

Fisherwomen empowerment: Shedding light on the invisible gender

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Womens engagement in fisheries can be viewed from social, political and technical perspectives, all of which show that the role of women is often underestimated. This inadequate recognition of women's contributions hampers the sustainable development process, resulting in increased poverty and food insecurity. According to The State of World Fisheries and Aquaculture published in 2018 by FAO:

“in the period 2005–2016, the quality and frequency of reporting on engagement by gender improved slowly. Official statistics indicate that 59.6 million people were engaged in the primary sector of capture fisheries and aquaculture in 2016 – 19.3 million in aquaculture and 40.3 million in capture fisheries. It is estimated that nearly 14 percent of these workers were women. About 25% of the labour force in pre-harvest activities, 60% in export marketing and 40% in internal marketing are done by women. About 0.5 million women are employed in the pre and post harvest operations in marine fisheries sector, out of the total 12 million workforce. A recent publication estimates that, globally, when primary and secondary fisheries sector engagements are combined, women make up half of the workforce. As reporting improves

and policies directed at increasing women's decision-making capacities in the sector develop, it is expected that both reporting and actual engagement of women in the sector will increase.”

FAO estimates that, overall, fisheries and aquaculture assure the livelihoods of 10–12 percent of the world's population (FAO, 2018). In most regions, the large boats used to fish offshore and deep-sea waters have male crews, while women manage smaller boats and canoes in coastal or inland water – harvesting bivalves, molluscs and pearls, collecting seaweed and setting nets or traps. Mostly women are well recognised in areas such as financial management, processing, record keeping and trading.

Women - a mirror for rural development and government policies

Rural development in a democratic society cannot be achieved by plans and statistics, technology and methods, target and budgets, agencies, organisations and professional staff to be employed. Rather it needs an effective

Table 1: Direct contribution of fisherwomen in the marine sector

Category	Total No. of workers	No. of women workers	Percentage
Beach workers	20,843	5,612	26.92
Small scale fish traders	67,527	20,220	29.94
Fish curers	21,103	14,028	66.47
Peeling workers	43,620	39,397	90.31
Processing plant workers	11,051	6,504	58.85
Total	161,144	85,761	53.22

(Source: Velayutham, 1999)

use people in such a way that help them to attain economic and social improvement. The success of rural development programmes will make a breakthrough when women are faithfully trained in the field of their interest. Under the village development programme, the Mahila Matsya Utpadak Mandal is to be established, which will help in providing direction in antipoverty programmes. Rural women are not to be educated by teaching only, but also through exchange of ideas, facts, feeling or impressions in ways that each of them gains knowledge and techniques for self-employment. In situ conservation of fish genetic resources and their habitat restoration can be strengthened by training of rural women on supply of fresh fish feed, trash fish collection and supply, net weaving and mending, making of fish traps making fish toxicants and through establishment of Mahila Matsya Utpadak Mandal. The economic status of women is widely accepted as an indicator for assessing the exact stage of development of societies. Although the involvement of women is limited in capture fisheries, their supportive role in active fishing has increased manifold with the advent of mechanisa-

tion and enhancement of multi-day fishing in marine fisheries. The occupational pattern of women has further undergone a structural change with the shift from net mending to fish marketing and processing. The irregularities in the earning patterns of their male counterparts, coupled with the needs for livelihood sustainability, force most of the women to earn from a variety of fishery related activities. The diversity of women's role in the fisheries sector includes "apart from the activities as wife, mother and homemaker, fisherwomen market fish as retailers, auctioneers or as agents of merchants; make and repair nets; collect prawn seed or seed from backwaters to supply fish farmers; work as laborers for shrimp processing firms; dry and salt fish; and prepare a variety of fish products".

Diversity of women's involvement in fisheries sector

Fish and fish products are an integral part of many cultures and an important economic enterprise and women are active in both artisanal and commercial fisheries. In such a wide range of activities women are important contributors to both national and household food security.

