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Naila M Bhat

ICAR-Central Institute of
Fisheries Education
Deemed University, Panch
Marg, Yari Road, Mumbai,
Maharashtra, India

Arpita Sharma

ICAR-Central Institute of
Fisheries Education
Deemed University, Panch
Marg, Yari Road, Mumbai,
Maharashtra, India

Applying a gender lens to the constraints faced by fishers of Kashmir

Naila M Bhat and Arpita Sharma

Abstract

The objective of this study was to uncover the constraints faced by fisher men and fisher women of Kashmir. A pretested interview schedule was used to analyze the constraints faced by fishers of Wular (60), Dal (60) and Manasbal (40) lakes. Constraints were categorized and their severity was measured using a 5-point scale. Weighted average technique was used to analyze and rank various constraints. Non-parametric Mann-Whitney U test was used to check if there was a significant difference between the constraints faced by fisher men and fisher women. The results revealed that psycho-social constraints were ranked first by fisher women. However, production constraints were ranked first by fisher men. A statistically significant difference was found between the constraints faced by fisher men and fisher women highlighting the importance of the application of gender lens in the analysis.

Keywords: constraints, Kashmir, fisher men, fisher women

Introduction

Union Territory (U.T.) of Jammu and Kashmir (J&K) is bestowed with enormous water resources. There are about 1,248 water bodies in J&K, which comprises rivers and canals, reservoirs, tanks and ponds, floodplains, and derelict water bodies (DAHD&F, 2017) ^[1].

Kashmir is famous throughout the world for its freshwater and has tremendous potential for the development of fisheries, especially in the cold water sector (Khan and Ali, 2013) ^[2]. These lakes and wetlands are known all over the world for their unique flora and fauna. It presents the anomalous case of scarcity amid plenty. The rivers have large volumes of water, which they cannot possibly contain as their channels get increasingly choked with silt, making floods a recurrent phenomenon with disastrous consequences (Ahmed and Ahmed, 2013) ^[3]. It has a vast water resource, but it contributes only 0.48% to the total freshwater fish production and 31% to the country's cold water fish production (DCFR, 2015) ^[4].

There is a vast potential of fish production from these water bodies, but it is reported that unscientific culture practices, lack of technical staff, and non-utilization of water bodies are the primary reasons for low fish production. Many studies have also reported concerns on pollution, siltation in water bodies, and unscientific cultural practices as the reason for the decline in fisheries (Qayoom and Bhat, 2015) ^[5].

The act of fishing encompasses the interaction of social and ecological systems. However, we usually lack an in-depth understanding of the fishing process, despite its importance for understanding and managing fisheries. A mechanistic understanding of the constraints fisher's face and how they make decisions within the context of opportunities and constraints has the capacity to improve the design of fisheries management strategies to fulfill social and ecological objectives.

Fishers invariably confront constraints across the country, and the U.T. of J&K is not an exception to it. Although many studies have been done in Kashmir with regard to constraint faced by fishers like Bhat *et al.* (2018) ^[6], Malik *et al.* (2017) ^[7], Qureshi *et al.* (2017) ^[8] but these have mainly focused on fisher men. Few studies like Farooqi *et al.* (2018) ^[9] has documented social, economic, personal and health related issues of fisher women of Kashmir. But there are few studies where gender lens has been applied. Thus the objective of present study was to uncover and discuss in detail about the constraints faced by fisher men and fisher women in Kashmir.

Corresponding Author:**Arpita Sharma**

ICAR-Central Institute of
Fisheries Education
Deemed University, Panch
Marg, Yari Road, Mumbai,
Maharashtra, India

Materials and Methods

The most famous lakes in Kashmir are Wular, Dal, Manasbal, Gilasar, Ahansar, Waskur, and Nigeen. Among these, Wular, Dal, and Manasbal lakes are more critical in terms of providing fisheries livelihood and tourism opportunities. These lakes are selected for the study as Wular is the largest freshwater lake of India, Dal lake is vital from a tourism point of view, and Manasbal lake is the deepest lake in India, known for its fish and lotus stem (*Nelumbo*). Besides, most of the license holders depend on these lakes for their livelihood. Fishing households dependent on Wular, Dal and Manasbal lake were the sampling unit for the study. Villages near these lakes were selected based on the highest number of license holder fishers as per the list provided by the Department of Fisheries (DoF) as well as field visits. The households were selected randomly from each village and from each household; information was collected from fisher men and fisher women using an interview schedule. Table 1 represents the sampling design used in this study.

