

## Technological Empowerment of Fisherfolk

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Development of fisheries sector in India depends to a great extent on the technological empowerment of small fishermen and farmers. Despite the efforts towards technology development and transfer, rural folk are not able to use them due to lack of organised effort and effective extension work. This paper discusses the role played by a women's organisation in a fishing village in transfer of fisheries technologies which can serve as a role model.

**Key words:** Empowerment, technology dissemination, extension, Matsyamahilavedi

Technological empowerment of rural communities is a definite way of achieving development in an agro-rural economy. Empowerment refers to enabling the members of the community to achieve better standards of living through human resource development. Science and technology are very effective tools in empowering people in different aspects of their life including agricultural production, nutrition, health and environment and, ensuring sustainability (Krishna, 1992; Anon, 1996a). While macro level interventions assume great importance in creating awareness and educating the people, micro level interventions assume great importance by putting the community directly into action and, in turn, helping them giving directions to develop their immediate environment. In this process people become involved as they feel that their participation is wanted. Group oriented strategies are effective media of change because they focus on removing the barriers to modern behaviour and farmers operate in an environment which is conducive and supportive to change (Sofranco, 1984). Extension education, essentially a people centred approach with a sound footing in science and technology which can serve a variety of client groups having their own characteristics and needs, is best suited to attain the objective of agricultural development (Patton, 1986; Prasad *et al.*, 1988). This paper reports the results of an experiment to empower a selected coastal community through technologies and the role played by a fisher-women's group in introducing technologies in fisheries and other related fields in a coastal village.

### Materials and Methods

The study was conducted using an action research method following extension education procedure in the coastal village Chellanam in Cochin, Kerala. A survey was conducted among 200 selected fishermen households to understand the needs and problems of the community with special attention to gender related issues and specific areas where women could play a role in solving the problems. Following this the fisher-women were organised into a charitable society "Matsyamahilavedi"

with 120 members from four different wards of the village Chellanam covering 1500 households. Subsequently the activities of the forum were extended to two more wards covering total 3500 households and the total membership increased to 400. Sub groups were formed by the members based on the areas of interest. The strategy for action included training in leadership, animation, pedagogical skills, participatory appraisal, development of functional linkages and, technical and financial support (Krishna, 1997). A series of interventions made for seven years were evaluated using criteria for empowerment (Krishna, 1992) such as income generation, skill development, use of new technologies, increased awareness, improved self perception, decision making, communication, group action, overall benefits and impact on the village as a whole.

**Results and Discussion**

Table 1 presents the needs and problems of the selected households. Increasing income through improved fishing methods and providing alternative employment opportunities for men and women were the most important needs to be tackled through use of improved technologies. Better nutrition, fuel and primary health care were other priority areas.

**Table 1.** Needs and problems of the fishermen households

Needs	Problems
Increased income	Poverty, low level of education, indebtedness, lack of skill, lack of entrepreneurship, seasonality and irregularity of income from fishing
Drudgery relief	Scarcity of drinking water, lack of alternative fuel sources, inadequate infrastructure for education and recreation
Nutrition and primary health care	Low purchasing power, lack of awareness of health care

**Table 2.** Technologies identified and extension methods used

Technologies	Extension methods used
<i>Income generation</i>	
Fishing net making	Home and farm visits,
Aquaculture	training, demonstration,
Shrimp feed production	study tour and farm literature
Fish processing	
Kitchen garden	
<i>Drudgery</i>	
Fuel efficient 'chula', pressure cooker	Lecture and demonstration
<i>Primary health care</i>	
Health education	Medical camp, awareness
Population education	campaign, lecture, literature
Environmental sanitation	

