



International Journal of Fisheries and Aquatic Studies

E-ISSN: 2347-5129

P-ISSN: 2394-0506

(ICV-Poland) Impact Value: 76.37

(GIF) Impact Factor: 0.549

IJFAS 2023; 11(4): 19-23

© 2023 IJFAS

www.fisheriesjournal.com

Received: 02-04-2023

Accepted: 01-05-2023

Md. Mozaffar Hosen

Department of Fisheries,
University of Rajshahi,
Rajshahi, Bangladesh

Md. Delwer Hossain

Department of Fisheries,
University of Rajshahi,
Rajshahi, Bangladesh

Md. Harun-Ur-Rashid

Department of Fisheries,
University of Rajshahi,
Rajshahi, Bangladesh

Md. Abu Sayed Jewel

Department of Fisheries,
University of Rajshahi,
Rajshahi, Bangladesh

Livelihood status of fishermen in Paba, Mohonpur and Durgapur at Rajshahi District of Bangladesh

Md. Mozaffar Hosen, Md. Delwer Hossain, Md. Harun-Ur-Rashid and Md. Abu Sayed Jewel

DOI: <https://doi.org/10.22271/fish.2023.v11.i4a.2820>

Abstract

The present research work was conducted to find out livelihood status of fishermen at Paba, Mohonpur and Durgapur in Rajshahi district of Bangladesh for a period of one year from July 2020 to June 2021. Data were collected from 600 fishermen (Paba, 200; Mohonpur, 200 and Durgapur, 200) through questionnaire interview and Focus Group Discussion (FGD). It was covered the main fishing communities in Rajshahi area. For data collection, three methods were used such as, personal interview, direct observations and use of PRA (Participatory Rural Appraisal) & FGD (focus groups discussion) tools regarding the fishermen information. Livelihood condition of fishermen were presented in terms of categories of fishermen, types of fishermen, age structure, educational status, family size, status of school going children, religion and marital status, housing condition, occupation, annual income, source of drinking water, sanitary conditions and credit access. It was found that 66-73% professional fishermen, 31-34% can signature, 49-57.50% small family (1-4), 87-92% Muslim and the rest were Hindus and others. Among the occupations of fishermen, only fishing was contributed 48-56.5%. The housing condition was Kacha 57.5-71% and annual income (<1) 1 lac (40.5-52.5%). Most of the fishermen used drinking water mainly Tube well (72.5-77.5%). Most of the fishermen depends on NGO for credit access. They face various problems such as low income, limited alternative income opportunities, inadequate credit system and lack of adequate medical services.

Keywords: Livelihood, fishermen, Rajshahi district

1. Introduction

Total fish production in Bangladesh is about 4621228 MT among them pond production is 2090787 MT. From this fish production, 45.24% comes from pond fishery sector. (DoF, 2022) [9]. Aquaculture is an important socio-economic activity for rural people, supporting to livelihoods, food security and decrease of poverty by such mechanisms as revenue creation, employment, diversified farming practices, national and international trade and other economic investments serving the sector (Edwards 2000) [11]. In Bangladesh majority of freshwater pond fish farming systems in of Bangladesh are either extensive or semi-intensive and in very few cases intensive. In semi intensive culture system ponds are stocked with Indian major carps and exotic carps. Successful fish production depends on the application of required inputs, management and technological growth and livelihood status of fishermen which is also an area of interest for scientists to identify the limitations and to improve the current status (Flowra *et al.*, 2009 [12]; Islam *et al.* 2013) [15]. Moreover, fish farming in the pond is a cost-effective business compared to rice cultivation. Recently, rural fish farmers are found to transform their rice field into aquaculture pond. Considering all aspects, the current research activity was undertaken to find out the livelihood condition of the fishermen in Rajshahi district.

2. Methodology

2.1 Study area and duration

The present work was conducted at Paba, Mohonpur and Durgapur in Rajshahi district (Figure 1) of Bangladesh for a period of one year from July 2020 to June 2021. Most of the people are involved in fish culture in the selected area. The survey was conducted on total 600 fishermen (Paba-200; Mohonpur-200; and Durgapur-200).

