



Socio-economic Empowerment of Fisherwomen in Southern States of India

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Abstract

In India women play a vital role in fisheries and allied activities. Contributions of fisher-women penetrate every aspect of post-harvest handling, preservation, processing and marketing of seafood products and provide an integral link between producers and consumers. This study was carried out in the coastal areas of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. From these states, 13 districts and 28 villages were selected. A total of 5 744 households were covered. Assessment of the socio-economic status indicated that very few households (15.41%) maintained livestock for income generation. About 60% of the fisherwomen carried out post harvest activities to earn income. Food expenditure comprised 60.68% of earned income contributing to a major share of spending. Much of India's national food security rests on the shoulders of its fisherwomen. Giving comprehensive care for these women, empowering them both socially and economically is a practical necessity if India's fisheries sector is to be satisfactorily sustained.

Keywords: Economic empowerment, fisherwomen, nutritional status, entrepreneurship development

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Introduction

India's vast coastline provides food, stability and income-producing opportunities for many of India's economically disadvantaged. Fisheries in India account for 2.5% of the gross domestic product and generate powerful income and employment

opportunities for many of the country's rural poor. They are also the dominant source of inexpensive animal protein for India's enormous domestic market. Of the total catch, 65% is marketed as fresh for direct human consumption, and the demand is ever increasing along with India's population. The basic goal of women in fisheries development is to make them equal partners and productive and self-reliant participants in the process of improving their own and their families, nutritional and living standards to enable them to realize their full potential as human beings in their own right as members of their family and community. The economy of coastal regions of the country primarily depends upon fisheries. Women play a major role in post-harvest fisheries activities mainly in the marketing of fresh fish and processing.

Women constitute about 50% of the population of India and comprise one-third of the labour force. Among the different sectors of the Indian economy where women contribute significantly, fishery sector is an important one. Out of the 5.4 million active fishers in India, 3.8 million (70.37%) are fishermen and 1.6 million (29.63%) are fisherwomen (Narayanakumar et al., 2008). About 25% of the labour force in pre-harvest activities of fish, 60% in export marketing and 40% in internal marketing are women (Dehadrai, 2002). Srinath (1987) has given an account on the role of women in small scale fisheries. Dubey & Kohli (2002) have presented an overview of the contribution of women in Asian fisheries. Ashaletha et al. (2002) have depicted the changing role of fisherwomen in India. Sathiadas et al. (2003) have given an account of the socio-economic profile of the women workers in the post-harvest marine fisheries sector in Kerala. Full time involvement of women in the primary sector of capture fisheries is negligible; rather it is more of a seasonal nature in certain activities in marine, brackish and freshwater segments. Sea food export sector utilizes 6% of marine fish catch and employs

large number of women workers for grading, packing and freezing of sea foods for export.

Fisherwomen along Ramanathapuram coast are mainly involved in the village level processing technologies (Surtida, 1998). It is reported that about 70% of the workers employed in seaweed collection and processing in India are women (Kaladharan & Kaliaperumal, 1999). Women are also actively involved in the collection of bivalves and marketing of these to ornament dealers and lime collectors (Shaleesha, 1997). In capture fisheries in the brackishwater sector also, involvement of women is observed to be passive except for their engagement in the collection of clam, fish and shrimps. It more or less remains as an involvement for basic subsistence. Freshwater fisheries provides larger opportunities to women as they engage mainly in fishing using scoop nets, traps and vessels in addition to hand picking almost throughout the year. Women are increasingly independent and devoid of men's involvement in the collection of wild seeds, segregation and stocking, construction and maintenance of ponds, feeding and harvesting in Kerala (Purushan, 1995).

Empowerment of women is a highly debated topic all over the world over the past few decades. It is well known that women play a key role in all spheres of development. Although women contribute significantly for the overall development of mankind and economic development of nations, there is dearth of information on the hard facts and figures. Their role is neither accurately quantified nor correctly recognized. The scenario is all the

more worse in the fishery sector with unequal distribution of income and higher disparity in the wage structure. This study is an attempt to evaluate involvement of women in four southern states of India in fisheries activities and to assess their socio-economic status.

Materials and Methods

Primary and secondary data collected on empowerment of fisherwomen in coastal ecosystems of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu have been utilized. A total of 28 villages were selected (Table 1) for this study where women are predominantly employed in one or other identified fishery activities.