In the fisheries sector, participation by women may only become visible after landing of the catch. This may be a tradition evolved around the need for rest and relief for the men folk after long spell of hard toil in the water. Until a decade back, fish retailing has mainly been the domain of women all over the country, both in the inland and marine sector. In the coastal belts, after the fish haul, women lend a big hand in sorting, grading and processing the catch, and constitute a substantial work force in export-oriented marine products processing units. Women are also involved in processing of aquatic proceeds, such as the high value aquatic nut "makhana" grown in swampy ponds of north Bihar and are conspicuous by their total non-involvement in fish farming and rearing activities. With no involvement in other





cultivation input or farming husbandry, there is now growing awareness about the need for women's involvement in other input components including water quality monitoring, seed release and harvesting. Between lab and field a composite package of technology has not gone home to fish pond farmers in the rural sector, except in some pockets. These additional components of fish farming can very conservatively augment fish production from rural ponds considerably, thereby boosting the rural economy in a sustainable manner. Some areas of aquaculture where women can play effective and more prominent role, and some of the current gender issues, are highlighted below.

Aquaculture in ponds integrated with livestock and agriculture

Women can undertake indoor jobs like milking, feeding, cleaning etc. with management of male animals and fodder production. In many cooperative societies, the membership is in the name of men and women cannot be paid although the milk is delivered by women. Appropriate technologies for farmwomen in livestock production include milk production technologies such as crossbreeding and improvement of breeds, urea treatment of straws, animal care and management technologies, reproduction technologies such as health and fodder production, milk processing and marketing of milk products, integration of milking production and production system, goat and wool production technologies, poultry and rabbit production technologies. For ponds within their management reach, rural women can participate in upkeep of animals being reared on the embankment or plants under cultivation, also lending hand to aspect of the pond fish culture integrated with livestock rearing and horticulture cultivation on bank of the ponds.

Fresh water pearl culture

Freshwater pearl culture is a diversified activity in aquatic farming systems. It is a nascent technology developed at Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar. The three identified pearl mussel species are *Lamellides marginalis*, *L. corrianus* and *Parreysia corrungta*. Through three types of surgical procedures, different varieties of pearl are cultured. Presently, the technology has attracted several rural, artisanal and enterprising communities including women. The production of pearls from freshwater mussels has been picked up by women in some parts of the country; mussels are currently mainly collected from shallow ponds for meat and also for lime production from the shell. Selected groups of women can be taught the art of pearl culture for an alternative source of income.

Backyard ornamental fish culture

The backyard small-scale culture of ornamental fish is relatively stable and claimed to be a lucrative business by women in remote villages, generally willing to adopt innovations to improve their economic situation. Ornamental fish culture has been ventured as an option among landless rural women for supplementary income. Women are providing with livebearing fishes such as guppies, platies, mollies and swordtails. Rural landless women can earn an average of Rs. 300-500 per month as an additional supplementary income. A local women fish grower's self-help group has been formed to manage the feed, the marketing issues in order to attain economies of scale.

Integrated aqua farming

This is vast scope for improving inland fish production through modern aquaculture techniques. The availability of seed and feed become a major constraint in spreading aquaculture techniques. Women entrepreneurs can play an important role and can be trained in induced breeding techniques and



in fish seed production. Appropriate production models for freshwater prawn culture that are environmentally sound have been demonstrated to women self-help groups through participatory approaches. Women from hilly areas from the villages of Kangra District in Himanchal Pradesh were trained in complete package of farming techniques including soil testing, procurement of grass carp and silver carp fry and their rearing up to fingerling stage, and benefited in sustained income generating activities.

Community pond aquaculture

In coastal areas there are a large number of small and backyard ponds being used for bathing, washing and also as dumping grounds, creating environmental problems. Recognising that women could be employed in making use of such neglected water bodies for raising short term crops of fish fry, fingerlings and even table sized fish at very low operational costs, there are plans to demonstrate the feasibility and the range of benefits in term of economic gains, labour efficiency, self-employment opportunities and multiple choice of vocations that aquaculture could offer to rural women. Thus the intensification of activities in and around the ponds can help in building sustainable livelihood opportunities for rural poor women.

Freshwater prawn culture (*Macrobrachium rosenbergii*)

The programme follows the principles of low external input sustainable aquaculture (LEISA). The freshwater prawn, *Macrobrachium rosenbergii*, commonly called as 'scampi', is one the major candidate species for freshwater aquaculture. Despite the decline in capture, there is an upsurge of economic interest in increasing production through freshwater prawn culture.

Paddy-cum-fish culture

Paddy-cum-fish culture is a co-activity of agriculture, in which the drained out water from the paddy farming is prudentially utilised for fish farming. Women play a major role in agriculture, particularly in paddy cultivation operations such as transplanting, weeding and harvesting. The introduction of the fish culture in paddy cultivation can enhance the labour absorption potential of women, during post-harvesting and marketing.

