

Fish Marketing : ODA-PHFP Holds Workshop in Madras

A TWO-DAY workshop arranged in Madras recently (March 9-10) by the United Kingdom Overseas Development Administration's Post-Harvest Fisheries Project (ODA-PHFP) provided a useful forum for agencies engaged in the fisheries sector to come together and share their experiences in marketing.

A number of representatives from five Indian states (Tamil Nadu, Karnataka, Kerala, Andhra Pradesh and Orissa) and two from Sri Lanka attended the workshop, which was principally targeted at people working in development organizations—both government and non-governmental—and with donor agencies and marketing research agencies. Traders engaged in fish marketing and some others from private organizations were among the other participants.

The objective of the ODA Post-Harvest Fisheries Project is to increase the incomes of the small-scale fisherfolk through better post-harvest technology. The field of operation in India is the coastal areas of the eastern states of Tamil Nadu, Andhra Pradesh, Orissa and West Bengal.

Working with non-governmental, private and government organizations concerned with fishery-related activi-

ties, ODA-PHFP seeks to strengthen the village-level organizations to replicate and secure sustainable benefits from project activities. One of the thrusts of this project is on dried fish processing and marketing. In this connection, ODA-PHFP assists the fisherfolk in setting up racks for drying low-value fishery products and helping in marketing these products.

The role of the small-scale trader

in India is extremely important. A vast number of the traders operate on small margins and represent some of the poorest members of the community they serve. The internal marketing system and those who play a vital role in it have tended to be ignored as efforts are directed to develop fisheries production systems and technologies aimed at the high-value export markets. However, even the internal marketing of low-value fish and fishery



Seen at the marketing workshop are (left to right) Mr. V. Vivekanandan, South Indian Federation of Fisheries Societies, Thiruvananthapuram; Mr. J. Lucas, Santhidan, Nagercoil; and Mr. Chamindra Woerackody, IRED, Sri Lanka.

products is changing as organizations working with fisherfolk communities become more active in small-scale marketing development.

Four sessions

The objectives of the Madras workshop organized by ODA-PHFP were:

- a) to disseminate information regarding ODA-PHFP activities in small-scale fish marketing development;
- b) to share the knowledge, skills and needs of other organizations in this area; and
- c) to formulate a strategy for addressing the needs of target groups and to draw up a plan for collaboration between organizations working in this field.

The workshop was split up into four sessions, two on each day. The first three sessions each focused on a central topic for debate, and were preceded by presentations by some of the participants. The last session was devoted to a discussion on the issues that had arisen during the workshop, and on viable strategies that could address the needs of the target groups.

On the first day, the topics chosen for discussion at the two sessions were: the capabilities of organizations to undertake fish marketing enterprises; and information on markets and marketing systems. At the first session, presentations were given by Mr. S. Sunil Kumar, Manager of the Anchovy Drying Project in Kanyakumari District, Tamil Nadu, and Mr. R. Rajamanickam, Managing Director of Tamil Nadu State Apex Fisheries Co-operative Federation Ltd.

During the second session, on information on markets and marketing systems, presentations were made by Mr. M.S. Ashok of Catalyst Management Consultants, Bangalore, and Mr. George Mathew, Internal Monitoring Officer of ODA-PHFP, Madras.



Mr. P.K. Mohapatra, United Artists Association, (ian/am, Orissa, speaking at one of the workshop sessions.

Anchovy Drying Project

Mr. Sunil Kumar; in his paper, described the Anchovy Drying Project of the Kanyakumari District Fishermen Sangams Federation, with technical, financial and marketing support from ODA-PHFP. The project seeks to increase the income of artisanal fishermen by providing better post-harvest technology and marketing support. Operations under the project range from setting up fish drying racks, procurement and storage, to marketing of the anchovy (*nethili*). ODA-PHFP has played a creative role by providing technical support and helping to establish a marketing network.

Mr. Rajamanickam spoke about the measures needed – such as staff, training, study visits, etc. – to enhance the capacity of organizations engaged in fish marketing enterprises. He also referred to the financial risks involved in marketing, credit requirements and source of funding, and the commitment of organizations working in this field.

