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**Sanjay Dey**

Department of Zoology, Ananda  
Mohan College, Kolkata, West  
Bengal, India

**Ashis Kumar Panigrahi**

Eco-toxicology, Fisheries and  
Aquaculture Extension  
Laboratory, Department of  
Zoology, University of Kalyani,  
Kalyani, Nadia, West Bengal,  
India

## Socioeconomic condition of fishermen community residing on the bank of river Rupnarayan

**Sanjay Dey and Ashis Kumar Panigrahi**

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### Abstract

The exploration was done for the socioeconomic (SE) condition of fisher's community that was contingent on the river Rupnarayan from September 2019 to August 2021 through organized discussion and structured questionnaire method. The study designated an elevated number of fisherfolk families fishing intensity at Jagatpur sampling station. About 28 fisherfolk families had 1 to 2 gears at Chitnan sampling station. The study revealed that 29 fishermen's monthly income was 7001-9000 INR and 8 fishermen's monthly income was 11001-13000 INR at Jagatpur from fishing while 31 fishermen's monthly income from fishing was 3001-5000 INR at Chitnan but at Kolaghat 29 fishermen's monthly income from fishing was 5001-7000 INR. Fishermen's family's education was school level at all sampling stations. Majority of the fishermen were engaged in fishing during the night and they sold the fish directly. It is concluded that methodically and rationally appropriate training, education, of fishermen regarding fish conservation, fish handling could revamp their socioeconomic status.

**Keywords:** Contingent, unsettled, methodically, morpho dynamics, ichthyodiversity, infrastructure

### Introduction

The fisheries segment plays a paramount role in the sustainable expansion of fishers. Diversified research was done on the socioeconomic condition of fishermen. Fishermen spend their entire lives in penury due to unsettled income (Nandi & Parmanik, 1994) <sup>[9]</sup>. During the survey, fishermen reported infrastructure facilities were not so good and they faced several problems during fishing in the river Rupnarayan. Hossain *et al.*, (2009) <sup>[8]</sup> showed most of the fishermen belong to 31-40 years of age and in beel Chandpur sampling site, majority (56.67%) of the fishermen were semi-pacca. The investigation was done from 2019 (September) to 2021 (August) at the four stations of the river Rupnarayan. Rupnarayan river water shows tidal flow throughout the year and is rich in diversified ichthyospecies. The socioeconomic status of fisherfolk residing Rupnarayan river bank area was not so good due to less number of fish species. Ghorai (2018) <sup>[2]</sup> reported 38 fish species while Dey and Panigrahi (2023) <sup>[7]</sup> recorded 34 ichthyospecies in the river Rupnarayan which indicates lower obtainability of fish species in the river Rupnarayan. Dey and Panigrahi (2021) <sup>[4]</sup> showed the availability of ichthyospecies and their conservation strategy in sundry rivers of West Bengal. Diversified research was concluded on river Rupnarayan, like, environmental morpho dynamics (Das, 2024) <sup>[3]</sup>; Hydro physicochemical parameters (Dey and Panigrahi, 2021) <sup>[4]</sup>; anthropogenic factors and flood (Biswas *et al.*, 2015) <sup>[1]</sup>; plant diversity on the river bank area (Dey and Panigrahi, 2021) <sup>[4]</sup>; water resources (Santra and Santra, 2009) <sup>[10]</sup>. However the study of fishermen's socioeconomic condition was not done previously. As fishermen live on the river bank area they are directly or indirectly dependent on the river. So the study of their socioeconomic status is very much indispensable to realize the baseline information of fishermen that live on the river bank area.

### Materials and Methods

The socioeconomic condition of fishermen was done at four samplings (Chaulia, Kolaghat, Chitnan, Jagatpur) stations from 2019 (September) to 2021 (August).

**Corresponding Author:**

**Sanjay Dey**

Department of Zoology, Ananda  
Mohan College, Kolkata, West  
Bengal, India

The Researcher collected data from 424 fishermen including 872 family members from four sampling (Chaulia, Kolaghat, Chitnan, Jagatpur) stations. Besides this, a total of 179 number (48 families from Chaulia, 42 families from Kolaghat, 38 families from Chitnan, 51 families from Jagatpur) of fisherfolk's families were surveyed through structured questionnaires and interviews. Questionnaires and interview schedules are, the fishing intensity of fishermen families in the month; Education of the head of the family; number of gears per family; fishermen's monthly income from fishing; total number of male and female members; educational background of fishermen's family members; fishing time of

fishermen, social engagement of fishermen, mode of fish marketing by fishermen.

