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Role of Women in Fisheries in Coastal Eco-System of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu

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ABSTRACT

Fish eaters in the study area comprise 47 per cent of the total population ranging from 237 per cent in Tamil Nadu to 85 per cent in Kerala. Though the position of Tamil Nadu in terms of number of coastal districts and possession of coast line including the number of landing centres, is envious, the number of fish eaters in the state is minimal. Andhra Pradesh employs 32 per cent of its fisherwomen in fish curing/drying/net making and 27 per cent in processing plant works.

India is endowed with a coastline of 8,129 kms with 3,638 fishing villages. About 5 lakh women are involved in the post harvest sector of marine fisheries. The fisheries sector has provided an export earning of about Rs. 7000 crores during 2002-2003 to the country's exchequer. The brackish water area alone suitable for aquaculture is 1.12 million ha in which hardly 10 per cent is currently utilized.

Women play a key role in the development of fisheries sector in addition to their role of sole household managers in most of fishermen families. The participation of women to the labour driven segments of fishing sector attributed to the overall development of aquaculture and increase in the exports of marine products. The occupational pattern of women has further undergone a structural change with the shift from net mending to fish marketing and processing. The present paper attempts to discuss the role of women in capture and culture fisheries in marine and inland sectors and their contribution in post harvest activities of processing and marketing.

Materials and Methods

The districts and villages were selected based on their relative importance with respect to fishing in the respective states Andhra Pradesh (nine from four districts) Karnataka (eight from three districts), Kerala (five from three districts) and Tamil Nadu (six from three districts) giving representation to all the three sectors of fishery namely-mechanised, motorised, non-mechanised and the sample size for the study was 5,744.

The information on resource base and other general features pertaining to fisheries sector for the four southern states of Andhra Pradesh, Karnataka, Tamil Nadu

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and Kerala is given in Table 1.Andhra Pradesh owned the credit of having the highest number of fish landing centres(508), including the inland fish landing centers, among the selected maritime states. Tamil Nadu (422) and Kerala (333) ranks second and third respectively. Karnataka has the least concentration of fisher population of 8.10 per cent. . The sex ratio is more favourable to women in Kerala (993) and favours them least in Andhra Pradesh (940). The literacy rate among fisherfolk in Kerala is 57 per cent. Though the position of Tamil Nadu in terms of number of coastal districts and possession of coast line including the number of landing centres, was envious, the number of fish eaters in the state was minimal, obviously displaying the vast potential of fish trading especially to other states.

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 fresh water segments. In marine fisheries women are involved only in seaweed collection, collection of bivalves and seeds with seasonal and regional peculiarities. Fisherwomen along the Ramanathapuram Coast are involved in the collection of agar yielding red sea weeds (Surtida, 1998). It is reported that about 70 per cent of the workers employed in seaweed collection and processing in India are women (Kaladharan and Kalia Perumal, 1999). Women are also actively involved in the collection of bivalves and their marketing to ornament dealers and lime collectors . In capture fisheries, brackish water sector the involvement of women is observed to be passive except their engagement in the collection of clam, fish and shrimps. Fresh water fisheries provides larger opportunities to women as they engage mainly in fishing using scoop nets, traps and fish vessels in addition to the hand picking methods, almost throughout the year.

Culture fisheries is a widely growing area providing huge labour-days to the fisherfolk. In the two major types of aquaculture systems such as pump-fed and tide-fed, women have enough places to perform their roles. Women are increasingly involved in the collection of wild seeds, segregation and stocking, construction and maintenance of ponds, feeding and harvesting in Kerala (Purushan, 1995). In the East Godavari district of Andhra Pradesh, women get employment in shrimp farms for four to five months in a year for activities like pond construction, seed collection and segregation, de-weeding of pond and hand picking of shrimp during harvest. Similarly, women constitute about 40 per cent of the labour force involved in shrimp farm activities in Tamil Nadu (Gopalakrishnan, 1996).

The involvement of women in various post harvest activities with a broad indicative picture of nature, employment pattern and wage structure is given in Table-1.