Analysis of the annual income was made by grouping the income into three slabs namely less than Rs 24 000, between Rs 24 000 and 36 000; and between Rs 36 000 and 48 000. Socio-economic status of fisherwomen household was assessed by their occupation pattern, income level, income and expenditure and level of indebtedness and a comparative assessment was made among the four states. Socio-economic assessment will help to estimate the standard of living of the different groups of the people or community from whom the data were collected. The welfare of the household was measured in terms of their standard of living *viz.*, annual household income, per capita income and Engel's coefficient. Engel's Coefficient indicates the percentage of amount spent on food by each family and the level of spending on food decides one's standard of living. It was calculated as follows;

Table 1. Names of selected villages

Andhra Pradesh	Karnataka	Kerala	Tamil Nadu
1. Uppada	1. Gangolli	1. Aroor	1. Pulicat
2. Dummulupetta	2. Thottam	2. Anjilickadu	2. Pudumanaikuppam
3. Bhairavapalem	3. Malpe	3. Thekkumbhagam	3. Kovalam
4. Pathapadu	4. Hejmadi	4. Neendakara	4. Tharuvaikulam
5. Perupalem	5. Mulki	5. Poovar	5. Thirespuram
6. Vadarevu	6. Boloor		
7. Pallepalem	7. Mangalore		
8. Mypadu	8. Bengar		
9. Krishnapatnam	9. Punnakayal		

$$\text{Engel's Coefficient} = \frac{\text{Annual expenditure on food}}{\text{Annual total expenditure}} \times 100$$

Results and Discussion

Total fisher population of all the four maritime states was 2.46 million. Out of this, the percentage of fisher population in Kerala was 42.50; Tamil Nadu and Andhra Pradesh have 27.60 and 21.80% respectively. Within the four maritime states, Karnataka had the least concentration of fisher population of 8.10%. Fisherwomen population in the states together was 1.21 million and the average sex ratio was 967. Sex ratio was more favourable to women in Kerala (993) and favoured them least in Andhra Pradesh (940). Overall literacy rate of fisherfolk was about 54% ranging from 44% in Andhra Pradesh to 67% in Tamil Nadu. Though the overall literacy rate of Kerala was 91%, with 88% among women, the literacy rate among fisher folk was 57%, indicating their alienation from the mainstream of development.

Activities of women in fisheries sector are depicted in Fig.1. They are actively involved in harvesting,

pre-processing, processing, marketing and culture activities. Development of nutritious foods from the marine fish catch, that is either underutilized or discarded, helps in food and nutritional security. Involvement of women in various post-harvest activities with a broad indicative picture of employment pattern is given in Fig. 2. Information from selected villages show that, the common occupation in which women engaged were beach work, small-scale fish trading, fish curing, drying, net making, peeling and processing plant work.

Occupational Status

Major activities in which women contribute throughout the country are fish processing and marketing. However, their participation and contribution are increasing in the areas of aquaculture, research, development and education.

Altogether, about 2.5 lakh women were involved in different activities of which, a total number of 72 043 (28%) women were engaged in small-scale fish trading. Fish curers, dryers and net makers constitute 21% of the total women work force. The second largest category of occupation was that of