The second day's proceedings began with a session on the practicalities of managing a small-scale production

and marketing operation. Two of the workshop participants who made presentations at this session – chaired by Mr. J. Lucas, Secretary of Santhidan, Nagercoil (Tamil Nadu) – were Mr. Chamindra Weerackody, Regional Director, Asia, of IRED Development Innovations and Networks, who had come from Sri Lanka, and Mr. V. Vivekanandan, Chief Executive of the South Indian Federation of Fisheries Societies (SIFFS), from Thiruvananthapuram, Kerala.

Cycle traders in Sri Lanka

Mr. Weerackody referred to the important role played by cycle traders in Sri Lanka in post-harvest fisheries; they in fact transported a major portion of the fish caught in the sea to the consumer. It has been estimated that these mobile traders operating from three fish trading centres – St. John's Fish Market (Colombo), Dodanduwa and Negombo—carry about 12,000 tonnes of fish to the consumers per annum. The cycle traders cater to a wide spectrum of clients, especially middle-class and poor people. It is generally accepted that the fish sold by these traders is of fairly good quality.

Mr. Weerackody said that a cooperative society for cycle traders operating from St. John's Fish Market was established in May 1993. IRED, in collaboration with ODA-PHFP, is training the office-bearers and the members of the Executive Committee on management and leadership issues, maintenance of accounts, and developing links with other organizations. In recent months, discussions have taken place with a view to establishing a similar cooperative society for

the cycle traders operating from the Negombo fish landing sites.

The fourth and final session, on the second day, was mainly devoted to a discussion on the constraints and options for addressing the needs of target groups and organizations in the small-scale fish marketing sector. It was chaired by Mr. Duncan King, Project Field Manager of ODA-PHFP. This session enabled participants to discuss the issues that arose during the

workshop, and to put forward possible solutions for addressing the needs of fishing communities and organizations working in the small-scale fish marketing sector.

Although the workshop proved stronger on identifying problems and constraints rather than solutions, it was useful in focusing the attention of the organizations on their requirements for undertaking or managing marketing development projects in a long-term sustainable manner.

Overview Study of Bay of Bengal Post-Harvest Fisheries Project

INTEGRATED Marine Management Ltd. (IMM), a British company, undertook a consultancy assignment to do a regional overview study of the Overseas Development Administration Post-Harvest Fisheries Project in the four eastern Indian coastal states of the Bay of Bengal.

The overview study was initially taken up in Sri Lanka in December 1993, and the study in India was undertaken during January/February 1994. Based on the methodology developed in these two countries, the study was taken up in Bangladesh by a local consultant, and completed by the end of 1994.

The report on the overview study by IMM is being updated as far as possible and will be published during 1995 and circulated to all concerned to obtain comments, additional information and suggestions to enhance its accuracy and effectiveness. The aim of the overview is to provide a planning framework for development interventions within the post-harvest part of the fisheries sector, and to raise the profile of post-harvest issues in the Bay of Bengal region.

The overview provides an initial baseline of information concerning activities, institutions and constraints facing the post-harvest aspects of the sector. It is not meant to be a definitive statement on these aspects. On the contrary, it is meant as a first stage in an ongoing process of understanding the sector which the various activities of the ODA project will contribute to and develop over the project's life.

At the conclusion of the project, the overviews from the three countries – Bangladesh, India and Sri Lanka – will provide concise yet detailed resource documents for the region which can:

- inform planners, policy makers, development practitioners (in government and NGOs) and private-sector operators about the problems and possibilities in the post-harvest field;
- promote communication and coordination between participants in different parts of the region;
- encourage the sharing of experience, expertise, information and ideas on post-harvest aspects within the region; and

- avoid the duplication of development efforts to overcome similar problems in different areas and to promote the most effective use of scarce development resources.

The focus

The focus of the overview reflects the objectives of the project, which are:

- to enhance the incomes of artisanal fishing communities and petty fish traders in Bangladesh, India and Sri Lanka;
- to identify and develop the potential for increasing the diversity of fish products marketed by these communities; and
- to strengthen the ability of NGOs and fisherfolk associations to replicate and secure sustainable benefits from project activities.

Given the interrelated nature of the large-scale and small-scale sub-sectors of fisheries, it is necessary to consider both if the post-harvest framework is to be of any value in planning future activities. This is particularly so where

choices have to be made between alternative strategies which distribute benefits among social and economic groups in different ways. Such choices will need to be guided by policy decisions, but such decisions should be made with as complete an understanding as possible of the consequences of those decisions on all groups.

