

Gender Role in Fisheries Value Chain in Asia's Second Largest Artificial Lake - Jaisamand, Rajasthan

Rajpal Yadav, Shekhar Nath Ojha*, Ananthan P.S., Vinod Kumar Yadav and Rohitash Yadav

ABSTRACT

Women role is crucial in fisheries and aquaculture worldwide, which has not much acknowledged, valued, and excluded from decision-making and leadership positions in their community. The study explores the gender roles in lake fisheries value chain, activity profile, and access to family resources. About 2540 fishers, consisting mainly of tribals, reside in the lake region of Jaisamand and depend on the lake fishing for their livelihood. Present study sampled 139 sample fisher households to explore the gender roles in lake fisheries value chain, using a customized tool of gender analytical framework in fisheries. Assessing the activity-profile results reveals that the jointly men and women found to be engaged in four activities, namely fishing, money management, net-mending and family decision. Activities such as boat-repairing, marketing, loading & unloading of fish catch, men found to be engaged except for a tiny percentage of females. Interestingly, in about 20% of households, only women were found to be managing the money and were involved in family decision-making. Men had access to resources, namely land and family equipments, on the other side, both men and women had access to family cash, family labor, training to skill development, education of children.

Keywords: Access to resources and control, Fisheries, Gender roles, Value chain

INTRODUCTION

The gender concept that deals with the roles and relationship among men and women recognized by factors like, social, cultural, religious, ethnic, economic, and political and not by biology characters (Food and Agriculture Organization, 2013). An estimated 180 million people employed in fisheries or fisheries-related activities worldwide are women, while many are in post-harvest, they play critical roles in fish processing (including smoking) and trade (Food and Agriculture Organization, 2013). In Asia, 60 per cent of seafood marketed by women. Women make an essential contribution in fisheries economic, but the input undervalued globally, which has direct consequences on fisheries sustainability (Kwok *et al.*, 2019). Management

interventions for small scale lake fisheries, such as fishing rights, fishery resources management, equity and access, gender equality are advocated (Cowx *et al.*, 2019 and Khader *et al.*, 2015). The contribution of women to fisheries economics in five maritime countries reported that women are actively involved in direct and indirect fishing activities, more number of women engaged in incidental activities, dimensions of gender in fisheries such as processing, marketing, decision making, etc. (Khader *et al.*, 2015).

Lack of access to information, extension contacts and financial services, infrastructure, decent employment and having limited access to physical/capital resources is the current situation for women. They are excluded from decision-making and leadership positions in this

sector (Bennett, 2005). Women in coastal areas play an indispensable role in the fishery sector by taking part in various activities such as marketing, peeling, icing of fish and in the post-harvest industry in capture as well as culture fisheries after the landing of fish catch (Shanthi, 2014). Even though the focus is on the catching sector (men dominated) rather than the processing and marketing sector (women dominated), women classified as part-time fish workers (Kleiber *et al.*, 2015). In addition to these tasks, women have also had to look after the household unit taking care of the family's educational, health, and dietary needs (Bennett, 2005). Women are active in fishing, aquaculture, post-harvest, processing, financing, and marketing activities within the fisheries sectors of developing countries (Rubinoff, 1999; Jennifer and Ilaria, 2007; Harper *et al.*, 2013; Gopal *et al.*, 2014; Kleiber *et al.*, 2015). However, while many natural resource management sectors have moved towards a broader consideration of 'gender and development,' the fisheries sector has been relatively slow to move beyond a simplistic view of women as fish processors and men as the users and managers of the resource (Holly and Deven, 2004; Jennifer and Ilaria, 2007; Williams *et al.*, 2012). Many projects have been instigated to incorporate and endorse women's role in fisheries and direct involvement of the women in fisheries management (FAO, 2013). There is also recognition that increased globalization of the fisheries markets, higher prices, and rising sanitary requirements are changing traditional roles and gender relations, and in some cases leading to the exclusion of women and vulnerable groups (Rubinoff, 1999; Bennett, 2005; Tindall and Holvort, 2008) analysed gender roles through the fisheries chain. Kwok (2019) reported that the inequalities existed in communities regarding access to and control over fisheries and the recognitions of women's opinions. Culturally and economically the part of women and men in fisheries are accounted differently, the contribution often not taken into deliberation and not counted (Rubinoff, 1999; Kleiber *et al.*, 2015). Ngwenya (2012) reported that the fishery policy and program interventions tended to entrench rather than minimize gendered disparities between women and men fishers' access to and control over fish resources, asset accumulation, and employment opportunities. Even the

women fishers' have more ecological knowledge, interests, and concerns in the fisheries value chain. However, they have been excluded from the regulation and management of fisheries resources such as current zoning, breeding season regulations, and co-management of natural fisheries resources (Lentisco and Lee, 2015).

