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**Sarmin Akther**  
Associate Professor, Fisheries  
Research Laboratories,  
Department of Zoology  
University of Rajshahi,  
Rajshahi, Bangladesh

**Sankar Gobinda Saha**  
M.Sc Student, Fisheries Research  
Laboratories, Department of  
Zoology University of Rajshahi,  
Rajshahi, Bangladesh

**Akther Hossain**  
Fisheries Research Laboratories,  
Department of Zoology  
University of Rajshahi,  
Rajshahi, Bangladesh

**M Nazrul Islam**  
Professor, Fisheries Research  
Laboratories, Department of  
Zoology, University of Rajshahi,  
Rajshahi, Bangladesh

**Correspondence**  
**Sarmin Akther**  
Associate Professor, Fisheries  
Research Laboratories,  
Department of Zoology  
University of Rajshahi,  
Rajshahi, Bangladesh

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## Livelihood Strategies of Riverine Fishing Communities of the River Padma near Rajshahi City Corporation

**Sarmin Akther, Sankar Gobinda Saha, Akther Hossain and M Nazrul Islam**

### Abstract

The livelihood status of the fishermen community of the river Padma was conducted in three villages (Ponchobatee, Shekherchalk and Mohoder para) for a period of six months (January 2006 to June 2006) adjacent to the bank of the river Padma near Rajshahi City. It covered the main fishing communities of the riverside villages of Rajshahi City Corporation. Data were collected through personal visit and interviews following a detailed questionnaire. Data were collected from both individual and group interviews through random selection. The survey was conducted on 100 fishermen of three selected villages in the study areas. There are three methods were used interview with specific questionnaires, direct observations and uses of PRA tools regarding the fisher's information. Interviews were conducted directly from fishing villages, riverside areas and on spot of fishing boats.

Livelihood status and strategies of riverine fishermen were presented in terms of age, religion, sex, family size, education, assets, household income and expenditure, health care and sanitation practice etc. It was found that cent percent of the fishermen were male and majority of them were Muslim (70%). Among the fishermen 77% were married, 43% were illiterate and 57% were literate at various stages of education. The population per household was 7.66 and sex ratio was 1:0.74. Among the children of the fishermen 73% were school going but school drop-out rate was very high due to early involvement in their father's occupation. Most of the fishermen lived in their own houses but home stead land was only 1-5 decimal, 80% of fishers used electricity, 93% fishermen were full time and the rest of the fishermen having subsidiary occupations. The majority (80%) of fishermen performed their fishing activities with other fishermen while remaining of the fishers used to catch fish with their family members. It was also found that 37.5% were involved in rickshaw pulling during lean season. Fishermen earned average Tk 100-150 per day and they were found to face various problems such as economical, nutritional, educational which were identified during the study period.

**Keywords:** Livelihood strategies, riverine fishing communities, Padma River

### 1. Introduction

The successful fishery development of Bangladesh depends upon the adequate consideration of biological, technical and economic information along with socio-economic and cultural information for making an overall decision. For this aim, investigation of social patterns, economic system and some related aspects of the fishermen is to be found as the basic need. Fishes and Fishery resources play a vital role in improving the socio - economic condition combating malnutrition, earning foreign currency and creating employment opportunities in Bangladesh. Pollnac <sup>[1]</sup> has reported that the relationship between technology and social organization in small-scale fishing communities was regarded as providing the essential contest for the institutional system, where the poor would be helped by equipments and new technology. Bangladesh, the largest delta of the world is criss-crossed by innumerable rivers and rivulets and the climate of Bangladesh is a unique for aquaculture and fisheries resources management <sup>[2]</sup>. Riverine fishing areas comprise nearly one fifth of the entire fishing area of 4.9 million hectares of the country <sup>[3]</sup>. Capture fisheries in the rivers and their adjacent flood plains in the form of common properly and open access resources constitute a vital component of the agro-ecosystem of rural Bangladesh <sup>[4]</sup>. Aquaculture practice has become a promising and gainful methodology to attain self-sufficiency in food sector and also to alleviate the poverty in developing country like Bangladesh <sup>[5]</sup>. In 1997-98, the total catch were obtained from capture fisheries, culture fisheries and marine fisheries as 50%, 30% and 20% respectively <sup>[6]</sup>.

It is also a very important source of household welfare for millions of rural poor, particularly for providing nutrition (especially the much needed protein), income and employment.

