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Part Three

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NATIONAL SYMPOSIUM ON RESEARCH AND DEVELOPMENT IN MARINE FISHERIES

MANDAPAM CAMP

16-18 September 1987

Papers Presented
Sessions V, VI & VII

CENTRAL MARINE FISHERIES RESEARCH INSTITUTE
(Indian Council of Agricultural Research)
P. B. No. 2704, E. R. G. Road, Cochin-682 031, India

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TRAINING FISHERWOMEN IN FISH PROCESSING

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ABSTRACT

A project on training fisherwomen for their participation in rural development, sponsored by Ford Foundation (U.S.A), has been started by the Centre for Agricultural and Rural Development Studies, T.N.A.U., at the Fisheries College, Tuticorin. The project aims to select a few literate rural women with leadership qualities for imparting to them a training in the organisational and managerial aspects of a viable fish processing enterprise. It also aims to assist the trained fisherwomen in organising and operating cottage industries by continued technical backing and thus making the production units demonstration centres for the benefit of other women in the region.

The preliminary survey helped in identifying 5 candidates from each of the 3 selected villages. The pre-survey revealed the respondents' choice of subject-areas to undergo training and their enthusiasm to learn techniques for the preparation of fish products like fish pickle and Masi Meen. It also revealed their desire to be exposed to new products like fish wafers, fish oil, fish meal, shark fin-rays etc. The pre- and post-evaluations of the training programme helped in i) identifying training needs in the fields of marketing and financial management; ii) identifying some low-cost technological substitutes for some of the commercial products (eg: 'Gadi' for vinegar); iii) identifying the products or techniques appreciated by the trainees and the products or techniques that received lukewarm response with reasons for such a response; iv) identifying the level of managerial efficiency gained by the trainees and the kind of support required for each individual to start cottage industries. The programme is being followed up by interpersonal contacts and the co-ordinated efforts of the development departments.

INTRODUCTION

The potential role of rural women in Agricultural and allied sectors is well known. In addition to the tasks performed at home, the fisherwomen engage in other productive activities. The income generating jobs performed by the fisherwomen of Tamil Nadu include some of the fishing related activities such as net making, net mending, fish handling, dry fish preparation and marketing. However, their potential contribution to the development of small-scale fisheries is not recognised properly due to the social and cultural discrimination against women in fishing communities. Hence the need for specific projects for fisherwomen development is felt. Experts like Ms. Edeltraud Drewes, socio-economist of the Bay of Bengal Programme (BOBP), have expressed similar concern. The BOBP reports that the fisherwomen will be able to compete their counterparts on better terms if given adequate training and also emphasises the need for training fisherwomen in income generating activities such as fishery product and by-product development, marketing crafts etc.

To improve the standard of living of the fishing communities, the Central and State Govern-

ments, Universities, Voluntary organisation and Overseas Development Agencies take part in implementing development projects. The Ford Foundation of United States, a philanthropic organisation with its branch at New Delhi, contributes over \$ 200 million for the development goals in India. Ford Foundation sponsors various development programmes and one such is a project on Training Rural Women for their participation in Rural Development that has been sanctioned to Tamil Nadu Agricultural University. The Training programme has the following objectives: (1) to select a few educated rural women with leadership qualities and to impart training to them in the organizational and managerial aspects of income generating, viable, economic activities such as dairying, sericulture and fish processing/fish culture, (2) to assist trained women in the organization and running of the units by continued technical back-up and to make the units demonstration centres for the benefit of other women in the locality. During the period from 1982 to 1985, 45 rural women got trained each in sericulture and dairying at Tamil Nadu Agricultural University, Coimbatore. Training of rural women in dairy enterprise management is in progress at the Agricultural College and Re-

search Institute, Madurai and 60 women have been trained so far. A similar project is under way at Fisheries College, Tuticorin, a constituent body of Tamil Nadu Agricultural University. The three years project will be in operation till 1990. Two batches of 15 fisherwomen each will be trained every year. Four training programmes will be in fish processing enterprise management and two will be in fish culture enterprise management. Thus a total of 90 fisherwomen will get trained under this project and each training programme will have the following plan of action (1) Pre-survey (2) Training programme (3) Follow-up programme and (4) Post-performance evaluation of the programme.

The first batch of fisherwomen training in fish processing enterprise management was organised during March-April 1987 at Fisheries College, Tuticorin.

SELECTION OF VILLAGE

Three fishing villages of Chidambaranar District namely, Therespuram, Tharuvaikulam and Punnakayal of Tuticorin, Ottapidaram and Thiruchendur Taluks respectively were identified for the selection of participants for the training programme. While Therespuram is a fishing village very close to Tuticorin town, Tharuvaikulam and Punnakayal are about 15 kms and 30 kms away from Tuticorin, respectively.

PRELIMINARY SURVEY

Prior to the selection of the participants a preliminary survey in all the three villages was conducted. The objectives of the pre-survey were to (1) understand the literacy level of female labour force (2) examine the involvement

of female labour force in income generating activities (3) find out the skills possessed by the female labour (4) study their knowledge in fish processing techniques (5) find out the extent of adoption of fish processing techniques known to them and (6) understand their willingness to undergo a training in fish processing and their choice of subject-areas in fish processing (In this context, the term female labour force is used to include the age group from 14 to 55 years).