METHODOLOGY

The study was conducted in Jaisamand lake of Udaipur district in Rajasthan. Jaisamand Lake is the second-largest artificial lake in Asia with a 7,160 ha water spread area. Jaisamand Lake is a high productivity lake compared to other lakes such as Pichola Lake, Fateh Sagar Lake, and Udai Sagar Lake. It has been reported to have high fish productivity and abundance of flora and fauna (Sharma and Srivastava, 2014; Durve and Kakkar, 1983). Fish species reported in the lake are namely major carps, minor carps, catfishes, and Tilapia. The average fish production was 449.20 tons in 2015-16. About 2540 fishers, consisting mainly of tribes, reside in the lake region of Jaisamand and depend on the lake for their livelihood. There were 21 fishing villages in the lake region; four fishing villages, namely Ghati, Makarsima, Pani kotra, and Methuri, were selected based on the number of active fishers in the communities. 30 fisher's household chosen from the respective villages, with simple random sampling, and purposive technique. In total 139 fisher households, fisheries co-operative members in Jaisamand lake were sampled to identify and explore the gender roles in lake fisheries value chain, using a customized tool of gender analytical framework. The data/information were collected from both primary and secondary sources. A semi-structured interview schedule was prepared for the collection of primary data from different respondents. Secondary literature was collected from diverse sources such as the fisheries department, Rajasthan tribal area development co-operative federation ltd. Udaipur published and unpublished data, reports, record books, and brochures, etc.

RESULTS AND DISCUSSION

From Figure 1, it could be observed that 95 per cent of the men and women were both engaged in fishing;

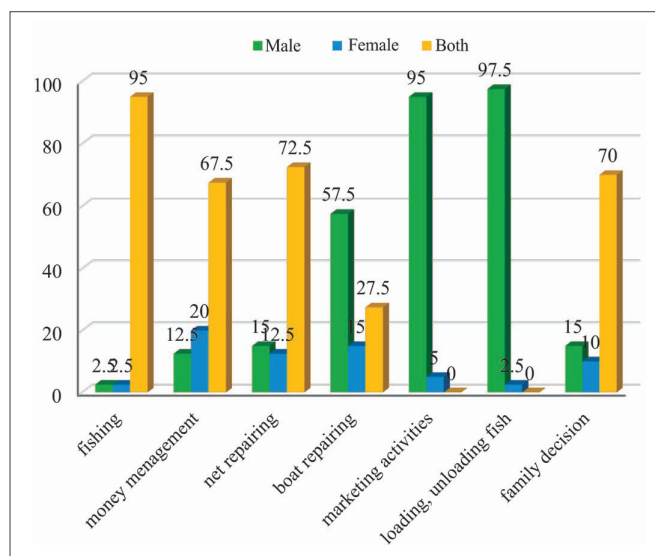


Figure 1: Activity profile of fisher's household

this was because the primary occupation of the majority of households was fishing, and for operating the net, fishing two persons were required. Therefore, involving women in fishing helped save labor costs. Girei *et al.* (2019) reported that 92 per cent fishers' women were engaged in fishing and fisheries activities, where Gammage *et al.* (2006) reported that in shrimp culture, both men and women were working in juvenile/post larva catching with women embracing approximately 40 per cent of the workforce. De Silva (2011) reported women's involvement in large-scale fish harvesting activities. 67.5 per cent of the money management activity taken by both men and women fishers, where 12.5 per cent of the women were found to manage money in the family alone. 72.5 per cent of the net mending activity was carried out by both men and women, while 12.5 per cent of the women were reported in net mending. The results also show that 57.5 per cent of the male performed the repairing of the boat, 27.5 per cent of men and women and only 15 per cent of the women were reported in the ship repairing activities. Marketing activities, loading and unloading of fishing catch at the market were mostly carried out by men fishers; only 2.3 per cent of the women were engaged in marketing activities of loading and unloading. Girei *et al.* (2019) found that all women were involved in fish marketing and fish processing industry whereas, Geethalakshmi *et al.* (2012) found that in coastal districts of Kerala, processing activities like fish drying,

