



Study on Casting Nets, Sustaining Lives: A Socio-Economic Assessment of Inland Fishing Communities in Kashmir Valley

Shabana Arjamand 

Associate Professor, Government Degree College, Bemina-190018, Srinagar, J&K, India.

Type of Work: Peer Reviewed.

DOI: <https://dx.doi.org/10.21013/jmss.v22.n2.p4>

Review history: Submitted: August 01, 2026; Revised: September 25, 2026; Accepted: October 10, 2026

How to cite this paper:

Arjamand, S. (2026). Study on Casting Nets, Sustaining Lives: A Socio-Economic Assessment of Inland Fishing Communities in Kashmir Valley. *IRA-International Journal of Management & Social Sciences* (ISSN 2455-2267), 22(2), 75-83. <https://dx.doi.org/10.21013/jmss.v22.n2.p4>

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This paper is peer-reviewed following IRA Academico Research's [Peer Review Program](#) .

Birpal Singh Thenua  / [0009-0007-4494-8257](https://orcid.org/0009-0007-4494-8257)

ABSTRACT

The present study investigated the socio-economic status of small-scale fishing communities across five major fresh water ecosystems comprising Srinagar, Baramulla Sopore along river Jhelum and Dal Lake and Anchar Lake Srinagar Jammu and Kashmir. A total of 474 individuals were selected through random sampling wherein 149 individuals were selected from Sopore, 95 were from Baramulla, 130 individuals from Srinagar. Similarly, 60 individuals were selected from Dal lake hazratbal and 40 individuals from Anchar lake basin. The socio-economic status of these individuals was evaluated through personal interviews using pre-tested structured questionnaire. According to the result of this study the majority of the respondents aged between 40 to 50 years represented the most economically active segment of the fishing workforce. Literacy levels varied significantly among the study sites ($p < 0.05$), with a high proportion of fishers possessing only primary education or remaining illiterate. The economic assessment indicated that most households earned less than ₹15,000 per month, reflecting the vulnerable financial status of these communities. Inadequate returns from this profession forced many respondents to diversify into supplementary occupations, including labouring, fruit vending, agriculture, auto driving, and other small-scale businesses. The members of these communities face several socio-economic challenges like dependence on informal credit, inadequate institutional and extension support, limited access to modern fishing technologies, poor marketing and poor post-harvest facilities, and persistent social discrimination. The findings highlight the multidimensional challenges confronting inland fishing communities in the Kashmir Valley and emphasize the need for integrated policy interventions focusing on livelihood diversification, education, institutional credit, fisheries extension services, technological modernization, and social inclusion. Such measures are essential to improve the socio-economic well-being of fisher households while ensuring the sustainable development of inland fisheries in the region.

Keywords: Dal Lake, Fishers, Kashmir Valley, Poverty Alleviation, Socio-economic Status.

1. Introduction

The fisheries sector plays a pivotal role in the socio-economic development of India by contributing significantly to national income, food security, employment generation, and rural livelihoods. It contributes approximately 1.01% to the national Gross Domestic Product (GDP) and 5.15% to the agricultural GDP, while providing direct and indirect employment to nearly 14 million people across the country. Besides serving as a rich source of affordable, high-quality animal protein and essential nutrients, the sector supports the growth of several ancillary industries, thereby strengthening the rural economy (Villanthenkodath *et al.*, 2025). In Jammu and Kashmir, fisheries constitute an important livelihood option, particularly in areas endowed with abundant freshwater resources. Fishing practices in the region are broadly categorized into artisanal (capture fisheries) and culture (aquaculture) fisheries (Qayoom *et al.*, 2014). Utilization of water resources and fishing patterns in Kashmir valley—a case study. *Journal of Chemical, Biological and Physical Sciences*, 4(2), 1233-1239. Despite the economic and nutritional importance of the sector, fishing continues to be perceived as a socially less prestigious occupation in many parts of India, including Jammu and Kashmir. Consequently, fishing communities, especially those dependent on artisanal fisheries, often belong

to economically weaker sections of society and experience multiple socio-economic challenges (Mir *et al.*, 2023).