Technology intervention in seed collection

In West Bengal, seed collection from nature is an activity that provides self-employment to large number of men and women. The Konkan coast is rich in seed availability of number of commercially important species. Women can be trained in seed collection of mullets, mainly *Liza parsia*. The supply of trash fish for culture of *jitada* or Asian seabass, *Lates calcarifer*, and crabs are other areas that could engage them profitably. It is therefore proposed to establish backyard hatcheries that could be a source of income for the family. It would be possible for women to attend the rearing of the larval stage along with their household responsibilities.

Fattening of crabs, mussels and oyster culture

Crabs (*Portunus pelagicus* and *P. sanguinolentus*) are high value resources abundant in region. Small crabs fetch only Rs. 5/- each but larger ones can be worth as much as Rs. 200/-. The time taken to fatten them is about three months. The technology of mussel and oyster culture is now available and to begin with would be portaged at selected sites through group management and women' cooperative. Where possible, mussels and oysters could also be cultured in shrimp ponds where they would act bio-filters and reducing the level of suspended solids. This would also lead to enhanced income.

Post-harvest processing and value addition

Opportunities already exist and are being exploited in fish processing industries, which are mainly located in cities like Mumbai or Ratnagiri. Most of the women employed in these plants are from outside the state. Marketing of fish and shellfish is almost the sole province of women in the Konkan region. The entire processing sector is highly dependent on women, who represent more than 90 percent of workforce in prawn peeling and 70 percent in the processing of other fisheries products. While 65% of the landings are sold fresh by women, certain species of fish and surplus catches are dried or salted.

Credit option and micro planning

Involving womenfolk in aquaculture programmes is beset with problems. The prominent among them include credit facilities to be made available to rural womenfolk through and innovative procedures so that funding reaches in the hands of the poorest of the poor. In India, certain success stories of micro credit through self-help groups report from the state of Tamil Nadu in India, where there are numerous examples of women successfully adopting micro credit in various aquaculture activities. The rural poor have two assets - time and labour. It is hoped that adding value to these assets would leads to livelihood security. The M.S. Swaminathan Research Foundation has played a catalytic role in promoting job-led sustainable economic growth in rural areas and particularly in agriculture sectors through the Eco-aquaculture Programme. The women's eco-aquaculture movement is based on a self-replicating social mobilisation process that aims to strengthening the role of women in aquaculture.

Training, demonstration and technology transfer

In rural areas fish culture and fish seed production generate self-employment, wealth and protein rich food. Aquaculture programmes are gaining popularity with farmers in areas where lands are water logged. Farmers, through soil and water level management, divide farms between paddy and fish culture. On embankments they may grow vegetable such as ladies fingers, tomatoes, pulses and fruit plants like coconut, papaya and banana.

Shrimp farming

Shrimp farming creates value added employment opportunities. Women are involved in the collection of juveniles through simple hand picking techniques in estuaries and backwaters during high tide. They transport the juveniles from the natural water bodies to nearby private farms in polythene bags.



Fish/prawn feed manufacture

Preparation and production of balanced fish feed utilising locally available raw materials, organic wastes and other non-conventional resources of villages is a technology that could be transferred to poor rural women.

Women in marketing and distribution

Traditionally, large numbers of women are involved in fish marketing in all the maritime states of India, mainly engaged as retailers, selling fresh and dried fish and other fishery items. The catch brought by menfolk is sold by the women in wholesale at the landing centre itself or in wholesale markets. Some of the women also buy fish from auctioneers in large quantities, pack them and send it to other places.

Conclusion

Fisheries is a key sector of the Indian economy witnessing progressive and drastic changes over the years both in production and marketing. The ever increasing domestic and export demand for fish and fisheries products has not only enhanced earnings but also triggered an increase in employment opportunities in primary, secondary and tertiary sectors. Aquaculture is emerging as a multi-billion industry having enormous scope for further expansion. Women are involved more in aquaculture production than in capture fisheries. Increasing entrepreneurial activities in the post-harvest segment of fisheries is also skewed towards women in providing more employment opportunities. Due to the emergence of nuclear families with increased cost of living, women are increasingly taking up small business and trade to supplement their income and standard of living.

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