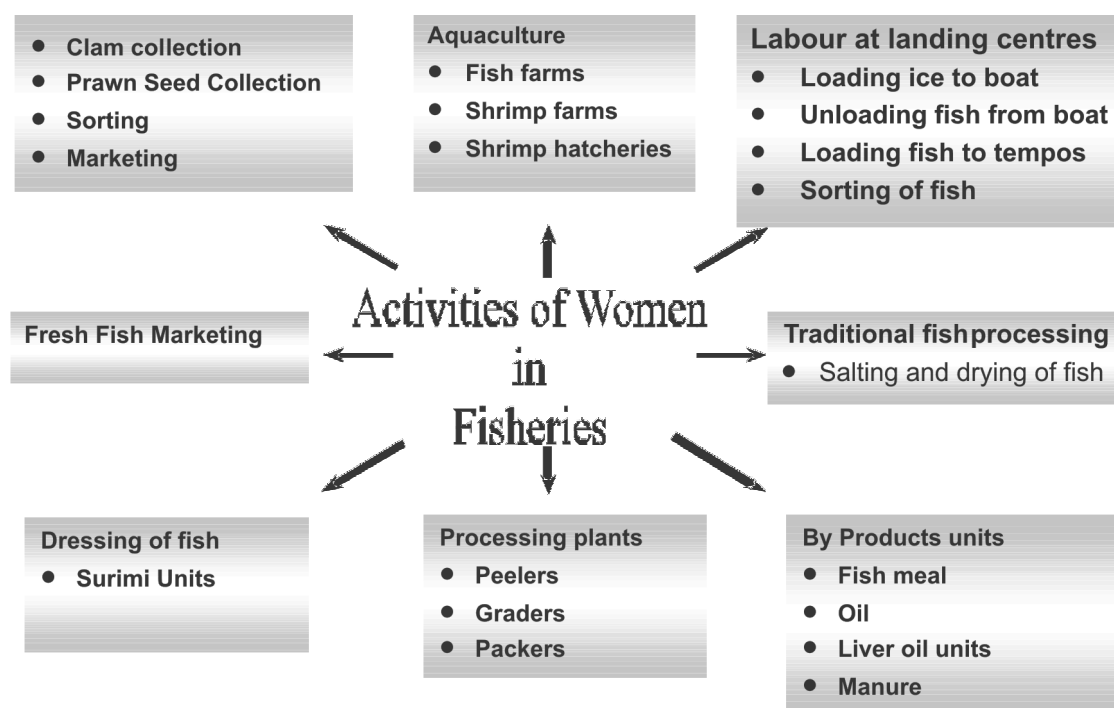


Fig. 1. Activities of women in fisheries

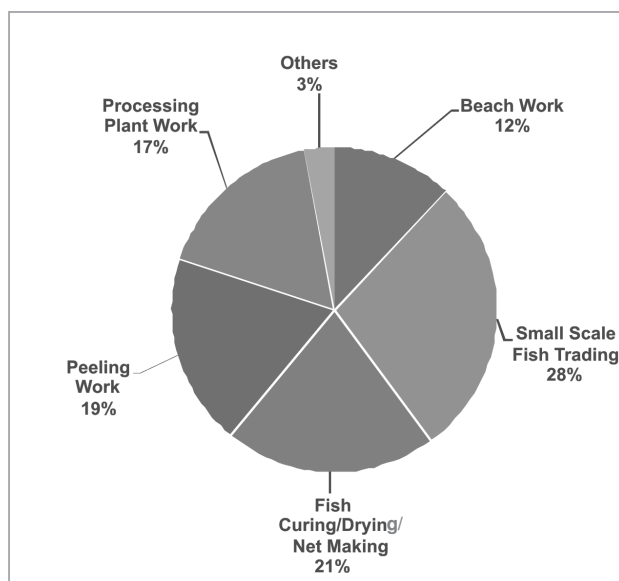


Fig. 2. Occupational pattern of fisherwomen (Average)

peeling work (19%) followed by processing plant work (17%). Peeling work as well as processing plant work is mostly institution-based and more likely to be in the formal sector of employment. Hence entry into such jobs is comparatively more restrictive than other engagements. It could be presumed that increase in the production figures of fisheries sector would have its immediate accelerator effect upon the informal employment sector (non-institution based), such as beach work, fish trading, fish curing/ drying/ net making. As far as Kerala is concerned, peeling work dominated the occupational scene with 45% of the total women work force. Tamil Nadu has a significantly different occupational pattern, in which 51% of the women work force engages in fish trading, and 32% in fish curing/ drying/ net making. The state is yet to make its fisheries ventures more formal and the potential of institution-based fish processing for women is comparatively high in Tamil Nadu. Karnataka also displayed a similar picture, as 44% and 34% of its fisherwomen were engaged in beach work and small-scale fish trading respectively. Andhra Pradesh employs 32% of its fisherwomen in fish curing, drying and net making and 27% in processing. Only 15.41% of respondents maintained livestock to support or generate income for the family. Among those who maintained livestock, 50.88% had poultry and 36.44% cattle. Maximum average annual income realized from maintaining livestock was observed in Andhra Pradesh (Rs. 7 358) followed

by Tamil Nadu (Rs 3 520). In Karnataka, fishing communities in coastal districts do not own any livestock. Only a few families possessed chicks for domestic consumption. The fishing community is mostly dependent on fishery resources for livelihood and the roles that fisherwomen play in this respect are of great importance for maintenance of the family (Srinath, 1987).