Table 1: Sampling design

Lake	Sample size (Households)	Men	Women
Wular lake			
Village 1: Laharwalpora	30	30	30
Village 2: Kolhama	30	30	30
Dal lake			
Village 1: Dhobi Ghat	30	30	30
Village 2: Fishermen Colony, Habbak	30	30	30
Manasbal lake			
Village 1: Manasbal	20	20	
Village 2: Gratibal	5	5	
Village 3: Kondibal	5	5	
Village 4: Naninara	5	5	
Village 5: Bhagwanpora	5	5	
Total	160	160	120

Wular is located in two districts of Jammu and Kashmir, Bandipora and Sopore tehsil of Baramulla. Wular has around 3,700 fishing license holders, out of which 2,500 holders are in Bandipora and 1,200 in Sopore (DoF, 2019) [10]. There are five fishing beats in Bandipora. Out of these beats, two were selected, and from each beat, one village was selected. The villages near these lakes were selected based on the highest number of license holders as per the list provided by DoF. The first village selected was Laharwalpora, and second, was Kollhama.

From Dal lake, two villages were selected based on the highest number of fishing license holders and the number of fisher women involved. The first village was Dhobighat (also locally known as Sri Lanka), and the other village was Fisher men colony, Habbak. A total of 30 fishing households were selected from these two villages making a total of 60.

According to the DoF, in Manasbal, there are five fishing villages with a total of 588 license holders, and the highest number of fishing license holders were in Kondibal and Naninara village. However, on the ground, 40 full-time fishers were found.

There were three types of license holders in Manasbal viz; those who were actively involved in fishing throughout the year; those who were active during one or two months only and those who took license for getting benefits from government schemes. The sample size was taken as follows: Manasbal (20), Gratibal (5), Kondibal (5), Naninara (5), and

Bhagwanpora (5).

A list of constraints faced by fisher men and fisher women was prepared after preliminary interactions with key informants, pilot study, and literature review. Based on the list, constraints were categorized. Fisher men and fisher women were asked to score their perception for each constraint on a 5 point scale with, 0 being not severe, 1 being slightly severe, 2 being moderately severe, 3 severe and 4 very severe. However, in Manasbal lake only fisher men were interviewed as women reported that they were not involved in the fisheries related work.

Weighted average technique was applied to analyze and rank various constraints faced by fishers. Weighted average (WA) for each constraint was calculated by multiplying the frequency of each constraint with the respective weight. The formula for weighted scale used was as follows:

$$\text{Weighted average} = \frac{\text{Sum}(x_1.w_1 + x_2.w_2 + x_3.w_3)}{\text{Sum}(w_1 + w_2 + w_3)}$$

Where, x_1, x_2, x_3 = frequency of the respective constraints
 w_1, w_2, w_3 = weighted values

Mann-Whitney U test was used to check if there was a statistically significant difference for constraints faced by fisher men and fisher women. The formula used was as follows.

$$U_1 = n_1 n_2 + \frac{n_1 (n_1 - 1)}{2} - R_1$$

$$U_2 = n_1 n_2 + \frac{n_2 (n_2 - 1)}{2} - R_2$$

Where,

U_1 = Mann-Whitney statistic for group 1

U_2 = Mann-Whitney statistic for group 2

n_1 = number of samples in group 1

n_2 = number of samples in group 2

R_1 and R_2 = sum of ranks in group 1 and group 2 respectively (Nachar, 2008) [11].

Results and Discussions

Table 2 presents the gender analysis of constraints.