The Padma river plays an important role in the fisheries of Bangladesh. In every year large amounts of fish are caught from this river. Fisher folk are considered as one of the most backward sections in our society. Information on socio-economic framework of the fishers forms a good base for planning and development of the economically backward sectors. Lack of adequate and authentic information on socio-economic condition of the target population is one of the serious impediments in the successful implementations of the developmental programme [7]. A livelihood is sustainable when it can cope with and recovers from stress and shocks and maintain to enhance its capabilities and assets both now and in the future [8]. The social contents is especially important, particularly access arrangements and assessments of benefits to livelihood [9]. Although these fishers community are playing very much crucial role in supplying good nutrition to the whole community of Rajshahi city as well as the whole nation of the country their livelihood status and strategies are scarcely known to the people. So, the aim of this study was to assess the natural resources, relative economic status and evaluation, the social changes of the fishers (nutrition, housing, education, mobility, group involvement, gender issues etc.) also to identify the constraints associated with fish capturing and livelihood status of the riverine fishing communities of the river Padma near Rajshahi city. The results of the present study would therefore be helpful to disseminating their livelihood status and strategies among common people as well as the City Corporation authority of Rajshahi to take necessary steps in maintaining their better livelihood pattern.

**2. Materials and Methods**

**2.1. Study area and observation methods**

The livelihood status of the fishermen community of the river Padma was conducted in three villages (Ponchobatee, Shekherchalk and Mohoder para) Longitude 88°36'27" East and Latitude 24°21'40" North adjacent to the bank of the river Padma attain Rajshahi city corporation. The study area was also extended from eastern border of Kajla to western border of Sepaipara. It covered main fishing communities of the riverside villages of Rajshahi City Corporation. The data was collected from January 2006 to June 2006. For collecting data the various aspects of fishing techniques and livelihood strategies of the fishers were considered during the study period. Data were collected from both individual and group interviews through random selection. The survey was conducted on 100 fishermen of three selected villages in the study areas. There are three methods were used- interview with specific questionnaires, direct observations and uses of PRA tools regarding the fisher's information. Interviews were conducted directly from fishing villages, riverside areas and on spot of fishing boats.

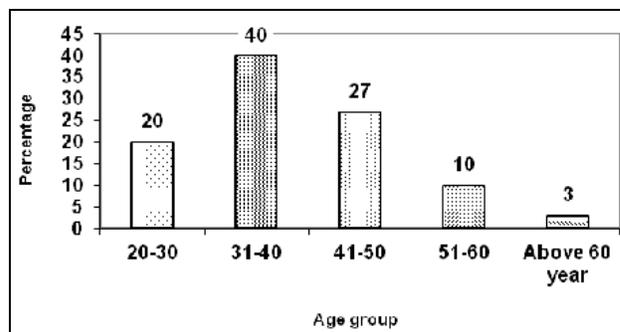
**2.2 Data analysis**

The collected information was accumulated and analyzed and then presented in graphs and tables to understand the livelihood status of fishermen in the study area. The information thus collected were analyzed to bring it to bear on the hypothesis, simple tabulation and statistical calculations like proportion, average and standard deviation.

**3. Results and Discussion**

**3.1. Sex and Age group of fishing community**

The survey was conducted on 30 fishermen of the fishing community in the selected three villages. It revealed that 20% of the fishermen ages were 20-30, 40% belonged to age group between 31-40, 26.66% were 41-50, 10% were 51-60 and 3.33% of the fishermen ages were more than 60 years (Fig-1). It was found that the highest numbers of fishermen were in between 31-40 years that indicating the middle aged people more involved for fishing in the study area. It was also observed that active age groups of the fishermen (60%) varied from 20 to 40 years. Zaman and his coworkers [10] have obtained the similar results from the fishers of the Mohanpur Upazila in Rajshahi district.



**Fig 1:** Age group of the respondent's fishermen

**3.2. Religion and marital status**

Out of 100 fishermen 70%, 27% and 3% of fishermen were Muslims, Hindus and Christians respectively. Ahmed [11] has reported that 68.33% of Muslim fishermen were found in the coastal area. Raju [12] has found 14.33% Hindus and 85.67% Muslims in Sailkupa Upazila. It was found that 77% was married and 23% was unmarried, which proved most of the fishermen were familial (Table-1). Mannu [13] and Raju [12] has reported married fishers at 94% and 68% respectively in Kuakata and in Sailkupa Upazila.

**Table 1:** Religion, marital status and housing conditions of the fishermen

Religion	%	Marital status	%	Housing conditions	%
Muslim	70	Married	77	Kacha	30
Hindu	27	Unmarried	23	Semi-pacca	40
Christian	3			Pacca	20
				No house	10

**3.3 Housing**

Most of the fishermen families were living in their own house. 30% of fishermen constructed their houses on their own land, 40% live in rented house, 20% made their settlement on government owned Khash land on the bank of the river and 10% had no house they lived on their fishing boat. Most of the houses were made of mud, bamboo fencing or roofing of stalk of corn or chhan, (one kind of weed leaves). A few (40%) semi-permanent structures with corrugated iron roof were seen, owned by marginal fishers. Rest of 20% rich fishers lived in pacca houses.