**Results and discussion**

The outcome of research on the socioeconomic condition of fishermen is described below.

**The fishing intensity of fishermen families in the month:**

In the Jagatpur, the utmost number of families' fishing intensity was 26-30 days within a month. While in the Kolaghat, the utmost number of families' fishing intensity was 11-15 days within a month.

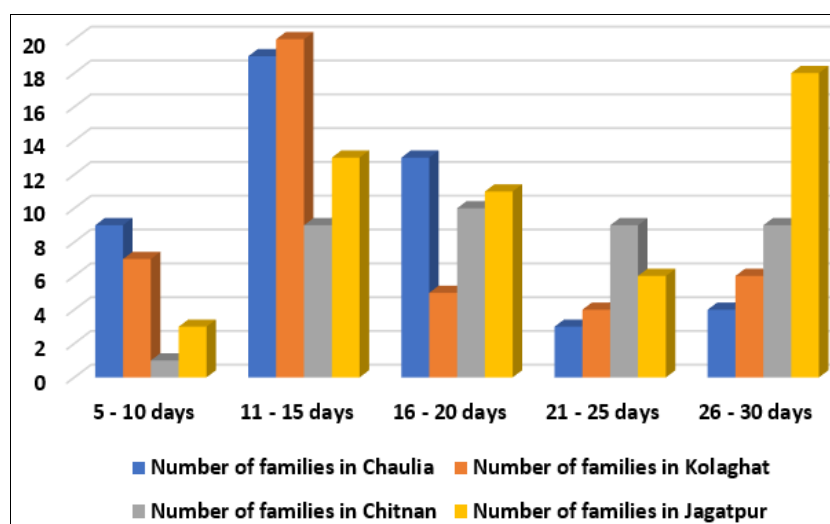


Fig 1: Graphical representation of fishing intensity of fishermen families at four stations

**Education of the head of the family**

The present study elicited that, in Chaulia, 28 heads of the family's education were in primary school and 20 heads of the family's education were illiterate. In Kolaghat, 20 heads of the family's education were in primary school; 5 heads of the family's education were in middle school; 1 head of the family's education was in high school; 16 heads of the family's education were illiterate. In Chitnan, 10 heads of the

family's education were in primary school; 1 head of the family's education was in middle school; 3 heads of the family's education were in high school; 24 heads of the family's occupation were illiterate. In Jagatpur, 32 heads of the family's education were in primary school; 3 heads of the family's education were in middle school; 16 heads of the family's education were illiterate.

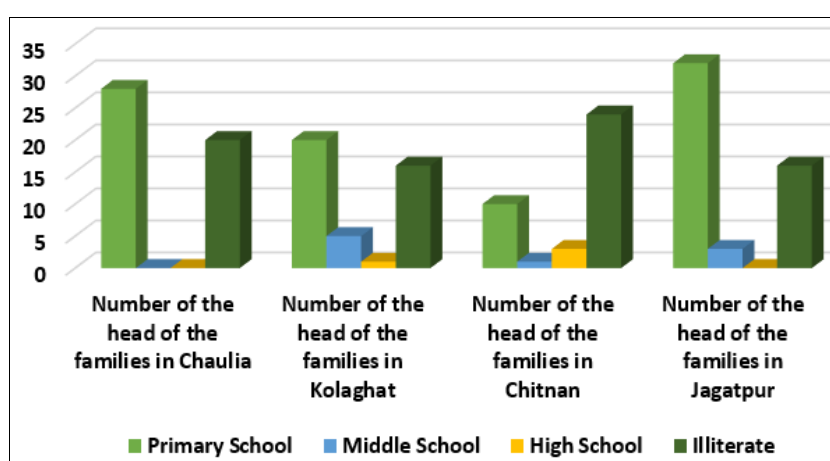


Fig 2: Graphical representation of education of the head of the family at four stations