Table 2: Constraints faced by fisher men and fisher women of Kashmir

S. No.	Constraints	Men & Women (n=280)		Men (n=160)		Women (n=120)		Man Whitney
		WA	Rank	WA	Rank	WA	Rank	
1	Psycho-social	77.46	2	40.53	4	36.93	1	.000*
2	Institutional	81.33	1	45.00	2	36.33	2	.000*
3	Economic	75.03	3	44.07	3	30.96	4	.000*
4	Social	62.48	6	37.48	5	25	8	.000*
5	Infrastructural	61.32	7	32.36	8	28.96	5	.000*
6	Cold weather	69.12	4	33.75	6	35.37	3	.000*
7	Political	56.23	9	30.03	9	26.20	7	.264
8	Production	65.45	5	45.83	1	19.62	9	.000*
9	Fisheries	58.94	8	32.71	7	26.23	6	.000*

*S=Significant at 0.05% level of significance

It is clear from table 2 that institutional constraints ranked first when both fisher men and fisher women are considered

together. However, when gender lens was applied, then it was clear that production constraints ranked first for men. For fisher women production constraints ranked last with least weighted average. For fisher women psycho-social constraint ranked first. This reveals that there was a statistically significant difference between constraints faced by fisher men and fisher women. It is clear that when fisher men and fisher women are considered together, the severity of the constraints faced by them might not give a clear picture.

A discussion on different constraints faced follows.

Psycho-social constraint: Anxiety due to disturbances, stresses due to long working hours were the psycho-social constraints faced by fisher men and fisher women. Among the psychosocial constraints, anxiety due to disturbances was the major constraint for both fisher men and fisher women. It is known that this region has had disturbances for a long time, and this has led to an adverse effect on people. Fisher women reported that during times of disturbances, they are unable to sell the fish even if fisher men had caught the fish. This creates disturbances in regular incomes and livelihood leading to anxiety and depression. Similar observations have been reported by Bhat and Sharma (2020) ^[12] in their study. The political unrest and conflict have a significant effect on the mental health and income of the people of Kashmir and this has also been reported by many like Hassan and Shafi (2013) ^[13]; Ali and Jaswal (2000) ^[14].

It was reported that during winters fisher men leave for fishing at 9 a.m. and return at 5 p.m., and during summers they leave early at 5 a.m. and return at 11 a.m. They again leave at 4 p.m. and return by 6 p.m. Some of them even go for night fishing in the summers in Dal lake. Most fisher women of Wular lake leave early at 8 a.m. and return by 3 p.m. In Dal lake, most fisher women leave early at 6:30 a.m. and return by 8 p.m. in the summers. It was reported that long working hours affect their health. Bhat and Sharma (2020) ^[12] also reported similar findings. Sharma *et al.* (2002) ^[15] have reported about the ergonomic problems faced by the women working in the prawn peeling.

Institutional constraint: Institutional constraints faced by fisher men and fisher women were lack of awareness about different fisheries schemes, less attention to fisheries and more on tourism, subsidy allotment to non-traditional fishers by the DoF, less cooperation by the DoF.

The fisher men as well as fisher women reported that subsidy was also given to non-traditional fishers. They stated that even if they knew about any scheme and applied for the same, they were not sure if they would any benefit from that scheme.

Other studies have also reported lack of knowledge/awareness regarding various fisheries schemes, poor quality of seed and feed, lack of adequate marketing channels, non-availability of insurance coverage, lack of proper exposure visits, misuse of subsidy, lack of water, lack of institutional credit as major constraints like Malik *et al.* (2017) ^[7] and Angral *et al.* (2017) ^[16].

Economic constraint: Economic constraints which were faced by fishers were less income, difficulty in access of credits, high interest on credit by banks, initial capital for fisheries, high cost of craft construction. Less income was the major economic constraint for both fisher men as well as fisher women.

Social constraint: Social constraints faced by both fisher men and fisher women were poor social status, low level of literacy, lack of fisheries cooperative and less development of alternative livelihood options. Poor social status was the major social constraint reported by fisher women. A discussion on the fishing community's social status is critical because it is astonishing that this community has been presented in a very unacceptable and derogatory manner in some articles and books. For instance, many years back Lawrence (1895) ^[17] mentioned this community as rude, loutish, insolent and vulgar for not paying respect to their women. In the book, *Tareikh-i-Hassan*, the tribe has been referred to as the most immoral and disgraced tribe. Dar (2017) ^[18] also reported that years of indoctrination have given them probably this feeling of inferiority and sense of deprivation. Fisher women also reported that their community is looked down by the upper caste. This was felt to be a severe constraint reported by both fisher men and fisher women, and immediate interventions are needed to have equity.