preparation of value-added fishery products, and fish marketing sector dominated by the fisherwomen. Khader (2013) reported that about 50 per cent of fisherwomen of Kerala were engaged in value additions. It was because of the process of (inland capture) fishing was different from the marine capture fisheries. In the lake fisheries, fishers spent 6-7 hours in fishing, loading, unloading, and marketing of catch. Fishers (both men and women) were found to go in the evenings for fixing net and in early mornings for fishing after fishing, women came back home and involved in family work, child care, whereas men go for the marketing of fish. It could be observed that 70 per cent of the family's decisions were taken up by both men and women in the family, 15 per cent of the family's decisions were taken by male respondents alone and only 10 per cent of the family decision was taken by only females which shows women had low participation in decision making in fisheries management process. Roy *et al.* (2001) showed that women in the fishing communities in Kerala dominate the roles of preserving, distributing, and converting the catch into food. They played a dominant role in the making of nets and other tasks related to preparing boats to go out and fish in addition to central to household responsibilities. De Silva (2011) revealed that men and women undertake different and changing roles depending on culture, values, attitudes, and norms concerning resource access and control, mobility, type of technology involved, the extent of commercialization, and the product required. Their role differs across fishing industries, communities, countries, and regions. The leading task of women in capture fishers lies in unpaid work such as household work, elderly care, child care, meal preparation, and facilitating young ones' education. But the outstanding woman's services are not acknowledged across worldwide in fishing communities and not accounted in financial terms.

Access/control on resources

Table 1 depicts that 84.2 per cent of the male have access to land, followed by 8.3 per cent female fishers, and only 7.5 per cent of both men and women having joint access to the property. The reason for this was because the head of the family was men, patriarchal system of society allows them access and control to

Table 1: Access/control on Resources by male and female fishers (n=120)

Resources	Category	Frequ- ency	Percen- tage
Land	Male	101	84.2
	Female	10	8.3
	Both	9	7.5
Equipment's	Male	97	80.8
	Female	12	10
	Both	11	9.2
Cash	Male	52	43.3
	Female	8	6.2
	Both	60	50.0
Labor	Male	46	38.3
	Female	15	12.5
	Both	59	49.2
Training to skill development	Male	42	35
	Female	15	12.5
	Both	63	52.5
Education of children	Male	55	45.8
	Female	18	15
	Both	47	39.2

land. 80.8 per cent of the men fishers were found to have access to fishing equipment in the family, followed by 10% of women having access to fishing equipment. Only 9.2 per cent of both men and women reported having joint access to family equipment, like as, boat, net, motorcycle, etc. De Silva (2011) observed that in Kenya, several women fishers' own fishing crafts and gear but they do not involve in fishing. Hitomi (2009) found that in Japan, the crew of powered vessels used in the fishing industry composed of 88 per cent men and 12 per cent women. It was reported that 50 per cent access to the cash was by both men and women fishers, followed by 43.3 per cent of the men fishers, whereas only 6.2 per cent of women alone had access to the money. It was also observed that 49.2 per cent of both men and women had access to laborer work, followed by 38.3 per cent male and 12.5 per cent female. 52.5 per cent of men and women had access to training for skill development in fisheries, followed by 35 per cent of the male fishers in the family, and only 12.5 per cent of women had access to pieces of training for skill development in

fisheries. Results also found that 45.8 per cent of the men had access to education, followed by 39.2 per cent of men and women, with only 15 per cent of the women had access to education. Medard *et al.* (2000) and De Siliva (2011) emphasized that generally, women who are more involved in the post-harvest activity or industry sector of the fishery value chains have less access to fisheries resources/equipment's, excluded from decision making and leadership position. In contrast, fisherwomen who were having higher education levels or having access to fisheries resources are in the higher level of the fishery value chains such as resources management, decision making, leadership position in the fishing community. Bennett (2005) found women were excluded from decision-making and leadership positions but played crucial roles in fisheries, particularly on the post-harvest. In spite of this, they are prominently absent from the discussion of many programs in fisheries development, the attention is mainly on the needs and interests of men, neglecting women in fisheries. The acknowledgment of women's role in the sector can be explained by many factors, to be focused on the catching sector (men dominated) rather than the processing and marketing sector (women dominated); secondly, research which purports to be gender-neutral is often 'gender blind' and fails to see the bigger livelihoods picture (Bennett, 2005; Bourke and Luloff, 1997). Gammage *et al.* (2006) reported that the women traders had low income due to less access to social, economic resources of women traders in lake fisheries value chain, profitable markets, and high-value fish.