Corresponding Author:

Md. Abu Sayed Jewel

Department of Fisheries,
University of Rajshahi,
Rajshahi, Bangladesh

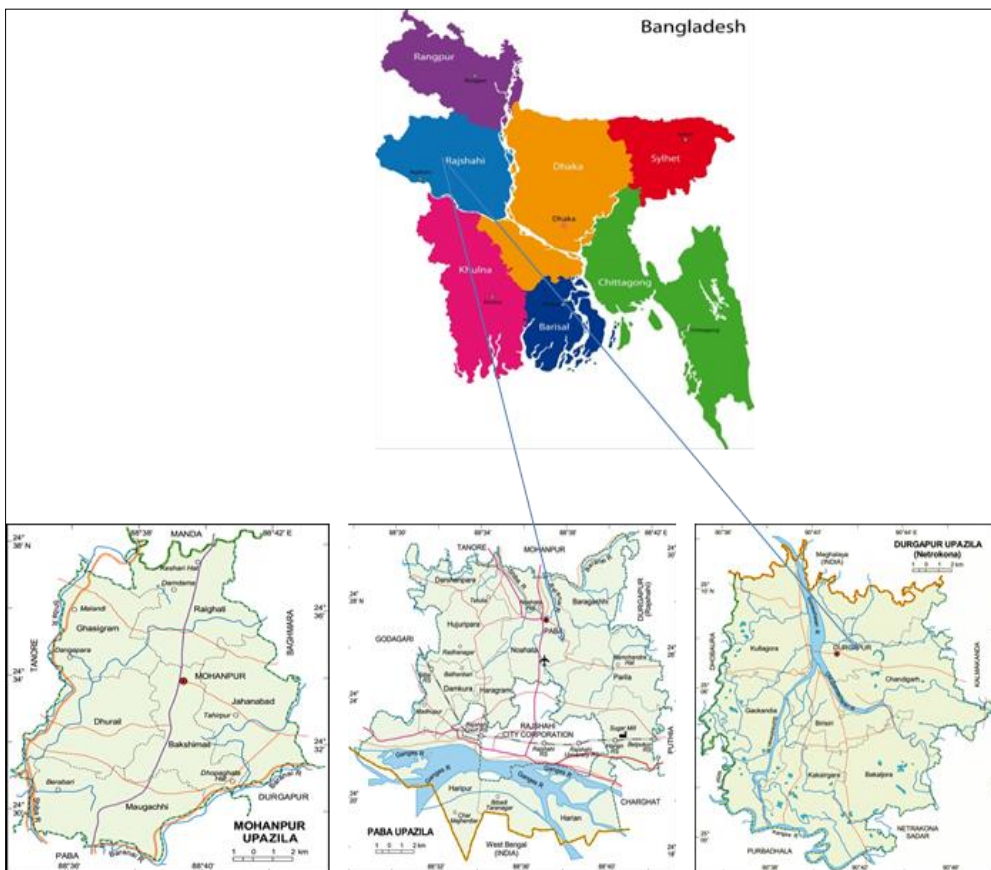


Fig 1: Location of the study area

2.2 Data collection

Data were collected in individual and group by interview methods. PRA (Participatory Rural Appraisal) and FGD (focus groups discussion) tools were applied for collecting information from fishermen in studied locations.

2.3 Date processing and analysis

Collected data were analyzed using computer software-Microsoft excel (2013).

3. Results and Discussion

The reviews in this category are divided into twelve categories. These consist of categories of fishermen, types of fishermen, age structure, educational status, family size, status of school going children, religion and marital status, housing condition, occupation, annual income, source of drinking water, sanitary conditions and credit access.

3.1 Fishermen types

The fishermen largely depended on fishing for their revenue and nutrition. Fishermen are classified on the basis of their income and experiences in fishing. The fishermen can be three types, professional fishermen, occasional fishermen and subsistence fishermen. In the study area the fishermen found mainly professional fishermen (depended on fishing almost all the year round) and occasional fishermen (used to fish during a part of the year as income earning). There was no any subsistence fishermen (used to catch fish for only their own consumption) because the fishermen mainly catch fish for sale but rarely they consume that fish. It was found that in Mohanpur upazilla 73% fishermen were professional fishermen, 25.5% were occasional fishermen and only 1.5% subsistence fishermen; where in Paba upazilla 67.5% fishermen were professional fishermen, 30% were occasional

fishermen and only 2.5% subsistence fishermen and in Durgapur upazilla 66% fishermen were professional fishermen, 28.5% were occasional fishermen and only 5.5% subsistence fishermen (Figure 2). A very similar 3 types of fishermen were described by Kabir *et al.* (2012) [17] in old Brahmaputra River, Bangladesh. Ahmed (1996) [2] observed 84% full time fishermen which was close to the finding of the present study.