Income levels of women engaged in fish processing activities

Table 2 shows income levels of women in different processing activities and the average number of hours spent by them in different post harvest activities. Although value addition provides the highest earnings per hour, fish vending offers the best opportunity to earn higher annual income, in terms of the average annual working hours provided. Shrimp peeling is a seasonal activity depending on prawn fishery season, the peak period being June-September. Shrimp peeling is mostly carried out either in peeling sheds, houses rented or owned by agents or in homesteads of workers. Usually, in a peeling shed, women are employed depending on the quantity of prawns they peel in a day. The average annual income of a prawn peeler is Rs. 9 720, which varies from Rs. 500 for an occasional part time worker to Rs. 20 000 for a full time worker.

Women fish vendors operate as an important link between producers and final consumers. They purchase fish either from fishermen at landing centres through auction or from traders through bargaining. Fish vendors mostly undertake distribution of fishes at the retail market. Female vendors carry baskets of fish as head loads whereas male vendors use cycles to carry fish for marketing. These fisherwomen borrow Rs. 500 to Rs. 2 000 daily from middlemen to buy fish. After selling fish, they return the money to the lenders with interest. They buy ice worth Rs. 40 to Rs. 75. No wastage of fish is recorded as the fisherwomen take the remaining fish either for household consumption or for drying. The average income per day for their labour comes to about Rs. 200 to 300 per day and this works out to an average annual income of Rs. 59 760 (Table 2).

House-based ventures are more preferred by women and finds suitable to their present social fabric. Aqua-feed making using indigenous resources as a cottage industry may be developed to suit the needs of the aquaculture industry. Development of

backyard hatcheries to cope with the local demand patterns of quality seeds of fish/ shrimps could be taken up. Appropriate training programmes, including the possible linkages of necessary credit facilities in liaison with scientific institutes and formal financial institutions respectively should be imparted to the primary stakeholders. It is better to promote 'men and women partnership firms' instead of exclusively women oriented enterprises. It is seen that husband-wife enterprises with one or two helpers in fish processing/ marketing and other fishery related activity yield better prospects.

Being illiterate and with no other opportunity to work, fisherwomen of artisanal units helped their men folk in fish marketing and related sundry activities. Nearly 90% of fisherwomen in artisanal fishermen families possessed skills in net making and fish processing. Mostly they attend to the

repairs of nets. The unsold catch as well as rejections were processed by fisherwomen and sold in course of time (Vijaya & Ramanamma, 1994).

Women in post-harvest fishery

Fisherwomen play a vital role in post-harvest operations of fish. Once fish is landed, they take charge of sales, drying, processing and related aspects. Their efforts have not been quantified effectively so far. Details of involvement of fisherwomen in different post-harvest activities are given in Table 3.

Out of 5 744 households, in 3 241 (56.42%), women involve themselves in post-harvest operation of fish, besides, looking after household activities. Among them, the maximum number of fisherwomen are involved in fish sales (42.24%) followed

Table 2. Average working time and earnings of women in different sectors

Activity	Average annual working time (h)	Average income per hour (Rs)	Average annual Income (Rs)
Peeling	1 620 (4)*	6.00 (4)	9 720 (5)
Curing	1 944 (3)	12.00 (3)	23 328 (3)
Drying	729 (6)	4.40 (5)	32 076 (2)
Sorting	1 960 (2)	4.20 (6)	8 232 (6)
Vending	3 600 (1)	16.60 (2)	59 760 (1)
Value addition	900 (5)	20.00 (1)	18 000 (4)

* Figures in parenthesis are the ranks based on the relative position of activity