**3.4 Educational status**

The study of the level of education is very important for any professional communities regarding their earning potential and socio-economic status. This survey revealed that 57% of

the fishermen were literate at various stages (including can sign only) of education and 43% fishermen were illiterate (Table 2). Majority of the fishers (17%) were educated up to primary level followed by secondary level (3%) or above (3%). Zaman and his coworkers [10] have stated that education level of farmers is higher than fishing communities in Rajshahi district.

**Table 2:** Educational level of the respondents

Educational Status	%	Family pattern	%
Literate	57	Single family	80
Can sign	34	Joint family	20
Primary level (Class I-V)	17	Population/household	7.66
Secondary level (VI- X)	3	Male	57.39
S.S.C. pass	3	Female	42.60
Illiterate	43	Sex ratios	1:0.74
Total	100		100

**3.5. Family pattern and family size**

The majority (80%) of the fishermen families was single and the rest (20%) of families were joint families. (Table 2). The

high and low percentage of family distribution and their variations are considerable for their social relationship, income pattern, social status and leadership responsibilities of the members of the fishermen family. It is evident that the small size family positively associated with low income, nuclear and lower capital investment but on the other hand, medium and large size family are due to the high birth rate, higher income, extended capital investment in different ways for their income generation. Dutta [14] has reported that ignorance about the education and family planning also was a reason for the variation of family size.

**3.6. Status of school going and school drop out children of fishermen families**

About 27% of children did not go to school in the fishermen families of the surveyed area. Among the school going children 13% girls, 26% boys and 61% were both boys and girls. Among the drop out children 11% were only girls, 30% were only boys and 59% were both boys and girls. The survey result showed that 26% of drop out were for economic problem, 63% were involved in early income generation, 7% were for early marriage and the rest of 4% were no reasons.

**Table 3:** School going children of fishermen families

School going pattern	Family number	Percentage of total family	Attendant number	Percentage of school going
Non-school going	8	27	-	-
School going	Only girls	3	6	13
	Only boys	7	12	26
	Both boys and girls	12	40	61
Total	30	100	46	100

**Table 4:** School drop out children of fishermen families

School dropout pattern	Family number	Percentage of total family	Drop out number	Percentage of drop out
Non drop out	12	86	-	-
School drop out	Only girls	2	3	11
	Only boys	5	8	30
	Both boys and girls	7	16	59
Total	26	100	27	100

**3.7. Nutrition, health and sanitary condition**

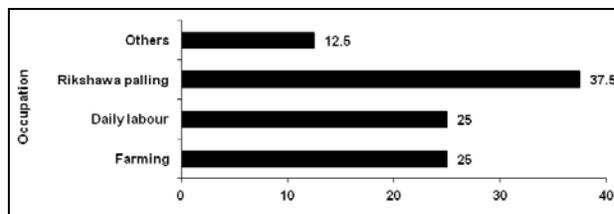
Most of the fishermen were not very much aware about nutrition, health and sanitary conditions. From that survey it was observed that intake of fish was the highest followed by vegetables and meat in a month. The survey also revealed that 87% of the fishermen used tube-well water, 10% used supply water. 3% fishermen used river water for drinking. Most of them used community tube-well. Most of the fishermen (77%) used sanitary latrines, 13% fishermen used kancha latrines, 7% used closed pit for defecation and 3% fishermen used open field and riverside for defecation. It was observed that the sanitation system of the study area was very well due to the health care programme by the City Corporation (Table 5). But fishermen had been suffering from different types of diseases including fever, diarrhoea, gastric and malnutrition. The fishermen availed treatment themselves against diseases.

**Table 5:** Sources of drinking water and sanitation practice by the fishermen

Source of drinking water	%	Satiation Practice	%
Only Tube well	87	Sanitary latrines	77
Supply line	10	Kacha latrine	13
River water	3	Closed pit	7
		Open field	3

**3.8. Occupation types of fishermen**

Fishing is obviously their main occupation. The fulltime fishermen who were depending only on fishing for their livelihood but 15-20% were took fishing occupation for their livelihood regarded as part time fishermen. The majority of the fishermen (73%) had no subsidiary occupation while the rest of 27% were engaged in subsidiary occupation during off-season. The highest number of fishermen (37.5%) was involved in rikshaw pulling, 25% was daily labourers, 25% was involved in farming and the rest 12.5% fishermen were involved in other professions.