CONCLUSION

It can be conclude that the men and women fisher's were engaged in activities, namely fishing, money management, net-mending and family decision. Activities such as boat-repairing, marketing, loading & unloading of fish catch, men found to be engaged except for a tiny percentage of females. Interestingly, in about 20% of households, only women were found to be managing the money and are involved in family decision-making. Men had access to resources, namely land; family equipment's on the other side, both men and women had access to family cash, family labor, training to skill development, education of children. Where the both men and women

fishers were having access to fisheries and family resources but only man fishers were having control on the resource.

Paper received on : December 13, 2020

Accepted on : December 26, 2020

REFERENCES

- Bennett, E. (2005). Gender, fisheries and development, *Marine Policy*, **29**(5), 451-459.
- Bourke, L. and Luloff, A.E. (1997). Women and leadership in rural areas, *Women & Politics*, **17**(4), 1-23.
- Callhoun, S., Conway, F. and Russell, S. (2016). Acknowledging the voice of women: implications for fisheries management and policy, *Marine Policy*, **74**, 292-299.
- Candida, M. Smith, I. and Mukhopadhyay, M. (2005). A Guide to Gender Analysis Framework. Oxfam GB, 274 Banbury Road, Oxford OX2 7DZ, UK. <https://doi/pdf/10.3362/9780855987602.000>.
- Chando, C. (2002). Gender roles in fishery planning and projects. The case study of coast region in Tanzania (Doctoral dissertation, Thesis). Department of Social Science and Marketing, *Norwegian College of Fishery Science University of Tromsø Norway*. <https://hdl.handle.net/10037/317>
- Cowx, I.G. and Ogutu Owhayo, R. (2019). Towards sustainable fisheries and aquaculture management in the African Great Lakes, *Fisheries Management and Ecology*, **26**(5), 397-405.
- De la Torre-Castro, M., Fröcklin, S., Börjesson, S., Okupnik, J. and Jiddawi, N.S. (2017). Gender analysis for better coastal management – increasing our understanding of social-ecological seascapes, *Marine Policy*, **83**, 62-74.
- De Silva, D.A.M. (2011). Faces of women in global fishery value chains: Female involvement, impact and importance in the fisheries of developed and developing countries. Report produced for NORAD/FAO Chain Project, *Food and Agriculture Organization of the United Nations*, 49p.
- Durve, V.S. and Kakkar, V. (1983). Catch analysis in 1974 and fishing trends in the Jaisamand Lake (Rajasthan). *Indian Journal of Fisheries*.
- Food and Agriculture Organization (2013). Gender and Aquaculture.
- Fröcklin, S., de la Torre-Castro, M., Lindström, L. and Jiddawi, N.S. (2013). Fish traders as key actors in fisheries: Gender and adaptive management, *Ambio*, **42**(8), 951-962.
- Gammage, S., Swanburg, K., Khandkar, M., Islam, M.Z., Zobair, M. and Muzareba, A.M. (2006). A gendered analysis of the shrimp sector in Bangladesh, *Greater Access to Trade and Expansion, USAID, Bangladesh*.
- Geethalakshmi, V., Jeeva, J.C., Balasubramaniam, S., Parvathy, R. and Nasser, M. (2012). Information and training needs of coastal fisher folk of Ernakulam district in Kerala, *Journal Global Communication*, **5**(1), 9-15.
- Girei, A.A., Kigbu, A.A. and Boyi, A. (2019). Gender Role of Women in Fisheries Operations in the Fishing Communities of Doma Dam of Doma Local Government Area of Nasarawa State, Nigeria, *Asian Journal of Agricultural Extension, Economics & Sociology*, pp.1-9.
- Gopal, N., Williams, M.J., Porter, M., Kusakabe, K. and Choo, P.S. (2014). Guest editorial: Gender in aquaculture and fisheries—Navigating change, *Asian Fisheries Science*, **27S**, 268-282.
- Harper, S., Grubb, C., Stiles, M. and Sumaila, U.R. (2017). Contributions by women to fisheries economies: insights from five maritime countries, *Coastal Management*, **45**(2), 91-106.
- Harper, S., Zeller, D., Hauzer, M., Pauly, D. and Sumaila, U.R. (2013). Women and fisheries: Contribution to food security and local economies. *Marine Policy*, **39**, 56-63.
- Hitomi, N. (2009). The current state of fisheries and the status of women, *Women in Japanese Fishing Communities (Hitomi, N. Eds.)*, *Agriculture and Forestry Statistics Publishing Inc., Japan*, pp. 1-15.
- Holly, M., Hapke and Devan, A. (2004). Gender, the work life course, and livelihood strategies in a South Indian fish market, Gender, Place & Culture: *A Journal of Feminist Geography*, **11**(2), 229-256.
- <http://asiapacific.unwomen.org/en/news-and-events/stories/2015/09/women-play-a-crucial-role-in-marine-environments-and-fisheries-economies>.
- Hussain Shah, M., Borthakur, S., Tamuli, K.K., Sarma, D., Bhagabati, S.K., Patowary, A.N. and Kalita B. (2020). Effect on growth of practical diet formulation with non conventional animal protein sources on freshwater catfish (*Clarias magur*), *Indian Journal of Extension Education*, **56**(3), 64-68.
- Jennifer, G. and Ilaria, S. (2007). How is FAO Mainstreaming Gender in Fisheries and Aquaculture? FAO, Rom Italy.
- Khader, V. (2013). Socio-economic empowerment of fisherwomen in Southern States of India, *Fish Technology*, **50**, 258-264.
- Kleiber, D., Harris, L.M. and Vincent, A.C.J. (2015). Gender and small-scale fisheries: a case for counting women and beyond. *Fish and Fisheries*, **16**, 547-562.