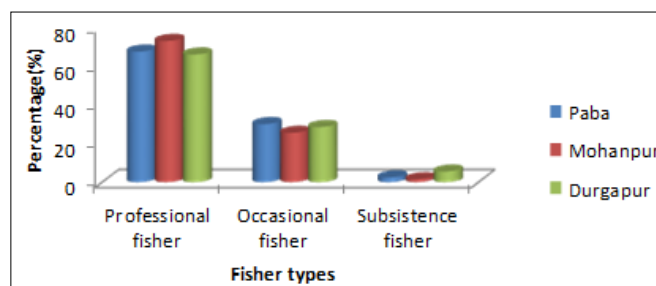


Fig 2: Different types of Fishermen in study area.

3.2 Age structure

Age structure of fishermen is important for estimating potential productive human resources. There were no fishermen with the age of >60 (Figure 3). It was found that highest age group of fishermen was 41 to 50 (up to 30%) and lowest (0 to 2%) were below 20. It was found that the middle age groups are involved in fishing activities. Ahmed (1996) [2] in Tangail and Ahmed (1999) [1] reported 66% and 70% under 40 years age, respectively in coastal region, which was more or less similar to present study. Similar finding was also found by Hossain *et.al.* (2014) [14] who recorded highest age group of fishermen 41 to 50 in their study that is close to present study findings.

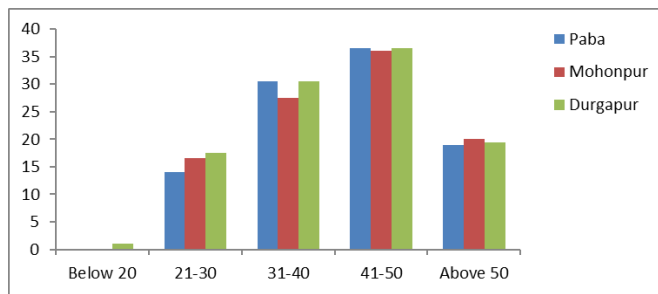


Fig 3: Age group of Fishermen

3.3 Educational status

We classified fishermen in five categories on the basis of the level of education. In Durgapur Upazilla about 26.00% fishermen was illiterate and only 31.00% can signature. In Mohonpur Upazilla about 25.00% fishermen was illiterate and only 34.00% can signature and in Paba Upazilla about 22.50% fishermen was illiterate and only 32.50% can signature (Figure 4). It indicates that majority can signature. 22.50 to 26 % were illiterate. Shahjahan *et al.* (2001) [20] found 63.33% of riverine fishermen were illiterate which was highest from present study.

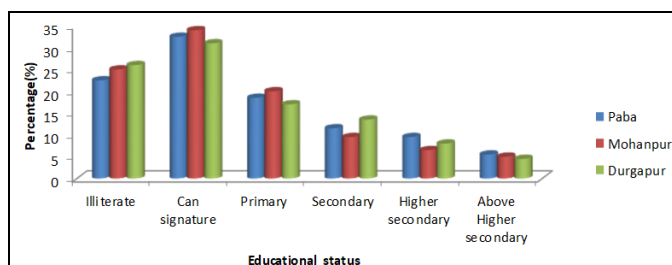


Fig 4: Educational status of the fishermen in the study area

3.4 Family size

The family size of the fishermen was divided into four categories. From this study it was found that most of the fishermen family composed of 1-4 members (in Paba, Mohonpur and Durgapur were 57.00%, 52.50% and 49.00% respectively) where the fishermen family composed of very large family (>9) consists mainly 4.50% in Paba, 5.50% in Mohonpur and 3.50% in Durgapur respectively (Figure 5). Average family size in the present study was 6.4 which was higher than BBS (2011) [5] recorded value (5.6 people per house). Dutta (1983) [10] has recorded that unawareness about the education and family planning was the most causes of variation of family size.

