**Value addition and marketing to improve food & nutrition**

**security of fisher women**

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The basic goal for women in fisheries development is to make them equal partners and productive and self- reliant participants in the processing of improving their own and their families’ nutritional and living standards and to enable them to realize their full potential as human beings in their own right as members of their family and community. Fisher women must be given the opportunity to acquire appropriate knowledge, develop adequate skills and use appropriate technologies enabling them to make the greatest possible economic and social contribution.

In India the fishing sector is well known as a provider of livelihoods for seven million fisheries, prime mover of coastal economy and foreign exchange earner. Very little has been done to recognize the marketing of fish, which can directly benefit the women folk, it is well known that the fisheries is an activity where in women play an important role. India has tremendous potential for developing coastal aquaculture and is now the sixth largest producer of fish in the world. In land fish production, it receives the second position after China. Women play a major role in marketing, processing and also harvesting of aquatic products. Development efforts over the last few decades have made it clear that sustained improvements in the productivity and in the lives of fisher folk depend upon the recognition of the crucial role of women.

Fisher women often occupy marginal roles and live and work on the periphery of the centers of economic , social and political power, they tend to be especially vulnerable .Value addition to fish and fishery products has been the technological innovations in the present day. Food security of the utilizers of all nations has been the primary concern of the respective governments. This has triggered the launching of many a type of food revolutions i.e., Green, White, yellow and Blue revolution. In this aspect unless the policy makers, government, non-governmental organizations and social workers work together it is difficult to achieve the goal.

The problems of fisher women are many which are due to ignorance, illiteracy, poverty, age old practices in processing , improper technology, additional constraints such as innate conservation, resistance to change and gender bias approach to technology transfer system . It is well recognized

To reduce the drudgery in the contest of fish processing and creating an awareness on hygiene and sanitation in fish handling , technological economic empowerment of women through training , education and participatory approach involving self-help women groups with the major thrust on health, nutritional status , economic empowerment, natural calamity management and entrepreneur skill development are the priority areas to concentrate at present.

The seasonal character of their vocation and its hazardous implications coupled with uncertainty of catches casts shadow on their limited livelihood opportunities compounding its cascading effect on their poverty profile. Low level of literacy cripples their bargaining capacity in the trader dominant market thus depriving them of their legitimate price compensation for their risky endeavors in the marine environment. In context, any initiative to improve their awareness on processing of low value fish, income generation, induction of new post-harvest technology and value added products would certainly lead to the improved social and economic status of the fisher women.

Although women contribute substantially for the post-harvest sector of fisheries and disposable income of fisher households, their socio-economic scenario is still far behind that of men, indicating the need for giving more emphasis on evolving location specific resource-oriented programs for the empowerment of women.

**Fisher Women in Coastal Ecosystem:** Studies on fisher women in the coastal ecosystem of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu were conducted in 13 districts covering 28 coastal villages and 5744 households based on their method of fishing - mechanized, motorized, or non-motorized. The socio-economic status of the fisherwomen in the selected states with respect to housing pattern, literacy level, essential amenities like drinking water and electricity was good. Regarding the income generating activities, fisheries is the only source and run a high risk of going out of employment if the fisheries fail. They were also not aware of any other vocation or had any interest on an alternative source of income unless motivated and supported. Their standard of living was comparatively at a lower level indicated by the higher Engel’s coefficient and low rate of savings. The level of indebtedness was also high because of the income factor. There was a need for a comprehensive plan for overall development of the sector. Cereal consumption was high in Andhra Pradesh and was followed by Kerala, Karnataka, and Tamil Nadu. Pulse consumption was high in Kerala when compared to other states. The overall energy intake of the fisherwomen was 1827 K.cal/day, protein intake was 50.6 g/day, carbohydrate intake was 343.5 g/day and fat intake were 27 g/day. The mean intake of micronutrients was less than the recommended dietary allowance. The mean body mass index was 21.3. The nutritional status of 49% of the women was normal, 17% were below normal, 10.5% were mildly malnourished and 2.9% were severely malnourished. Of the cases studied, 11.5 % of the fisherwomen were overweight and 4.6% were obese. Sub-samples of 915 women were clinically observed: 34.8% were diagnosed with angular stomatitis, 31.0% with cheilosis, 42.8% with bleeding gums, 44.2% with dry skin and 72% of the women were anemic. The assessment of the socio-economic status indicated that very few households (15.41%) maintained livestock for domestic support and supplementary income.

**Artisanal Fisher Women:** Being illiterate and with no other opportunity to work, the fisher women with no other opportunity to work, the fisher women of artisanal units helped their men folk in fish marketing and related sundry activities. Nearly 90% of fisher women in this artisanal fishermen families processed skills in net making and fish processing. Mostly they attended to the repairs of nets. The artisanal fishing covered local varieties of fishes. The unsold as well as rejections were processed by the fisher women and sold in course of time.

Every woman is an entrepreneur as she manages, organizes and assures responsibility for running her house. It has been increasingly realized that women possess entrepreneurial talent which can be harnessed to create employment opportunities. In the rural areas a woman can easily manage 4-10 beds of oyster mushroom depending on the space available, helping them to earn Rs.180 to Rs.450 per month. The results of the studies revealed that spawn multiplication can be done by women as a co-operative venture and mushroom cultivation can be undertaken at household level as an income-generating activity by fisher women during off season.

**Success Stories:** The National Agricultural Technology Project entitled **Studies on** **Fisherwomen in coastal ecosystem of** **Andhra Pradesh, Karnataka, Tamilnadu and Kerala** explored the socio-economic status of fisherwomen and found the families wherein women are actively involved in one or other occupation has flourished and achieved all round development.  **Seven Fisherwomen (3 from Kerala ;2 from Karnataka and 2 from A.P) have attained the Training and Awareness from National Agricultural Technology Project, implemented in Andhra Pradesh, Karnataka, Tamilnadu and Kerala and enhanced their socio-economic status through various skill-oriented training programs and continuous day-to-day discussions with the Scientists.**

**Recommendations:**

1. Location –specific and need based training programs for fisherwomen should be organized 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.
2. The employment and income potential existing in the following fields can be explored to provide training in alternate income generating activities to fisher women.
3. Fisheries production : Ornamental fish culture, mussel culture, pearl culture , edible oyster culture and clam culture
4. Fish Processing : Value addition and marketing
5. Non – fishery related income generating activities: Training in fabric painting, mushroom cultivation, fruit and vegetable preservation during off season.
6. Training in organized small scale enterprises and financial management such as aqua –feed mills, seed production through back- yard hatchery and marketing of value added fish products.
7. Encouragement of maintaining live stocks like cattle, poultry where ever feasible to serve as domestic diet support as well as supplementary income to the family.
8. Nutritional status of fisher women in different states will be useful to plan future welfare programs for the socio-economic empowerment of fisher women.

**Conclusion:** Based on the understanding from the field research, it is clear that there is a need to improve the general situation of women on a long-term basis. But as a priority, interventions in creating awareness among women on food, health, sanitation and child care is very essential for food as well as health security. Effort is to be made to have trained female extension workers. Women friendly technologies need to tested, evaluated and proper techno economic reports prepared to facilitate their use through entrepreneurship development programmes.