Age-wise distribution of women engaged in different post harvest activities is given in Table-2. Majority of the women involved in activities like peeling, curing and value addition work belonged to 20-40 years age group and those in activities like sorting, drying, marketing (fish vendors) were between 40-60 years of age group. In the case of drying and sorting, 5 per

Table 1: Nature and pattern of post harvest engagement of women in fisheries

S. No	Occupation	Place / type / nature	Employment and wages
1.	Sorting and grading	- All major mechanised centres - Throughout the year but intense work during peak seasons - Flexible working hours	1. Mostly contract employment. 2.Monthly earnings ranges from Rs. 300/- to Rs. 3500/-
2.	Curing and drying	- All fish landing centres - Highly seasonal - Market surplus is mostly used for curing and drying	1.Self employed/ Contract 2.Monthly income varies from nil to Rs. 1500/-
3.	Peeling work	- Major trawl/export centres - Throughout the year - Working hours flexible as per seasonality	1.Mostly contract labours/daily workers 2.Monthly earnings varies from Rs. 300/- to Rs. 2000/-
4.	Processing plant work	- Export companies - Freezing/grading and packing/ Quality assurance - Fixed work hours throughout the season	1.Regular employment 2.Monthly salary ranges from Rs. 1500/- to Rs. 3,000/-
5.	Fish meal work	- All major centres - Throughout the year but intense during peak seasons - Utilization of fish waste and surplus	1.Self employment/ contract labourers 2.Monthly wages ranges from Rs. 500/- to Rs.3000/-
6.	Fish trading	- All landing centres/marketing centres - Throughout the year - Perform all roles from that of auctioneers to retail vendors. - Long working hours	1.Self employment 2.Average monthly income ranges from Rs. 500/- to Rs. 3000/-
7.	Value addition	- All major centres - Fish varieties used will depend on availability - Catering both domestic and international demand	1.Mostly as competitive venture 2.Good opportunity for self help groups 3. Monthly earnings ranges from Rs. 750/- to Rs. 2000/-

cent of fisher women were above 60 years of age. Activities like drying and sorting entailed comparatively less physical strain and this might be the reason for the involvement of older aged women in it. Maximum number (80 per cent) of women are engaged in value addition works, this being skill oriented only youngsters and middle aged women opt for this work. Young and unmarried girls were usually not allowed to go for vending purpose, and the few in this activity took up the job due to poverty and unemployment. Accordingly, 70 per cent of fish vendors belonged to 40-60 years age group and only 30 per cent belonged to 20-40 years age group.

Table 2: Age wise distribution of women by activity (%)

Age Group (years)	Activity					
	Peeling	Curing	Drying	Sorting	Value addition	Fish vendors
<20	8	-	-	-	5	-
20-40	57	75	40	25	80	30
40-60	30	25	55	70	10	70
>60	5	-	5	5	5	-
Total	100	100	100	100	100	100

The occupational status of women in various fisheries related activities are given in Table-3. About 2.5 lakh women were involved in different activities. Out of this (28 per cent) women were engaged in small-scale fish trading followed by fish curers/dryers/net makers (21%)peeling work (19 %) and processing plant work (17%). As far as Kerala was concerned, 45 per cent of the total women work force were in peeling work. Tamil Nadu had a significantly different occupational pattern, in which 51 per cent of the women work force engage in fish trading, and 32 per cent in fish curing/drying/net making. Karnataka also displayed a similar picture, as 44 per cent and 34 per cent of its fisherwomen were engaged in beach work and small-scale fish trading respectively. Andhra Pradesh employed 32 per cent of its fisherwomen in fish curing/drying/net making and 27 per cent in processing plant works.

Table-4 shows the income level 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/owned by agents or in homesteads of workers. Usually, in a

Table 3: Occupational status of fisherwomen

Occupation item	No. of fisherwomen				Total
	Andhra Pradesh	Karnataka	Kerala	Tamil Nadu	
Beach workers	8742 (9%)	15000 (44%)	5612 (6%)	2589 (8%)	31943 (12%)
Small scale fish traders	23033 (24%)	12000 (34%)	20220 (23%)	16790 (51%)	72043 (28%)
Fish curers and dryers / net	31775 (32%)	3000 (9%)	6504 (7%)	10823 (32%)	52102 (21%)
makers	6442 (6%)	2000 (6%)	39397 (45%)	478 (1%)	48317 (19%)
Peeling workers	25977 (27%)	900 (3%)	14028 (16%)	1172 (4%)	42077 (17%)
Processing plant workers	1800 (2%)	1500 (4%)	2000 (3%)	1260 (4%)	6560 (3%)
Others					
Total	97769 (100%)	34400 (100%)	87761 (100%)	33112 (100%)	253042 (100%)