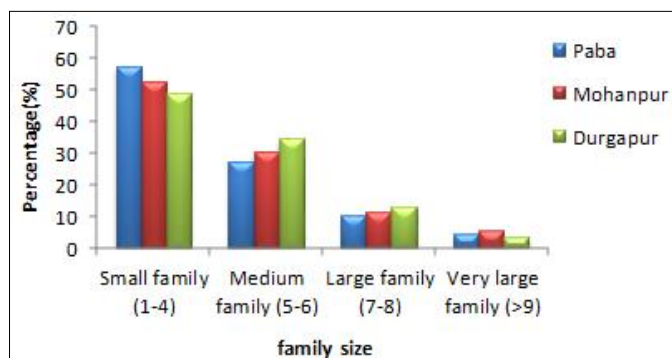


Fig 5: Family size of Fishermen in the study area

3.5 Status of school going children of Fishermen

It was observed that in Durgapur only 1.5% children of

fishermen were non-school going. Rest of the children were school going, from them 55% were only boys, 14% were only girls and 29.5% were both boys and girls. In Paba and Mohonpur all are school going. (Figure 6). It indicates that above 47% only boys are school going and below 14% only girls are school going. Akther *et al.* (2017) [3] has reported that 27% of children did not go to school, 13% girls, 26% boys and 61% attended school with both boys and girls.

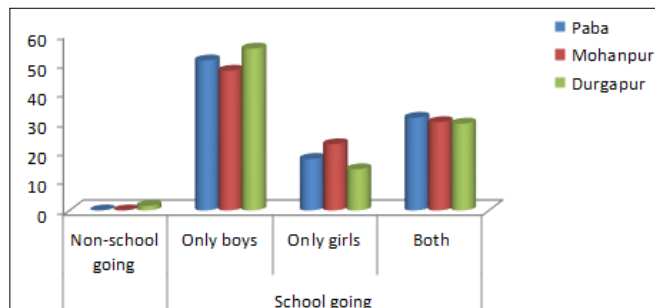


Fig 6: Status of school going children of fishermen

3.6 Religion and marital status

Among the fishermen, 87-92% was Muslim, remainder was Hindus and other religions. Moreover, 89.5% to 95.5% of fishermen was married and less than 11% was unmarried fishermen in the study area. (Figure 7). It was found that Muslims rely on fishing for their livelihood due to changes in the socio-economic structure and provision of less employment. Chantarasri (1998) [7] also worked on fishermen of Sundarbans Reserve Forest stated that most fishermen were Muslim. Raju (2002) [18] studied on Saikupa Upazila and found that 14.33% fishermen was Hindu and 85.67% was Muslim.

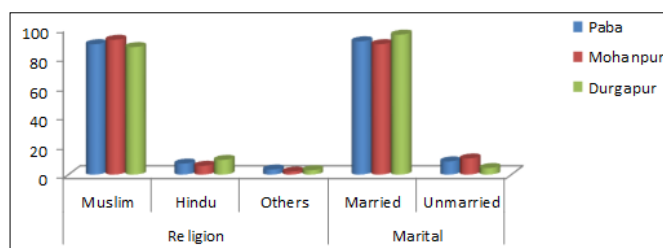


Fig 7: Religion and Marital status of Fishermen

3.7 Housing condition

From the study it was found that there were three types of houses namely, Kacha (the roof was made of tin with mud or bamboo slice or straw made wall and soil floor), semipakka (a portion of either the floor or wall made of bricks, but the roof was made of wood or tin) and pakka (Made of brick). In Paba upazilla, the housing condition of fishermen was 57.5% kacha, 27% semi-pacca and 15.5% pakka. In Mohonpur upazilla the housing condition of fishermen was 65% kacha, 24% semi-pacca and 11% pakka. In Durgapur upazilla the housing condition of fishermen was 71% kacha, 20.5% semi-pacca and 8.5% pakka (Figure 8). More or less similar study was also observed by Kabir *et al.* (2012) [17] and Ahamed (1999) [1] found that 92.22% of people likely to live in their own house. Most of the fishermen's housing condition are kacha above 50%. Alam and Bashar (1995) [4] reported that most of household arrangements were kacha of the fishermen.