Less development of alternative livelihood options was the major social constraint reported by fisher men. They suggested that during lean seasons they would like to have alternative livelihood options. Further fisher men reported that there was a lack of strong leadership and lack of trust amongst them, which is the reason they have not formed a fisheries cooperative. Malik *et al.* (2017) ^[7] also reported that the absence of fisheries cooperatives made fishers to fall in the clutches of intermediaries.

Infrastructural constraint: Infrastructural constraints faced by fishers included less availability of drinking water facility, lack of proper roads, and restriction on house repairs due to green belt and frequent power cuts.

Restriction on house repairs due to green belt was reported as major infrastructural constraint by fisher men. The houses in the Dhobi Ghat area of Dal lake were reported to be weak structures. Due to rules formed by J&K Lakes and Waterways Development Authority (LAWDA) the repair permissions are not given.

It was reported that even basic facility like drinking water supply is not available for fishers of Wular lake and they reported that they consume stream water flowing in their area which has multiple uses like utensil and clothes washing. A similar type of constraint has been reported in studies done in Kashmir by Malik *et al.* (2017) ^[7]; and Regu *et al.* (2019) ^[19].

The fishing villages of Wular lake have *kaccha* roads, and the conditions of these roads worsen during rain and snow. Qureshi *et al.* (2013) ^[20] and Malik *et al.* (2017) ^[7] have reported lack of proper roads in fishing villages of Kashmir. In addition to this, there is no transport facility available for the fishers. The fishing villages lacked transport facility, and fisher women reported that they have to walk long distances on *kaccha* bumpy road around with massive loads of fish on their head.

Lack of proper roads in Dhobi Ghat fishing colony was also an important constraint faced by fishers in Dal lake. This fishing community lives in the periphery waters of Dal lake connected to the main road by a small path which is 3 ft. wide. During the time of emergency, they have to carry the patients in craft (*Naav*) to the main road and situation becomes worse if the fire breaks out as it is difficult for the fire brigade to reach there. It was reported that devastating fire broke out in Dhobi Ghat area in which ten single-storey houses, four double-storey houses, two boats and five wooden

structures were damaged in the incident in 2013 leading to loss of about Rs. 1.5 crores (The Hindu, 2013) [21]. Malik *et al.* (2017) [7] also reported this constraint in fishers of Bandipora district of Kashmir.

Cold weather constraint: Constraints due to cold weather were fishing in chilly cold, windy, snow, marketing in cold, snow and snow leading to slippery roads. During winters, the minus temperatures lead to frozen roads leading to the difficulty for carrying their activities. Fishing in chilly cold, windy, snow was the major cold weather constraint faced by fisher men. They are working in cold temperatures. Prolonged exposure to bone-chilling winds and minus temperatures leads to various types of cold-related injuries and diseases (Bhat and Sharma, 2020) [12]. This makes their work environment very difficult. Shiryayeva *et al.* (2015) [22] reported that workers in a cold work environment were having running nose and respiratory problems like nasal congestion, sneezing, cough. Marketing in the cold, snow was a severe cold weather constraint faced by fisher women. They leave their homes early in the morning in freezing cold and sell fish on the roadsides under an umbrella even when it is snowing.

Political constraint: Both fisher men and fisher women identified curfew and bandh, heavy security force deployment in the area as political constraints. Among political constraints, curfew and bandh was severe constraint faced by fisher men as well as fisher women. In Kashmir, there have been periodic cycles of protests, curfews and public agitations for many years which have a direct effect on the lives of people, including fishers as this affects their livelihood. During these times, fishing is not done and even if the fisher men are able to catch the fish, fisher women are unable to sell the catch, leading to loss of income and livelihood. In addition, Dal lake is an urban lake and the areas where fisher women of Dal lake sell the fish are the hotspots of agitations. During curfews, they cannot go to sell their catch. This constraint for fishers of Dal and Wular lake has been also reported by Qureshi *et al.* (2013) [20]. This region has witnessed heavy economic losses due to the political instability and the conflict in the region (Habibullah, 2004; Shah *et al.*, 2013) [23], [24].