**Number of gears per family:** In the study, at Chaulia, 24 families had 1 to 2 gears; 19 families had 3 to 4 gears; 2 families had 5 to 6 gears; 3 families had none of the gears. At Kolaghat station, 18 families had 1 to 2 gears; 22 families had 3 to 4 gears; 1 family had 5 to 6 gears; 1 family had none of

the gears. At Chitnan station, 28 families had 1 to 2 gears; 7 families had 3 to 4 gears; 1 family had 5 to 6 gears; 2 families had none of the gears. At Jagatpur station, 23 families had 1 to 2 gears; 21 families had 3 to 4 gears; 6 families had 5 to 6 gears; 1 family had 7 to 8 gears

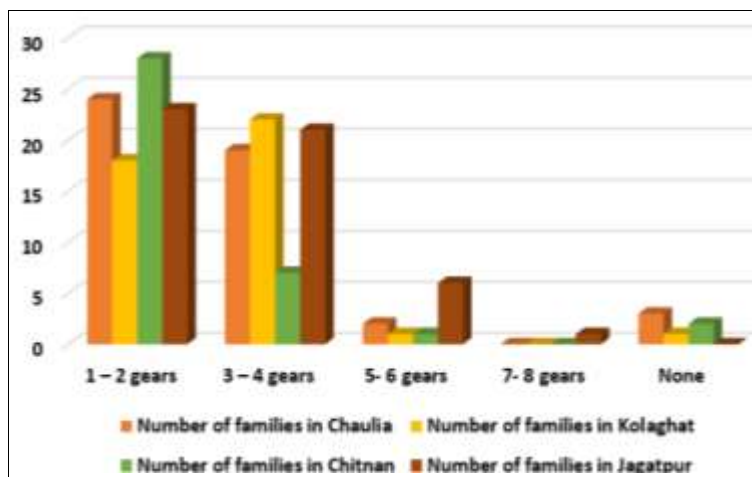


Fig 3: Graphical representation of Number of gears per family at four stations

**Fishermen’s monthly income from fishing**

At Chitnan sampling station, most of the fisherfolk’s monthly income from fishing was 3001-5000 Indian rupees with a Mean ± SD income of 3825.506±407.404. While at Kolaghat,

the huge portion of fisherfolk’s monthly income from fishing was 5001-7000 Indian rupees with a Mean ±SD income of 5896.551±524.052.

Table 1: Tabular form of Mean±SD income from fishing at four sampling stations

Monthly income (Indian rupees)	Mean ±SD income from fishing in Chaulia	Mean ±SD income from fishing in Kolaghat	Mean ±SD income from fishing in Chitnan	Mean ±SD income from fishing in Jagatpur
1000-3000	2550±483.953	2558.038±454.818	2500±451.335	2333.333±568.796
3001-5000	4159.090±605.261	3947.368± 524.265	3825.506±407.404	4134.615±557.811
5001-7000	5825±519.994	5896.551±524.052	5641.176±393.793	5839.913±550.162
7001-9000	7863.636±492.365	7933.33±530.049	7666.666±508.592	8224.137±461.871
9001-11000	9979.166±633.814	9888.888±650.854	9433.33±115.470	10308±569.297
11001-13000	12625±478.713	0	0	12712.5±364.250

Table 2: Fishermen’s monthly income (Indian rupees) from fishing

Monthly income (Indian rupees)	Number of fishermen in Chaulia	Number of fishermen in Kolaghat	Number of fishermen in Chitnan	Number of fishermen in Jagatpur
1000 - 3000	20	26	28	18
3001 - 5000	22	19	31	26
5001 - 7000	20	29	17	23
7001 - 9000	22	15	6	29
9001 - 11000	24	9	3	25
11001 - 13000	4	0	0	8

**Total number of male and female members**

In Chaulia sampling station, 142 male members and 117 female members; in Kolaghat, 115 male members and 78

female members; in Chitnan 95 male members and 76 female members; in Jagatpur, 138 male members and 111 female members were present.