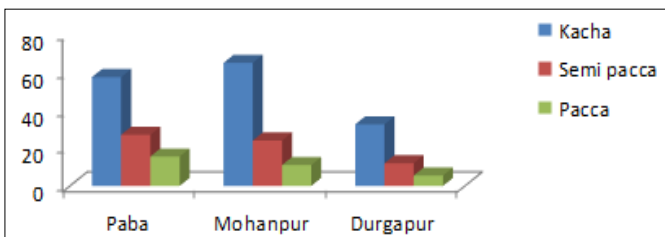


Fig 8: Housing conditions of fishermen

3.8 Occupations

Fishermen of the study areas mainly catch fish in the river, ponds and beels they are engaged in fishing throughout the year. It is a seasonal activity. Average monthly employment of fishermen depends on the gears they operate. Subsidiary occupation of the fishermen is agriculture, other activities includes household work, labour other small business. In case of fishermen's occupations, it was categorized as only fishing, fishing and agriculture, fishing and day labour and others. The people who are engaged in only fishing throughout the year mainly catch other fishes during the other months of the year. Ghosh (2015) [13] reported that 70% of fishermen are engaged in fishing full time, 10% in agriculture and 20% in day labor or other paid employment. All types of fishermen were fully engaged in fishing. Occupation of fishermen is shown in (Figure 9). Uddin *et.al.* (2020) [21] indicated that 70% of fishermen directly involved in fishing which agreed with the findings of present study.

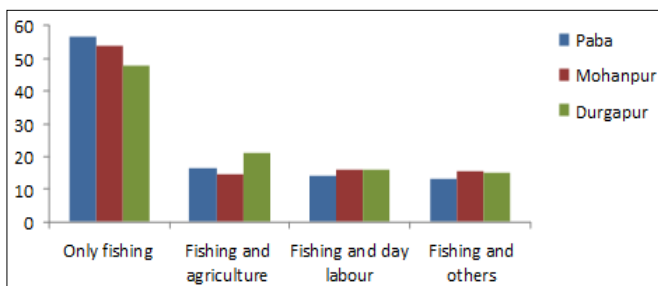


Fig 9: Occupations of the fishermen

3.9 Annual income

Most of fishermen had improved their living standard through fishing. The annual incomes from different sources are given in (Figure 10). Income level is one of the most important socioeconomic characteristics of livelihood of fishermen. In the present study, it was found that fishing was the main profession which agreed with the findings of Bhuyan and Islam (2016) [6] who reported that fishermen's annual subsistence income (72%) varies between 40,000 and 60,000 BDT. Tk. Uddin *et.al.* (2020) [21] reported annual income of fishermen ranged from BDT 50000-100000, which was close to the findings of present study.

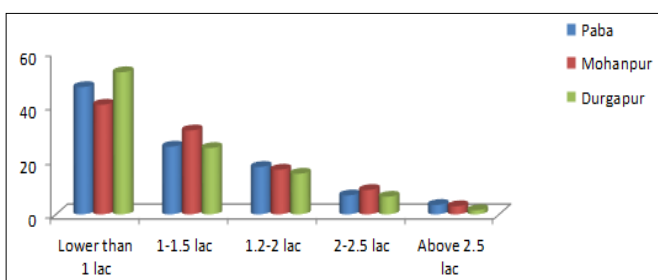


Fig 10: Annual incomes of the fishermen

3.10 Sources of drinking water

Maximum fishermen in studied area were not very conscious about safe drinking water and personnel hygiene. Three sources of drinking water were found in the studied area such as tube well, both tube-well and ring well and supply line (Figure 11). Water from rivers, ponds and canals were used for other purposes. This finding was similar to Uddin *et.al.* (2020) [21] who reported that like 80% fishermen used tube-well for drinking water. Akther *et.al.* (2017) [3] reported that 87% used well water, 10% tap water and 3% river water for drinking.