The sample size for the pre-survey in each village was 30. Two Assistant Professors and two Fishery Assistants were the investigators for the sample survey. A pilot survey prior to the pre-survey was conducted at Tharuvaikulam and Punnakayal during which fisherwomen in each village were interviewed in order to pre-test the schedule for pre-survey and based on the responses the schedule was revised.

The co-operation of an official of the Fisherwomen Extension Service, the Presidents of Fisherwomen Co-operative Societies and the Parish Priest of one of the Villages helped in conducting successful survey in the Villages. These personalities were initially approached and explained about the purpose of survey.

SALIENT FINDINGS OF PRE-SURVEY

Literacy Level

The survey revealed that the literacy level of fisherwomen in all the three villages is low.

It is evident from Table I that the majority of the respondents have received only primary school education and the mean percentage of those was 63.33.

Table I *Literacy level of respondents*

(in percentage)

Village	Illiterates	Primary Sl. Education	Middle Sl. Education	High Sl. Education	Higher Secondary Sl. Education
Therespuram	10.00	70.00	10.00	6.67	3.33
Tharuvaikulam	13.33	70.00	10.00	3.33	3.33
Punnakayal	13.33	50.00	30.00	6.67	0
Mean	12.22	63.33	16.67	5.56	2.22

Skills and Employment:

The only income oriented fishing related activity in which the majority of respondents have skill and involvement is net making/net mending

and this is supported by the Table 2. The average number of days of involvement of a fisherwomen in net making doesn't exceed 75 days/annum at the rate of 8 hours of work/day.

Table 2 *Employment of respondents in fishing related and non-fishing related activities*

(in percentage)

Activities	Therespuram	Tharuvaikulam	Punnakayal
Fishing related:			
1. Net making	20.00	13.33	26.67
2. Dry fish preparation	20.00	0	10.00
Non-Fishing related:			
1. Tailoring	13.33	3.33	16.67
2. Handicrafts	0	0	0
3. Weaving	0	13.33	0
4. Match Factory work	0	10.00	0
5. Toddy sales	0	3.33	0

Another fishing related activity in which 10-20% of the respondents had been involved is dry fish preparation. The purpose of preparing dry fish has been invariably reported to be domestic consumption.

Though many respondents possess skill in tailoring only a few own sewing machine and do tailoring. Bamboo-basket making is another non-fishing related activity apart from tailoring. While this activity was observed in all the three villages, weaving, employment in match factories and selling toddy are some of the non-fishing related activities of the fisherwomen of Tharuvaikulam.

AWARENESS AND KNOWLEDGE IN FISH PROCESSING TECHNIQUES

A uniform pattern in the degree of awareness and knowledge of fisherwomen in fish processing techniques could be observed in all the three villages. Majority of the respondents had sound knowledge in the dry fish preparation techniques with an exception of about 50% of the respondents of Tharuvaikulam village. The question posed to test the awareness and knowledge in some other fish processing techniques such as the preparations of fish pickle, fish meal, fish oil, fish sauce, "Masi", etc., revealed their non-awareness and ignorance of those techniques by the majority of the respondents. A few respon-

dents had partial knowledge in the preparations of fish pickles, "Masi", fish oil, and fish meal and almost all the fisherwomen invariably preferred to get trained mainly in the preparations of fish pickles and "Masi" and their order of preference to learn the techniques was for the preparations of fish pickles, "Masi", fish meal, fish oil, fish wafers, fish soup powder, shark fin rays and fish sauce.

Adoption of Fish Processing Techniques

In spite of their sound knowledge in dryfish preparation majority of them mentioned that they prepare dryfish only for their own use and that too occasional. A very few are involved in the dry fish preparation for the purpose of selling. Similarly, though a few respondents have a partial knowledge in the preparation of fish pickles and 'Masi' etc., none seems to prepare the products even for their own use.

Willingness to undergo Training

It is needless to say that any kind of training that helps earning to supplement family income will positively attract the poor to express their willingness to undergo the training. While this was true with majority of the respondents of the three villages, there were also exceptional respondents who expressed their non-willingness

because of their commitments like childcare and household duties of their larger family. It was interesting to observe that about 30% of respondents of Tharuvaikulam village comprising both married and unmarried women were not willing to undergo any type of training offered outside their village and this may be attributed to the social and cultural values prevalent in their village.

Selection of Participants

Soon after the completion of Pre-survey in the three villages, the next task was to select the participants for the training programme. Three factors were considered for selection viz., (1) Age - between 18 and 45 (2) Educational Qualification minimum completion of primary school education and (3) leadership qualities with managerial abilities. The key-informant technique of leadership selection was used. The Extension Officer (Inspector of Fisheries) of Fisherwomen Extension Service, Department of Fisheries, Tamil Nadu and the Presidents of Fisherwomen Co-operative Societies were the key-informants. They were briefed on the modalities of the selection of participants and were entrusted with the selection as they do have fairly good contacts with the village women.