**Table 3.** Details of programmes implemented

Project	No. of fisher-folk	Source of technical assistance	Sponsor	Financial assistance Rs million
<i>Income Generation</i>				
Net making	150	CIFT	Central Social Welfare Board	0.125
			District Administration	0.050
Shrimp feed	35	CMFRI	Bank	0.035
			Dept of Rural Development	0.100
			District Administration	0.200
Fish processing	15	CIFT	District Administration	0.600
Ornamental fish	10	KAU	District Administration	0.100
			Dept. of Rural Development	0.150
Crab farming	5	CMFRI	District Administration	0.100
Integrated fish/poultry farming	10	CIBA	District Administration	0.200
Group farming in shrimp	90	CMFRI	Farmers	
Shrimp farming by women	10	CMFRI	Kerala State Women's Development Corporation	0.020
Poultry	20	Dept. of Animal Husbandry	Innerwheel Club	0.020
Notebook making	12		Khadi Board	0.125
<i>Social Welfare</i>				
Balawadi	150		Innerwheel Club	0.035
Smokeless 'chula'	100		Innerwheel Club	0.010
<i>Awareness Campaigns</i>				
Fisheries development	Whole Village		R & D Organisations	
Environment	"		State Committee on Science and Technology	
Legal	"		Peoples' Council for Social Justice	
Health	"		Rotary Innerwheel	
Nutrition	"		Nutrition Extension Centre	
Population	"		Field publicity	
Leadership	"		Labour Board	
Total				1.870

Based on the needs, resources and interests of fishermen and women, technologies for income generation, drudgery relief and primary health care were identified. Educating the fisher-folk on improved fishing methods, increasing fish production by small farmers, involving women in fish production, improvement of their skills in utilisation of local resources for income generation and organising health and nutrition awareness programmes were the interventions planned. During the first phase of the activities the programmes were implemented mainly for women. Different extension methods were employed for technology transfer (Table 2).

Table 3 gives the details of programmes implemented, sources of finance and technological assistance and the number of women covered. Co-ordination of

technology, implementation of activities including selection of members, securing and distributing grants, subsidies and loans and their repayment, training as well as monitoring and evaluation of the projects were carried out by the Matsyamahilavedi with the help of the extension agency. Based on the technologies transferred, small units were set up for net making, aquaculture, shrimp feed production and fish processing.

Matsyamahilavedi implemented a large number of innovative activities. The effectiveness of its activities in improving the empowerment criteria is presented in Table 4. The major objective of income generation through implementation of technological innovation could be achieved by 37.5 per cent of women. Various skills to use innovations could be developed through training and demonstrations among 56 per cent. The programmes implemented by the society were very important means of awareness generation and development of communication and group action. Members of the Society and the villagers felt the activities of the Matsyamahilavedi useful to the village as it helped to introduce new ideas and opportunities to the villagers. The technologies for aquaculture, feed production and net making could be institutionalised with active support of the research institutions and development agencies.

Table 4. Effectiveness of Matsyamahilavedi in improving the employment criteria

Empowerment criteria	No. of women reported	% women empowerment
Income generation	150	37.50
Skill development	225	56.25
Use of new technology	150	37.50
Development awareness	400	100.00
Self perception	180	45.00
Role perception	125	31.25
Decision making	200	50.00
Communication	250	62.50
Group action	230	57.50
Overall empowerment	325	81.50

Matsyamahilavedi could make substantial improvement in income generation, skill development, general awareness, self-esteem and overall development of women. Visible impact made by it, apart among its members, was in the formation of inter-village association of shrimp farmers, women farm labourers' union, vegetable and fruit producers' society and extension of activities to other village level groups including co-operative societies of weaker sections.

Despite efforts towards technology development, a majority of rural folk is not able to adopt them due to lack of effective extension. A strong base level organisation can create a client driven agricultural and extension system. It is an important mechanism in articulating specific research and extension needs, accelerating technology dissemination and developing technical and managerial skills of farmers. Such organisations act as an interface between research, extension and indigenous

knowledge. It can motivate and satisfy the expectations of the people. It helps in mobilising local resources and regularising their use to maintain a long-term base for productive activities (Anon, 1996 b). For the empowerment of rural people, community development through extension education should be one of the most important policy instruments. The work of Matsyamahilavedi amply justifies it.

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