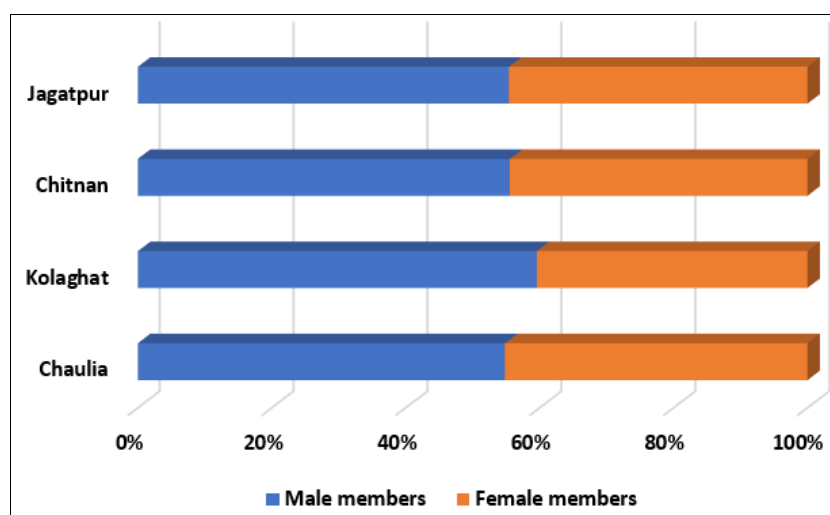


Fig 4: Graphical representation of Total number of male and female members

**Educational background of fishermen family members**

In Chaulia 102 numbers; in Kolaghat 76 numbers; in Chitnan 73 numbers; in Jagatpur 91 numbers of fishermen’s family members educational backgrounds were school level. A few numbers of family members (3 numbers in Chaulia; 7

numbers in Kolaghat; 2 numbers in Jagatpur) educational backgrounds were college level. None of the family members educational backgrounds were university level of all sampling stations.

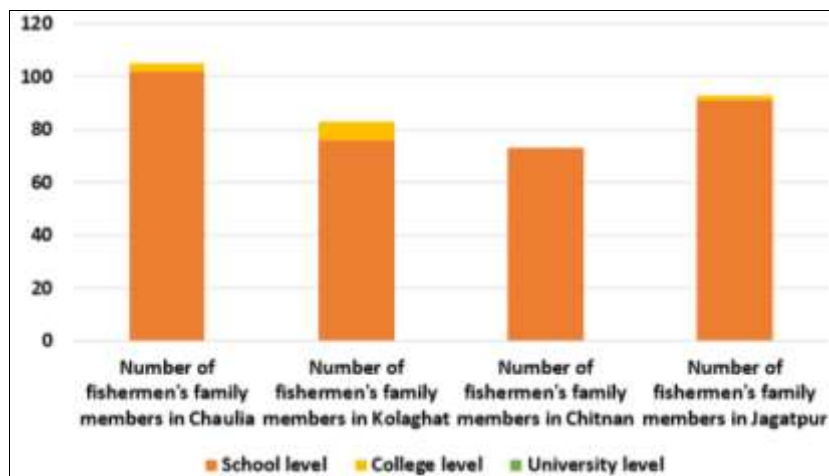


Fig 5: Graphical representation of educational background of fishermen family members

**Fishing time of fishermen**

Most of the fisherfolk of all (Chaulia, Kolaghat, Chitnan,

Jagatpur) sampling stations engaged in fishing from 10 pm to 6 am.

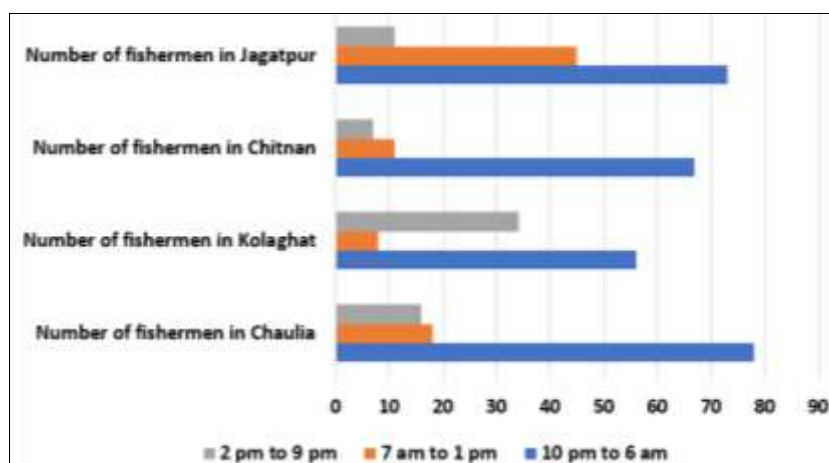


Fig 6: Graphical representation of fishing time of fishermen

**Social engagement of fishermen**

Highest number (126 numbers) of fisherfolk at Jagatpur sampling station, social engagement was regular means they

efficiently associated with each other for fishing purposes. Few fisherfolk’s (1 number) at Chitnan sampling station, social engagement was occasional.