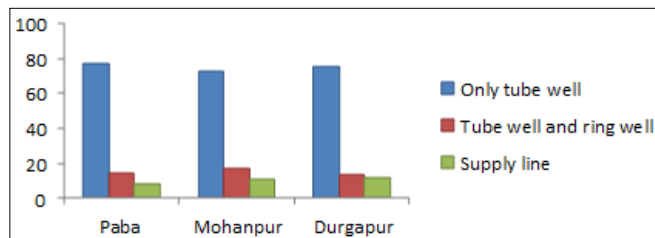


Fig 11: Sources of drinking water of fishermen

3.11 Sanitary conditions suffer

Sanitary situation of fishermen in the study area were very poor (Figure 12). It is found that majority of fishermen suffered from dysentery and diarrhea. Most of the fishermen families took treatment form village doctor. It was found that in Paba about 55%, 29.5%, 14.5% and 1% fishermen have sanitary latrine, kacha latrine, closed pit and Open pit, respectively. In Mohanpur about 49.5%, 32%, 17% and 1.5% fishermen have sanitary latrine, kacha latrine, closed pit and open pit, respectively. In Durgapur about 48%, 32%, 17.5% and 2.5% fishermen have sanitary latrine, kacha latrine, closed pit and open pit, respectively. Islam *et al.* (2017) [16] reported hygiene facilities in the study area are inadequate, with 12% in good hygiene, 24% in hygienic and 64% in unhygienic conditions. Bhuyan and Islam (2016) [6] investigate that the majority of houses are kacha (65%) and have poor hygiene.

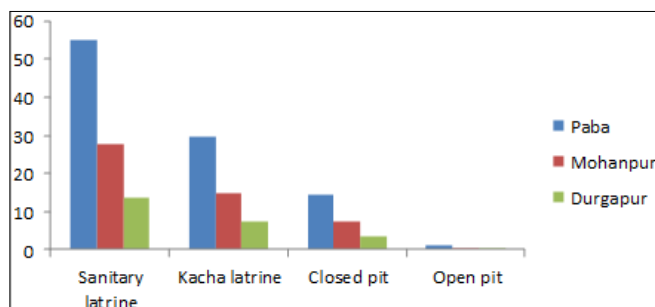


Fig 12: Sanitary conditions of the fishermen

3.12 Credit access issues source

It was found that majority of the fishermen of Paba, Mohanpur and Durgapur borrowed money from NGO's followed by relatives and neighbor of the research area. Sources of borrowing money of fishermen are shown in (Figure 13). Most of the fishermen depends on NGO. Without a mortgage claim, the fisherman was unable to obtain bank credit. Most of them borrowed money from local moneylenders, and wealthy fish farmers borrowed money from various NGOs and banks. Ramboll (1996) [19] reported that the ongoing indebtedness of traditional credit systems is also what binds fishermen to their communities and

professions. CPP (1996) ^[8] stated that 70% of fish farmers were financed by moneylenders in Tangail district. However, Raju (2002) ^[18] reported that 48% of fish farmers received loans from their neighbors.

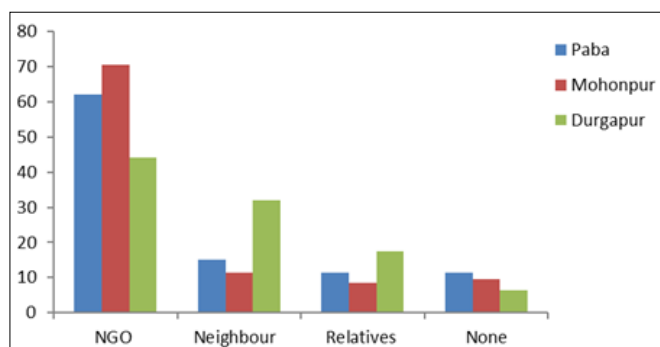


Fig 13: Sources of credit access issues of the fishermen

4. Conclusion

This study was carried out to evaluate the livelihoods of fish farmers living in Paba, Mohonpur and Durgapur at Rajshahi district. The majority of the people are lower economic class and disadvantaged group. According to the study, fishermen suffer from a range of conditions, including high illiteracy, low income, limited alternative income opportunities, inadequate credit system, lack of adequate medical services, poor living conditions and substandard sanitation. Poor fishermen with low food security are to use destructive fishing gear and violate fishing laws in the study location. Comprehensive initiatives by both governments and non-governmental organizations are therefore needed to improve the welfare of resource-poor fishing communities and to ensure the sustainable development and proper management of fish stocks in the study areas.