**Fig 3:** Types of subsidiary occupation of the fishermen

**3.9. Fishing and marketing**

Different kinds, number and the present value of the individual item of the major fishing gears and crafts used by

the fishermen were collected and the findings are presented in the Table 6. Average fish catch per fisherman per day was about 3-5 kg during peak season and 1-2 kg during off-season. Most of the fishermen (85%) used to sell their catch to the aratders, rest of the fishermen (15%) sold their catch in retail markets at Shaheb bazaar, Court bazar, Talaimari, Kazla and Binodpur bazar.

**Table 6:** Fishing gears and crafts of the fishermen

Name of the Gears	Average number per fisherman	Average present value per unit in Tk.	Average present assets in Tk./per fisherman
Ber jal	0.16	30,000	5,000
Tora jal	1.13	1,500	1,700
Boarshi/Hook	3	20	60
Total	4.29	31,520	6,760
Name of the Crafts			
Dingi nouka	0.66	2,000	1,333
Engine boat	0.26	25,000	6,666
Total	0.92	27,000	7,999

**3.10. Daily average house hold income and expenditure**

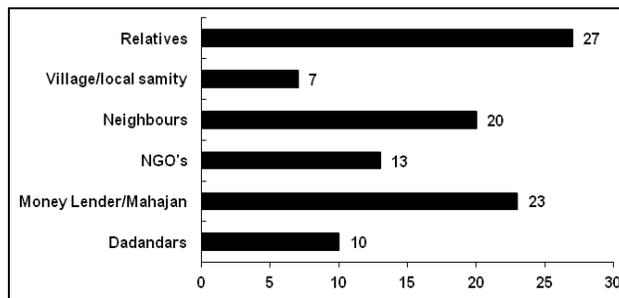
From the present study it was found that most of the fishermen (47%) earned an average Tk. 100-150 per day (Table 7). The annual income of the majority of the fishermen was ranging from Tk. 50,000-60,000. The level of non-fishing income is one of the most important socio-economic characteristics of the fishing families or households for their livelihood. Women involvement in earning was some extent low but, in some households it was at desired level. Similar results were found by Huq and his coworker [3].

**Table 7:** Daily average household income

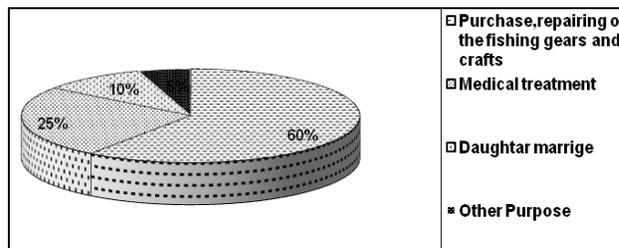
Income level (Tk)	Percentage
Below 50	3
50-100	27
101-150	47
151-200	17
Above 200	6
Total	100

**3.11. Sources and purpose of borrowing money**

The survey results showed that the fishermen borrowed money from different sources. The poor fishers had no access to bank loan due to lack of mortgage assets. They usually borrow money from their relatives, local money lenders (Mahajan and Dadandars), co-operative society and NGOs (Fig. 4a). Ramboll [15] has stated that the persistent indebtedness through the traditional credit system also binds fishers to their communities and occupation, as well as the “ethos of the fishers” and the related sense of sub cultural identity. The fishermen took loan for the purchase and repairing of fishing crafts and gears, maintaining family during lean season, celebrating religious and cultural festivals, for the marriage of their daughters and for medical treatment (Fig. 4b).



**Fig 4a:** Sources of borrowing money



**Fig 4b:** Purpose of borrowing money

**3.12. Problems of the fishing community**

The fishermen of the riverine fishing communities in the bank of the river Padma confronted with various socio-economic problems. The major problems were declining of the depth and drying up of the river Padma during late winter to late summer near Rajshahi so that fishes are not available in that period. Over fishing, catching of broods and finger lings, occurrences of fish diseases were another issue due to the lack of sustainable conservation and management of the riverine water bodies. Besides that fishing were not permitted in some places for the time being in the river of Padma. Social and economic problems were related to multi ownership of the crafts and gears, lack of fish preservation and marketing facilities, fishers were not provided with loan from the bank or NGOs in the community.

**4. Conclusion**

Considering the different observations during the present study area of the river Padma near Rajshahi City Corporation was potential for fishing. But livelihood of riverine poor fishing communities were found very vulnerable due to decreasing of fish day by day in the river Padma. In conclusion it can be said that fishermen should be given some facilities e.g. they should be provided with credit facilities, motivation is needed to get education for their children and they should be provided alternative livelihood strategies in or around the city area during the lean season. So that they can be well aware of their livelihood and their problems solved.

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