Table 3. Involvement of women in post-harvest activities

State	Post-harvest activities					Total
	Sun-drying	Smoking of fish	Salting	Value addition & processing	Fish vendors	
Andhra Pradesh	228 (28.18)*	23 (2.84)	129 (15.95)	0 (0.00)	429 (53.03)	809 (100.00)
Karnataka	647 (64.19)	0 (0.00)	0 (0.00)	0 (0.00)	361 (35.81)	1 008 (100.00)
Kerala	50 (4.00)	0 (0.00)	151 (12.00)	602 (48.00)	452 (36.00)	1 255 (100.00)
Tamil Nadu	42 (24.85)	0 (0.00)	0 (0.00)	0 (0.00)	127 (75.15)	169 (100.00)
Total	967 (29.84)	23 (0.71)	280 (8.64)	602 (18.57)	1 369 (42.24)	3 241 (100.00)

*Figures in parenthesis are percentages

by sun-drying (29.89%). Across the states, in Karnataka, 64.19% were involved in sun-drying while in Tamilnadu, the proportion of fish vendors is maximum (75.15%). About 50% of the fisherwomen were involved in value addition in Kerala. This is mainly because of a number of processing industries in the State, especially in Alapuzha district.

Annual income and expenditure

It was found that overall, 39.76% of the respondents were earning an income of less than Rs 24 000 per annum. Next to this, 26.44% of the respondents earned an annual income between Rs 24 000 and Rs 36 000. Across the states, in Karnataka (79.76%) and in Andhra Pradesh (57%), the percentage of income earners below Rs 24 000 was high (above 50%). The maximum share of respondents earning the highest income slab of above Rs 48 000 was found in Kerala (36%) and Tamil Nadu (36.76%). It was seen that income from fisheries accounted for 93.54% of the annual income followed by income from other sources (5.87%). Income from aquaculture was found in Andhra Pradesh only. It was also observed that the expense on food occupied the major share (60.68%) followed by clothes (8.69%) and medicines (5.87%). This indicates that the maximum proportion of income is being spent on food, which is an indicator of their standard of living. The Engel's Coefficient of standard living of the study group are presented in Table 4.

Comparative socio-economic assessment

Socio-economic status (including the standard of living) of the fisherwomen households has been compared by ranking them with respect to selected parameters, *viz.*, literacy level of the respondents' household, housing pattern, electricity facilities, per capita household income and Engel's Coefficient and the results are given in Table 5.

Table 4. Engel's Coefficient of standard of living

States	Expenditure on food (Rs)	Total Expenditure (Rs)	Engel's coefficient
Andhra Pradesh	23 256	33 861	72.94
Karnataka	17 265	21 785	79.26
Kerala	67 130	1 37 000	49.0
Tamil Nadu	5 715	13 776	41.49
Average	28 342	51 601	54.90

None of the states have maintained a consistency in the ranking (Table 5). The state having first rank in one indicator secures the last rank in another one. Hence, it becomes very difficult to conclude, which is leading among these four states. However, according to the percentage of the ranks scored by the states, it is found that Tamil Nadu has scored first rank in three out of five parameters (60%) and topped the list. But if the Engel's Coefficient is used as the indicator, Tamil Nadu ranks first since only 41.20% of the income was spent on food and the rest was mobilized for other uses.

Opportunities are to be created in alternate income generating activities for the fisherwomen especially in the fields of post-harvest fishery and mariculture activities. Provision of technical and institutional financial support to the fisherwomen who take up such alternate income generating activities mainly through Self Help Groups (SHG's) after ascertaining their involvement and commitment is needed. Availability of appropriate fishery infrastructure like common cold storage, freezing plants and drying yards to facilitate the fisherwomen to take up post harvest fishery activities on a group basis will also be of major support. Encouragement of maintaining some livestock wherever feasible to serve as domestic support as well as to supplement

Table 5. Comparative socio-economic status of the fisherwomen in the selected states (Ranks)

States	Literacy level	Housing pattern	Electricity facilities	Per capita household income	Engel's Coefficient	Total of ranks	Grading of overall ranks
Andhra Pradesh	IV	II	II	I	III	12	II
Karnataka	III	I	III	III	IV	14	IV
Kerala	II	III	IV	II	II	13	III
Tamil Nadu	I	IV	I	IV	I	11	I

the income of the family and above all, creation of awareness about the importance of savings and investment in domestic and occupational commitments to improve their standard of living would be beneficial for the fisherwomen. The study revealed that if the fisherwomen are motivated and provided suitable technical and financial support, they will strive to improve their families' standard of living and also the fishery sector. This step will definitely yield good results in terms of the contribution of this sector to the economy of the country.

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