The livelihoods of these communities are constrained by low income, inadequate educational attainment, limited access to healthcare and sanitation facilities, insufficient technical knowledge, and poor access to institutional credit and modern fishing technologies. Many fisher households continue to live in substandard housing conditions and face social marginalization, making them vulnerable to poverty and livelihood insecurity. Such challenges not only affect their quality of life but also impede the sustainable development and productivity of the fisheries sector. Therefore, improving the socio-economic status of fishing communities is essential for ensuring sustainable fisheries management and enhancing rural development. (Dar *et al.*, 2024). A comprehensive understanding of the socio-economic characteristics of fisher households including their demographic profile, educational status, occupational structure, income sources, housing conditions, access to public services, and constraints encountered in fishing activities, is fundamental for designing effective development strategies and policy interventions. Baseline information on these aspects can assist government agencies and other stakeholders in formulating targeted programmes aimed at improving the livelihoods and welfare of fishing communities while promoting sustainable utilization of aquatic resources (Qayoom *et al.*, 2019).

Therefore, the present study was undertaken to assess the socio-economic status of fisher communities residing along the River Jhelum, Dal lake, Anchar lake in Srinagar, River Jhelum in Sopore and Baramulla regions of Baramulla district, Jammu and Kashmir. The study also evaluates the major constraints faced by these communities in their fishing profession and discusses the findings in the context of developing appropriate strategies for their socio-economic upliftment and the sustainable development of the fisheries sector in the region.

2. Materials and Methods

2.1 Study Area

The present socio-economic study was conducted among inland fishing communities residing along three major freshwater ecosystems of the Kashmir Valley, namely River Jhelum, Dal Lake, and Anchar Lake, River Jhelum, located in the districts of Baramulla, Sopore and Srinagar, Jammu and Kashmir, India. These water bodies represent the principal inland fisheries resources of the region and support the livelihoods of a substantial number of artisanal fishers. River Jhelum is the largest river of the Kashmir Valley and serves as the backbone of the region's freshwater ecosystem. Originating from the Verinag spring in southern Kashmir, the river flows approximately 239 km through major towns including Anantnag, Srinagar, Sopore, and Baramulla before entering Pakistan. Besides supporting irrigation, transportation, and hydroelectric generation, the river sustains diverse fish fauna and provides livelihood opportunities for fishing communities residing along its banks. Dal Lake is a sub-Himalayan urban freshwater lake situated at an altitude of approximately 1,586 m above sea level between 34°05'–34°06' N latitude and 74°08'–74°09' E longitude. Covering nearly 11.4 km², the lake consists of four interconnected basins and receives most of its inflow from Telbal Nallah, along with several perennial springs. Owing to its ecological, economic, and tourism significance, Dal Lake supports numerous households dependent on fishing and other lake-based resources.

Anchar Lake, located approximately 14 km northwest of Srinagar (34°20'–34°26' N; 74°28'–74°35' E), is a shallow valley lake hydrologically connected to Khushalsar and Dal lakes. The lake receives water from River Sindh through a network of distributary channels and several natural springs. The surrounding areas are densely inhabited by fishing communities whose livelihoods depend on capture fisheries, aquatic vegetation, fodder collection, and other lake-derived resources. However, increasing anthropogenic activities, including domestic sewage, agricultural runoff, and urban effluents, have significantly influenced the ecological condition of the lake.

2.2 Sampling Design and Data Collection

A total of 474 respondents were selected, including 149 from River Jhelum (Sopore), 95 from River Jhelum (Baramulla), 80 from Anchar Lake, 73 from Dal Lake and 77 from River Jhelum (Srinagar) were interviewed to obtain a broader understanding of the socio-economic characteristics of inland fishing communities across the Kashmir Valley. Primary data were collected through face-to-face personal interviews using a pre-tested, structured questionnaire specifically designed for the study. Prior to the survey, the questionnaire was validated through pilot testing to ensure clarity, consistency, and reliability. Information collected included demographic characteristics, educational status, family composition, occupation, fishing experience, income sources, housing conditions, fishing assets, access to institutional support, healthcare and sanitation facilities, marketing practices, and major constraints affecting fisheries-based livelihoods.