5. References

- Ahamed N. A study on socio-economic aspects of coastal fishermen in Bangladesh. *Journal of Zoology*. 1999;24:20-26.
- Ahmed MNU. Reports on the fishermen's socioeconomic survey. Fisheries Survey and Monitoring Program, Department of Fisheries, Tangail, 1996, 1-4.
- Akther S, Saha SG, Hossain A, Islam MN. Livelihood Strategies of Riverine Fishing Communities of the River Padma near Rajshahi City Corporation. *International Journal of Fisheries and Aquatic studies*. 2017;5(2):195-199.
- Alam MF, Bashar MA. Structure of cost and profitability of small-scale riverine fishing in Bangladesh. *Journal of Research Progress*. 1995;9:235-241.
- BBS. Statistical yearbook of Bangladesh, Bangladesh Bureau of Statistics, Statistical division, Government of the peoples of Republic of Bangladesh, Dhaka, 2011, 580p.
- Bhuyan S, Islam S. Present status of socio-economic conditions of the fishing community of the Meghna River adjacent to Narsingdi District, Bangladesh. *Journal of Antomology and Zoology studies*. 2016;44:641-646.
- Chantarasri S. Integrated Resources Development of the Sundarbans Reserved Forest. The draft reports on Fisheries Resources Management for the Sundarbans Reserved Forest, Khulna, Bangladesh (BGD/84/OSG) FAO- UNDP, 1998, 5-171.
- Compartmentalized Pilot Project (CPP). Socioeconomic profile of the professional fishermen and institutional organization. Final Report. Bangladesh Water Development Board, Tangail, 1996, 11-45 p.
- DoF. Yearbook of fisheries statistics of Bangladesh 2020-2021. Fisheries Resources Survey System (FRSS). Department of Fisheries, Ministry of Fisheries and Livestock, Bangladesh. 2022;38:138p.
- Dutta SK. Studies on some aspects of prawn fisheries of Rajshahi and Pabna district. (Craft and gears, preservation and transportation, and socio-economic condition of prawn fisheries associates). M. Phil. thesis (unpublished), Department of Zoology, University of Rajshahi, 1983, 203 p.
- Edwards P. Aquaculture, poverty impacts and livelihood. *Natural Resource Perspective*, ODI, 2000, 56 pp.
- Flowra FA, Alam MB, Hossain MA, Samad MA, Galib SM. Livelihood aspects of fishermen of the Dahia Beel under Natore District, Bangladesh. *Bangladesh Journal of Progressive Science and Technology*. 2009;7(2):283-284.
- Ghosh SK, Ahmmed MK, Ahmed SI, Ahsan MK, Kamal M. Study on the socioeconomic conditions of the fishermen in Teknaf. *agriculture, livestock and fisheries*. 2015;2(3):483-489.
- Hossain S, Hasan MT, Alam MT, Mazumder SK. Socio-economic condition of the fishermen in Jelepura Under pahartoli of chittagong district. *J. Sylhet Agricultural University*. 2014;1(1):65-72.
- Islam MR, Hoque MN, Galib SM, Rahman MA. Livelihood of the fishermen in Monirampur Upazila of Jessore district, Bangladesh. *Journal of Fisheries*. 2013;1(1):37-41.
- Islam S, Reza SMD, Roknuzzaman, Joadder ARMD, Alam SMD, Khatun AM, *et al.* Socio-economic status of fishermen of the Padma River in Chapai Nawabganj district, Bangladesh. *International Journal of Fisheries and Aquatic Studies*. 2017;5(1):101-104.
- Kabir KMR, Adhikary RK, Hossain MB, Minar MH. Livelihood Status of Fishermen of the Old Brahmaputra River, Bangladesh. *World Applied Sciences Journal*. 2012;16:869-873.
- Raju A. Livelihood status of fish farmers in Sailkupa Upazila under Jhenaidah District. M.Sc thesis. Fisheries and Marine Resource Technology Discipline, Khulna Uni, Bangladesh, 2002, 53 p.
- Ramboll J. Evaluation report. Mymensingh Aquaculture Extension Project, Department of Fisheries, Mymensingh, Bangladesh, 1996, 48 p.
- Shahjahan M, Miah MI, Haque MM. Present status of fisheries in the Jamuna river. *Pakistan Journal Biological Science*. 2001;4(9):1173-1176.
- Uddin KMD, Hasan RMD, Paul SK, Sultana T. Socio-economic condition and livelihood status of the fisherman community at Muradnagar Upazila in Cumilla. *Fish Aquaculture Journal*. 2020;11:279.