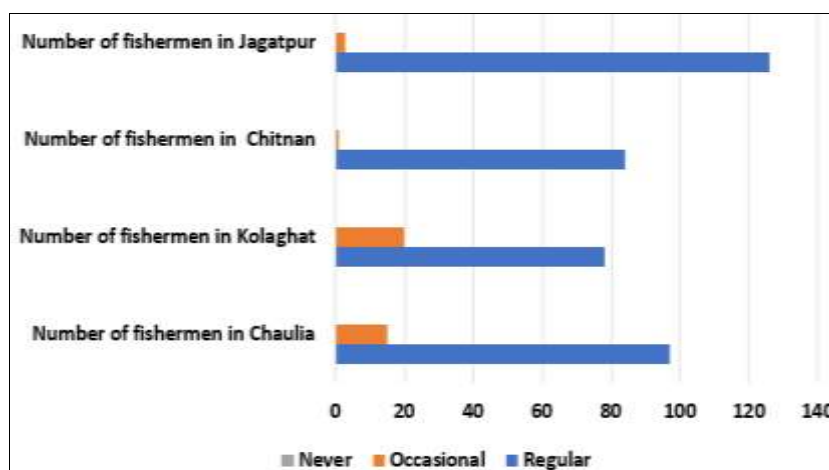


Fig 7: Graphical representation of social engagement of fishermen

### Mode of fish marketing by fishermen

Mostly, direct mode of fish marketing was observed at Chaulia, Kolaghat, Chitnan and Jagatpur sampling stations.

But at Chaulia, highest number (23 numbers) of fishermen were engaged in both direct and indirect modes.

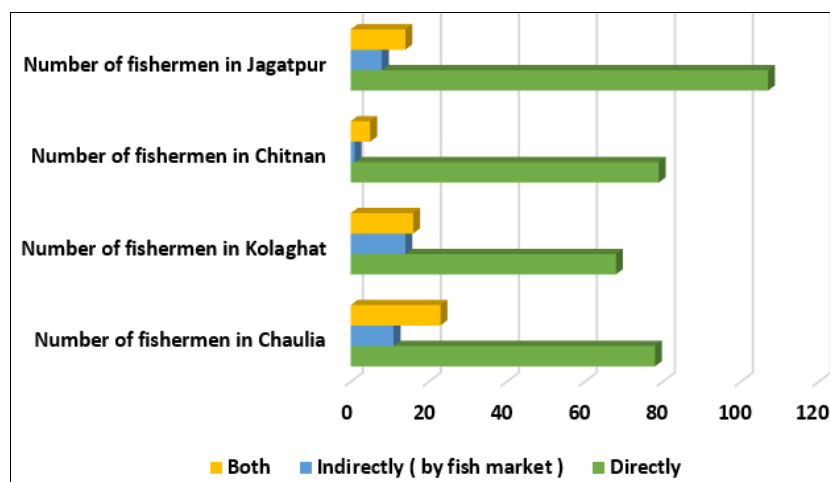


Fig 8: Graphical representation of mode of fish marketing by fishermen

### Conclusion

The study shows a total of 179 fisherfolk families residing on the bank of river Rupnarayan at four sampling stations. At Jagatpur majority of fisherfolk families engaged in fishing activity 26-30 days per month. Compared to four sampling stations, the majority of fishermen at Jagatpur sampling station, monthly income from fishing was 11001-13000 Indian Rupees while majority of the fishermen's monthly income from fishing was 3001-5000 Indian rupees at Chitnan sampling station. The study highlights that fishermen's incomes were not so good. During study, they reported that availability of fish species was declining trends and certain fish species had been unattainable for the last 10 – 15 years. So, pertinent appraise should be taken including, CIFRI, PCB, etc to restore ichthyodiversity as the majority of the fishermen's livelihood is contingent on the productivity of the Rupnarayan river.

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