Training Programme

The first batch of 15 day training for fisherwomen in fish processing was inaugurated on 30-03-'87 and that extended upto 22-04-'87. On the day of inauguration of the training programme, only the Registration of the participants was carried out and the training classes started from the next day with the pre-evaluation of the trainees.

Pre-evaluation

Prepared schedules, of pre-evaluation of the trainees was given to each trainee to get it filled up by themselves. Questions were so designed to (1) understand their present level of knowledge and adoption of fish processing techniques and (2) identify the trainees' preference to learn the fish processing techniques during the training programme.

To begin with the training classes, some of the general lectures like the role of women in rural development and need for training women in viable economic activities (techniques), nutritional value of fish, availability of fishery resources

for fish processing and hygienic handling of fish from catch to processing etc., were delivered by the concerned faculty members of the College. Some of the important subjects covered during the training include hygienic way of dry and salt curing of fish, preparation of pickles from fish, oyster and prawn, and preparations of fish meal, fish oil, fish maws, fish soup powder, fish wafers and "Masi". On top of all, the utilisation of trash fish and fish wastes was demonstrated to the trainees in the programme. Group discussions were also arranged for the benefit of the trainees. Two panel discussions were conducted, the first one on Government aid to small industries, and the second one on credit facilities to small industries and procedures for availing themselves of the facilities. Officials from small Industries Service Institute (SISI), District Industries Centre (DIC) and Lead Bank and Nationalised Commercial Banks participated and explained the concerned procedures to the trainees. The trainees interacted with the officials by seeking clarifications.

Post-evaluation

On the last working day of the training programme the post-evaluation of the trainees was made. As followed in the pre-evaluation, the trainees were distributed with prepared schedules to fill up by themselves. The post-evaluation schedule included some questions from the subject areas dealt with during the programme to test their knowledge gained from the training. The questions were centred around their views about the training programme and their plan after the completion of the training.

The pre-and post-evaluation of trainees revealed the following:

Both the knowledge and adoption were maximum for the dryfish preparation in all the three villages viz., 60-100% and 50-80% respectively compared to a few other techniques in which their knowledge and adoption varied from 10-25% and 10-20% respectively.

The response of the trainees for their knowledge in all the fish processing techniques at post-evaluation was 100%.

The over all ranking of fish processing techniques to them was also done both at the pre-and post-evaluations. The order of overall ranking at the pre-and post-evaluations is given in Table 3.

Table 3 Training Priorities (ranks)

Techniques	Pre-evaluation	Post-evaluation
Dry fish	7	3
Fish oil	4	6
Fish pickle	1	1
Fish Meal	7	2
Fish sauce	9	5
Fish Manure	6	4
Fish soup powder	8	7
Shark fin rays	10	10
"Masi"	2	8
Fish wafers	3	9
Fish spirals	5	6
Isinglass	12	11
Chitosan	11	12

Remarkable variation in rankings by the trainees was observed and the post-evaluation ranking depicted the following:

The techniques ranked 1 to 7 at the post-evaluation require a very few low-cost equipments/utensils for their preparations as evident from their order of ranking viz., preparation of fish pickle, fish meal, dry fish preparation, fish manure, fish sauce, fish oil and fish soup powder. On the other hand the rest of techniques involve either costly equipments such as smoking kiln for "Masi", grinder for the preparation of fish wafers etc., and/or chemicals such as sodium hydroxide for chitosan preparation and hydrochloric acid for shark fin rays. Thus, it is very obvious from the above results that the trainees prefer to involve in such preparations as fish pickles, fish sauce etc., which require less capital investment and that are simple to adopt. It is also felt that the ranking doesn't seem to have been done based on the market value of the products. Thus the ranking helped in identifying the techniques appreciated by the trainees and those that received lukewarm response with reasons for such a response.

The views of the trainees revealed the training needs on the areas of marketing and financial management. They felt that the channels of marketing the fish products they intend to prepare might have been enlightened to them. In fact, realising the need for the knowledge in the

areas of marketing for the trainees, efforts were made to arrange for a group discussion similar to the panel discussions conducted for the benefit of trainees. However, unfortunately the same couldn't be conducted as desired because of the luke-warm attitude of the officials.

More over the trainees had expressed that the assistance for availing of credit and marketing the products would enable them to start cottage industries to prepare the fish products they learnt during the training. They had expressed their desire to demonstrate techniques they learnt to the other village women and to involve them in similar income generating activities. This explained their confidence to start and efficiently manage their own cottage industries.

As a wind fall benefit the interaction with the trainees revealed that a local substitute called "Gadi", a fermented palmyrah product was available for vinegar as preservative. The local substitute was preferred because of its better quality and less cost. Such an exposure on local practices may help us evolve appropriate low-cost technology for the fishing households.

Follow-up Programme

The programme is being followed-up by interpersonal contacts and by the co-ordinated efforts of the Development Departments. The experience will be of immense use in planning and conducting training programmes in future.