2.3 Statistical Analysis

The collected data were coded, tabulated, and analyzed using descriptive statistical techniques. Frequencies, percentages, means, and standard deviations were calculated to summarize the socio-economic characteristics of the respondents. Associations between categorical variables were examined using the Chi-square (χ^2) test, while differences among selected socio-economic parameters were evaluated based on the level of statistical significance ($p < 0.05$). Statistical analyses were performed using appropriate statistical software to ensure accuracy and reliability of the results.

3. Result and Discussion

The socio-economic profile of the fishing communities surveyed across River Jhelum (Sopore and Baramulla), Dal Lake, and Anchar Lake revealed considerable variation in demographic characteristics, educational attainment, occupational diversification, family structure, and economic status. The detailed findings are presented in Tables 1.

3.1 Age Distribution of Respondents

The respondents were categorized into age groups ranging from 20 to 60 years. Across all study sites, the 41–50 years age group represented the largest proportion of the fishing population, indicating that middle-aged individuals constitute the primary workforce engaged in inland fisheries. The highest representation of this age group was recorded in River Jhelum (51.94%) followed by Anchar Lake (51.28%), Dal Lake (42.85%), Baramulla (42.10%), and Sopore (36.91%). Statistical analysis revealed no significant difference ($p > 0.05$) in age distribution among the study areas, suggesting a relatively similar demographic composition of fishing communities.

3.2 Occupational Profile

Fishing was identified as the principal occupation for the overwhelming majority of respondents across all study locations. More than 90% of fishers in Baramulla (94.73%) and Sopore (94.63%) reported fishing as their primary livelihood. However, owing to declining fish catches, seasonal employment, and economic uncertainty, a substantial proportion of respondents had diversified into supplementary occupations. Labouring emerged as the most common secondary occupation, particularly among respondents from Baramulla (73.68%), River Jhelum (63.63%), Anchar Lake (50%), Sopore (46.30%) and Dal Lake (41.09%), Fruit vending, agriculture, auto driving, also contributed to household income, especially among fishing families in Baramulla. The occupational distribution differed significantly among the study areas ($p \leq 0.05$), reflecting differences in livelihood opportunities and dependence on fisheries resources.

3.3 Literacy Status

Educational attainment remained relatively low among the fishing communities, highlighting the socio-economic disadvantages faced by this occupational group. The highest proportion of illiterate respondents was observed in Baramulla (63.15%), followed by Sopore (46.97%) and Anchar Lake (43.75%). In contrast, respondents from River Jhelum showed comparatively better educational status, with more than 30.96% having completed primary education, while Dal Lake recorded the main proportion of respondents educated up to the primary level (30.13%). Only a small percentage of respondents had attained higher secondary or college-level education. The findings indicate that school dropout rates remain high among children belonging to fishing households, limiting opportunities for socio-economic advancement. The differences in literacy levels among study areas were statistically significant ($p \leq 0.05$).

3.4 Family Size

Most respondents belonged to medium-sized households comprising three to six family members. Families with 3–4 members predominated in Dal Lake (50.66%), River Jhelum (50%), Baramulla (47.36%), and Anchar Lake (43.75%), whereas Sopore recorded the highest proportion of households with 5–6 members (46.97%). Relatively few respondents reported family sizes exceeding seven members. Statistical analysis showed no significant association ($p > 0.05$) between family size and study area, indicating comparable household structures among the fishing communities.

3.5 Economic Status (Monthly Income)

Monthly household income reflected the economically vulnerable condition of the fishing communities. The majority of respondents earned less than ₹15,000 per month, with a substantial proportion reporting monthly earnings below ₹10,000. Among the surveyed areas, 46.97% of respondents in Sopore and 40% in Baramulla reported monthly incomes between ₹10,000 and ₹15,000, whereas 41.55% of respondents from River Jhelum, 41.09% from Dal Lake, and 37.5% from Anchar Lake earned less than ₹10,000 per month. Only a very small percentage of respondents (less than 5%) reported monthly earnings exceeding ₹20,000. These findings clearly indicate that a large proportion of fishing households belong to the economically weaker sections of society and remain vulnerable to financial instability. Significant differences in monthly income were observed among the study sites. Overall, the findings of the present study indicate that the socio-economic

challenges faced by fishing communities in the Kashmir Valley are multidimensional, encompassing low educational attainment, limited livelihood opportunities, poor household income, financial dependence, and persistent social discrimination. Improving the welfare of these communities will require an integrated approach involving livelihood diversification, skill development, educational support, access to institutional credit, modernization of fishing practices, improved marketing infrastructure, healthcare services, and social inclusion programmes. Such interventions would not only enhance the quality of life of fisher households but also contribute to the sustainable development of the inland fisheries sector in Jammu and Kashmir.

