 24% of the fishermen got health service from upazila health complex and remaining 12% got health service from MBBS doctors (Figure 5).

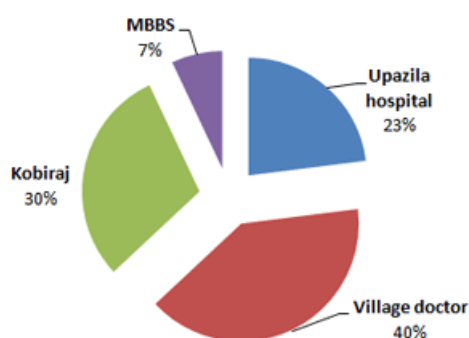


Figure 5: Health facilities available to fishermen

**Drinking water facilities:** The provision of clear and safe drinking water was considered to be the most valued element in society. Among 30 fishermen interviewed, 100% of fishermen household used tube-well water for drinking purpose.

**Electricity facilities:** In the study area 36% of the fishermen were far away from electricity facilities.

**Involvement in fishing:** Fishermen engaged in gear operation in the study area, it was observed that person required for gear operation varied from gear to gear. Where *Ber jal* required more man power than other gear and it was 5-6 persons. In maximum times, *Chotka jal* operation asked 2 men fixed in position. In case of cast net, *current jal* and *borshi* only one man was required for operation (Table 1).

Table 1: Person required for gear operation

Gears name	Person needed
Current jal (Gill net)	1
Jhaki jal (Cast net)	1
Chotka jal (Lift net)	2
Ber jal (Seine net)	5-6
Dharoy (Fish trap)	1-2
Borshi (Hook and line)	1

Fishermen did not consider the issue of using destructive fishing gears for fishing in the river. This scenario is common in almost every river and large open waters of Bangladesh. Galib *et al.* (2009b) mentioned that majority of the fishing gears employed for fishing in the largest wetland of Bangladesh, the Chalan Beel, are harmful for fish species. Use of destructive fishing net like *current jal* (gill net) is one of the banned fishing gears whose use declared illegal by the government. Galib *et al.* (2009b) treated this net as nightmare for fish species.

### Problems arises in fishing of the Punarvaba River

There are some problems have been identified by asking the relevant questions to the fishermen. Such as Lack of boat, insufficient fishing gears, marketing of fishes, problem created by local muscle-man or political leaders, flooding of river, lack of credit facilities, uses of destructive and banned fishing gears etc.

### Management strategies for increasing fish production of the Punarvaba River

The following options of management strategies have been suggested by the fishermen to stop the decreasing trend in the fish catch and to enhance fish production: (i) prohibition of catching brood fish, (ii) control of destructive gear, (iii) establishments of fish sanctuary in certain part of the river, (iv) fish act should be strictly followed, (v) fish fry should be released by government, (vi) survey of river basin (vii) plan for proper management. However, Chaki *et al.* (2015) suggested reduction of anthropogenic effects, especially fishing pressure and introduction of alien species to improve the abundance of fish species in rivers of Bangladesh which more or less similar to the management strategies recommended in this study too. Similar recommendation was also made by Mohsin *et al.* (2013). Establishment of sanctuaries in rivers of Bangladesh was also recommended by Galib *et al.* (2009a and 2013) as a tool for maintaining and sustaining the fish species diversity. Urgent initiatives need to be implemented to enhance the existing biodiversity in the river Punarvaba. Similar comment was also made by Imteazzaman and Galib (2013) from their study in the Halti Beel and also by Mohsin *et al.* (2014) who worked on the Andharmanik River of Bangladesh.

### CONCLUSION

From the above discussion it could be concluded that fishermen of Punarvaba River were mostly illiterate, lack of training exposure, lack of awareness about health facilities but preferred to save money for future socio-economic management and biodiversity of the Punarvaba River has been declining day by day due to over

exploitation thus made their socio-economic being hampered.

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