Note 1: Figures in parenthesis are percentages

2: Variations in occupational status of fisherwomen are different between states ($p < 0.001$)

Table 4: Average working hours and earnings of women in different sectors

Sl.No	Activity	Average annual working hours	Average income per hour(Rs.)	Average annual income (Rs.)
1.	Peeling	1620 (4)	6.00 (4)	9720 (5)
2.	Curing	1944 (3)	12.00 (3)	23328 (3)
3.	Drying	729 (6)	4.40 (5)	32076 (2)
4.	Sorting	1960 (2)	4.20 (6)	8232 (6)
5.	Vending	3600 (1)	16.60 (2)	59760 (1)
6.	Value addition	900 (5)	20.00 (1)	18000 (4)

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

peeling shed, women are employed depending on the quantity of prawns they peel in a day. On an average, a woman gets Rs.50 to 60 per day during the peak season. The average annual income of a prawn peeler is Rs.9720, which varies from Rs.500 for occasional part time worker to Rs.20000 for a full-time worker.

The average number of hours spent by a woman labourer in a year in curing work was 1944 and for sorting, the hours spent in a year was 1960. Sorting was done for separating different varieties of fishes into separate lots.

The exportable varieties were graded, cleaned, packed in ice and sent to processing centres. It was found that the average income obtained per hour from sorting was Rs.4.20. It was also observed that the women sorters sold some edible prawns and small fishes discarded from the lot. This earning either became an additional source of income or if not sold, the fish was used for household consumption. On an average, 729 hours a year was spent for drying activities. In fish drying, women labourers working on contract basis earned Rs.100 for each lot. They required about three days of time for drying each lot. The time spent on fish drying ranged from 8 to 12 hours a day. In general, fish worth Rs.6000 - 7000 was bought for house-based drying.

Fisherwomen borrow Rs.500 to Rs.2000 daily from middlemen to buy fish. After selling fish they returned the money to the lenders with interest. They bought ice worth Rs.40 to Rs.75. No wastage of fish was recorded as the fisherwomen take the fish remaining either for household consumption or for drying. The average income per day for their labour was about Rs.200 to 300 per day and this works out to an average annual income of Rs.59760 (Table-4).

Limited access to resources, lack of access in decision making, inadequate training and formal education, high disparity in ownership of productive assets and wage structure, exploitation by middlemen and contractors, intensive labour and long working hours, lack of interest in occupations other than fisheries, lack of credit facilities, socio economic framework with traditional customs and conventions, inadequate health care for occupational hazards, lack of knowledge in latest technologies of aquaculture and post harvest management were the constraints in the development of fisherwomen.

Location-specific and need based training programmes for fisherwomen should be organised to enhance the awareness and technical know-how enabling them to start self-generating gainful employment ventures in aquaculture and post harvest sector of fisheries. Involvement of women in all types of aquaculture practices should be encouraged. There is enormous scope to adopt and expand ornamental fish culture to earn a very high income both in rural and urban centres.

Women could take up pearl culture as a productive income-earning venture on account of the vast unutilised potential. Yet another opportunity in aquaculture is the extensive adoption of Mussel culture by Self Help Groups (SHGs) of women. Promotion of diversified value added products not only accelerate earnings in exports, but also provide a multiplier effect on employment front especially for weaker sections and women folk.

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 have better prospects.

References

GOPALAKRISHNAN A 1996 Role of women in Indian shrimp farming. Naga, the ICLARM quarterly **4**:16-18.

KALADHARAN P and KALAIPERUMAL N 1999 The seaweed industry in India. Naga the ICLARM quarterly **22**.

PURUSHAN K S 1995 Role of women in shrimp farming. Fishing chimes 13-14.

SURTIDA M B 1998 Village level processing technologies. SEAFDEC Asian Aquaculture **20**.