4. Conclusion

The present study provides a comprehensive assessment of the socio-economic status of artisanal fishing communities residing around River Jhelum, Dal Lake, and Anchar Lake in the Kashmir Valley, Jammu and Kashmir. The findings reveal that the majority of fishers are middle-aged males with low levels of formal education and are highly dependent on fishing as their primary livelihood. The study highlights several persistent challenges, including low household income, financial dependence on informal credit, inadequate access to modern fishing technologies, limited institutional support, poor educational attainment, and continued social discrimination. Improving the livelihoods of fishing communities requires an integrated approach involving enhanced fisheries extension services, adult literacy and skill-development programmes, access to affordable institutional credit, modernization of fishing gears and post-harvest infrastructure, and improved market linkages. Further, addressing social exclusion and occupational stigma through community awareness initiatives, inclusive policies, and social welfare programmes is essential for improving the overall quality of life of fishing communities. Strengthening education, healthcare, financial inclusion, and livelihood diversification will not only enhance the socio-economic well-being of fisher households but will also contribute significantly to the long-term sustainability and resilience of inland fisheries in Jammu and Kashmir.

Table 1: Table showing various attributes of fishermen living in and around study sites

Attributes		Srinagar		Sopore		Baramulla		Dal Lake		Anchar Lake		Chi Square/ P value
Age group (Years)	20-30	Number of respondents	% age	Respondents (number)	%age	Respondents (number)	%age	Respondents (number)	%age	Respondents (Number)	Percentage (%)	χ^2 =20.13 P > 0.05
	31-40	09	11.68	24	16.10	12	12.63	05	7.1	8	10.25	
	41-50	20	25.97	50	33.55	25	26.31	15	21.42	18	23.07	
	51-60	40	51.94	55	36.91	40	42.10	30	42.85	40	51.28	
Occupation	Fishing	08	10.38	20	13.42	18	18.94	20	28.57	12	15.38	
	Labour	77	100	141	94.63	90	94.73	73	100	80	100	χ^2 = 56.49 P < 0.05
	Fruit vending	49	63.63	69	46.30	70	73.68	30	41.09	40	50	
	Agriculture	30	38.96	65	43.62	05	5.26	30	41.09	20	25	
	Driving			06	4.02	10	10.52	08	19.95	15	18.75	
Literacy status	Illiterate	08	10.38	02	1.34	12	12.63	05	6.84	05	6.25	
	Primary	15	19.48	70	46.97	60	63.15	21	28.76	35	43.75	χ^2 = 79.24 P < 0.05
	Middle	30	38.96	24	16.10	27	28.42	22	30.13	20	25	

	Secondary	13	16.88	10	6.71	07	7.36	15	20.54	40	50	
	Higher Secondary	15	19.48	09	6.04	03	3.15	12	16.43	12	15	
Family Size	1-2	05	6.49	07	4.69	02	2.10	05	6.84	05	6.25	
	3-4											$\chi^2 =$ 14.31 $P > 0.05$
	5-6	40	50	50	33.55	45	47.36	38	50.66	35	43.75	
	7-8	25	31.25	70	46.97	41	43.15	31	41.33	25	31.25	
	9-10	10	12.5	15	10.06	09	9.47	03	3.75	15	18.75	
Income level	<5000	05	6.25	05	3.35	02	2.10	03	3.75	05	6.25	
	5000-10000	08	10.38	07	4.69	17	17.89	03	4.10	08	10	$\chi^2 =$ 14.67 $P > 0.05$
	10000- 15000	32	41.55	45	30.20	30	31.57	30	41.09	30	37.5	
	15000- 20000	25	32.46	70	46.97	38	40	29	39.72	22	27.5	
	>20000	09	11.68	15	10.06	13	13.68	07	9.58	15	18.75	
		03	3.89	05	3.35	05	5.26	04	5.47	05	6.25	

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