Production constraint: Production constraints included pollution and encroachments along the lake. It has been reported by Bhat *et al.* (2014) [25] that the water quality of *Sukhnag* stream, one of the major inflow stream of Wular lake is deteriorating and found an increased level of pollution indicating progressive anthropogenic pressure in the downstream areas. Sofi (2018) [26] reported that *Nusoo* fishing village residents of Bandipora, claimed that local municipality is dumping huge tonnes of waste daily near and into the Wular lake thus increasing pollution. It has been reported that there is an impending threat of possible extinction of livelihoods of thousands of people/fishers who are dependent upon the lake (The Wire, 2017) [27]. Encroachments along the lake lead to the destruction of breeding grounds of fish and thus was one of the severe constraints for fisher men. This leads to a decrease in the production of the lake.

Fisheries related constraint: Fisheries related constraints included lack of fish storage facilities, less trainings on fishing, handling and storage, stoppage of subsidy for craft

wood, lack of modern gear/craft, less availability of ice for fish storage, less seed stocking by DoF, conflict with sand excavators which leads to the destruction of fish breeding grounds, conflict with other fishers over use of gill net at night illegally, conflict between *Trapa* women collectors and hook and line fishers, breaking the season ban, lack of official market with basic facilities, lack of disposal of waste of fish after dressing, lack of washroom facility for fish sellers and ill-treatment of police with fish vendors for roadside selling.

For fisher men stoppage of subsidy for craft wood was severe fisheries related constraint. The fisher men claimed that they used to get a subsidy of wood for boat construction, but now it has been stopped. The cost of the wood is very high which they could not afford. For fisher women lack of washroom facility for fish sellers was the major constraint. There is a lack of fish market in the capital city, Srinagar. Fisher women sell fish on roadsides/ footpath which are accidents and violence prone. Public washrooms are far from this market, which creates problems for women.

Fisher women of Bandipora district sell fish on the roadside in the main Bandipora market, which is a crowded place. The fisher women reported that police frequently harassed them for sitting on the roadside. As there was no place/market, they were forced to sell on the roadside and when they resisted police took them to police stations.

Recently, after a lot of struggle DoF has made a fish market in main Bandipora town in June 2019. However, fisher women reported that the market is basically a small open area with a tiled floor, a stream flowing on one side and is a few meters away from the main market in one residential lane. There is no roof which could prevent them from rain and snow. There are no facilities like ice availability, storage space and washroom facility. The fisher women complained that the market given to them is off the road, and only a few customers come to buy fish there. Secondly, they are ill-treated by people residing in that lane for making the surrounding unhygienic. Storage problem, lack of marketing facility, high transportation cost, unavailability of ice and packaging problem are common problems faced by fish sellers as reported by Bhat *et al.* (2018) [6] in his study in Kashmir.

Manasbal fisher men also reported that the schemes are allotted to those who were not fulltime fisher men but had only taken license from the Department. Fisher men also had a conflict with the Department of Tourism as they claimed that the department opens the *Naninaari* gate due to which fish flows into river Jhelum and they get less catch. Furthermore, during lotus stem (*Nelumbo*) harvesting season, they close the gate to raise the level of water. It becomes very difficult to harvest lotus stem (*Nelumbo*) then.

Rahaman *et al.* (2013) [28] carried a study on problems and constraints in the production and marketing of fish in West Bengal. They found that the significant constraints faced in production and marketing of fishes are theft and pilferages, unavailability of good quality seeds of fish, lack of technical and financial government support, litigations among the pond owners, poor adaptability of fish seed in the new environment, non-availability of quality fish seeds, lack of government support, labour crisis, the high degree of the perishability of the product, cut-throat competition, the inconsistent supply of fish, lack of storage facility, etc. Angral *et al.* (2014) [29] reported that gender-biased extension services, social taboo, and lack specific schemes/incentives for rural women for fishery-related activities, non-availability

of adequate extension and training services for women folk, 18 lack awareness about the fisheries as an economic activity are the constraints faced by women in Jammu region.

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Conclusions

Performing constraint analysis by adopting the gender lens has clearly shown that there is a statistically significant difference between the constraints faced by fisher men and fisher women. Understanding the unique barriers fisher men and fisher women face in accessing economic opportunities in fisheries is necessary. There is a need to address the constraints faced by both men and women which may not be the same for both genders. This study has shown that putting gender at the forefront is necessary in any study to have an equitable development.

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