- Koralagama, D., Gupta, J. and Pouw, N. (2017). Inclusive development from a gender perspective in small scale fisheries, *Current Opinion in Environmental Sustainability*, **24**, 1-6.
- Kwok, Y.E., Kc, K.B., Silver, J.J. and Fraser, E. (2019). Perceptions of gender dynamics in small scale fisheries and conservation areas in the Pursat province of Tonle Sap Lake, Cambodia, *Asia Pacific Viewpoint*. <https://doi:10.1111/apv.12225>.
- Lentisco, A. and Lee, R.U. (2015). A Review of Women's Access to Fish in Small-Scale Fisheries, *Fisheries and Aquaculture*, Circular No. 1098. I, IV, VI, 1-36.
- Mattison, L. (2009). Participatory Equality in the Governing of Marine Resources: A Gender Focused Study on Fisheries Management in Kerala, India and Southern New England, USA. Unpublished Master's thesis, Program in Environmental Studies, Brown University, Providence, Rhode Island.
- Medard, M., Sobo, F., Ngatunga, T. and Chirwa, S. (2002). Women and gender participation in the fisheries sector in Lake Victoria. In *Global Symposium on Women in Fisheries: Sixth Asian Fisheries Forum*. Kaohsiung, Taiwan, pp 155-164.
- Ngwenya, B.N., Mosepele, K.K. and Magole, L. (2012). A case for gender equity in governance of the Okavango Delta fisheries in Botswana. In: *Natural Resources Forum Oxford*, UK: Blackwell Publishing Ltd., **36**(2), 109-122.
- Onyango, P.O. and Jentoft, S. (2011). Climbing the hill: poverty alleviation, gender relationships and women's social entrepreneurship in Lake Victoria, Tanzania, *Maritime Studies*, **10**, 117-140.
- Rohe, J., Schlüter, A. and Ferse, S.C.A. (2018). A gender lens on women's harvesting activities and interactions with local marine governance in a South Pacific fishing community, *Maritime Studies*, **17**, 155-162.
- Roy, M.A., Maziade, M., Labbé, A. and Mérette, C. (2001). Male gender is associated with deficit schizophrenia: a meta-analysis, *Schizophrenia Research*, **47**(2-3), 141-147.
- Rubinoff, J.A. (1999). November. Fishing for status: impact of development on Goa's fisherwomen. In: *Women's Studies International Forum*, Pergamon, **22**(6), 631-644.
- Shanthi, B. (2014). The long journey to equality, A report on the 5th global symposium on gender in aquaculture and fisheries.
- Sharma, L.L. and Srivastava, R.M. (2014). Current Scenario of Fisheries Development in Rajasthan, *Fishing Chimes*, **34**(5,6), 41-45.
- Smith, K.K., Matkin, G.S. and Fritz, S. (2004). A review of gender and full-range leadership research and suggestions for future research. Faculty Publications: *Agricultural Leadership, Education & Communication Department*, **3**(2), 52-68.
- Tindall, C. and Holvoet, K. (2008). From the lake to the plate: assessing gender vulnerabilities throughout the fisheries chain, *Development*, **51**(2), 205-211.
- Williams, M.J., Porter, M., Choo, P.S., Kusakabe, K., Vuki, V., Gopal, N. and Bondad Reantaso, M. (2012). Gender in aquaculture and fisheries: Moving the agenda forward, *Asian Fisheries Science S*, **25**, 29-45.