While the project specifically aims to strengthen the abilities of NGOs and fisherfolk associations, this cannot be done in isolation from the government. The government creates the legal, fiscal, monetary and trade environment in which the sector operates. It provides direction for the sector's development through its policies, plans and support. In some cases, it may also constrain certain groups or activities within the sector through a lack of understanding. Whatever its role or influence, it continues to have a very significant part to play in the sector and one which must be fully integrated with the project's activities.

The framework of the overview aims to take as wide a perspective of the sector as possible. This allows both the macro- and micro-level problems and possibilities to be identified and related to each other.

The overview, in its preliminary framework form, is intended to be distributed as widely within the industry as possible at the government, private-sector, NGO and community organization levels. This will allow participants to add to, correct or suggest

modifications to the document and thus enhance its effectiveness. It is most specifically aimed at project staff who can use it to guide the planning of their research and development activities, and from which it can be developed and expanded.

Structure of the overview

Post-harvest fisheries embrace the factors affecting activities in fisheries between the time the fish is landed at the point of capture (either on a vessel or on the shore, depending on the harvesting method, level of investment, or type of technology used) and the time the fish is consumed. This does not limit post-harvest to technologies associated with processing and preservation, as it has sometimes been narrowly thought of in the past. It includes the policy, environmental, economic, institutional; demographic, socio-cultural and technological aspects of demand, supply and transformation of product.

The driving force behind the expansion of fish supply, and the associated innovations in its transformation from the point of landing to consumption, is that of demand. Without a demand for the product, there would be little point in attempting to catch it, to preserve and process it, or to distribute it. This is often forgotten in the consideration of the features of development in the post-harvest side of the industry and of the factors constraining development of the sector.

This post-harvest overview is very much demand-led. It takes the perspective that demand, within the limits of the available resource, skills and finance, determines what fish is landed, when and where, and how it is transformed (changed in quantity, quality, form, price and location) before it is consumed.

The overview is thus arranged in three distinct sections related to:

- Demand
- Supply
- Transformation

Each of these sections considers the characteristics, source and factors affecting each of three areas: the key problem areas associated with each; current interventions in the sector; and any further action which is immediately apparent.

The overview in respect of India will look at each state separately. For each state, the report will be structured as follows:

1. Introduction: This will cover all the four states – West Bengal, Orissa, Andhra Pradesh and Tamil Nadu – that border the Bay of Bengal.
2. Post-harvest overview summary: This will cover all four states.
3. Fisheries and the economy: This will look at the place of the state's fishery in the state economy, the wider national economy, and the national fisheries sector.
4. Demand for fisheries products
 - i) *Demand characteristics:* The characteristics of the demand for seafood will be looked at in terms of quantities demanded, species demanded, quality and demand variability.
 - ii) *Demand segmentation:* This can take many forms and will be looked at in terms of coastal retail, metropolitan/urban retail, inland retail, institutional, industrial customers, export to other states, overseas exports, and prawn farms/aquaculture.
 - iii) Factors affecting demand: The demand for fish is affected by a range of different factors. These include macro-economic policies, sectoral policy and legis-

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lation, environmental/health, micro-economic, institutional, political, technological and social, cultural and demographic.

iv) *Key problem areas*: This section looks at the key problem areas from the viewpoint of the participants, the government and NGOs.

v) *Current intervention*: This section looks at which institutions are doing what in terms of understanding or/affecting demand – NGOs, private sector and government.

vi) *Further action*: This looks at what further action is needed in the area of demand.

5. Supply of fisheries products:

i) *Supply characteristics*: related to availability of fish (quantities), species composition of supply, quality of supply and variability of supply (seasonal and regional).

ii) *Sources of supply*: This looks at where the fish comes from and from whom (e.g., large-scale production, small-scale, imports, aquaculture).

iii) *Factors affecting supply*: These factors are classified as macro-economic policies, sectoral policy and legislation, environmental/health, micro-economic, institutional, political, technological and social, cultural and demographic.

iv) *Key problem areas*.

v) *Current intervention* by NGOs, private sector and government.

vi) *Further action*.

6. Transformation of fisheries products:

i) *Types of transformation*: Product transformation (gutting, filleting, icing, freezing, salting, drying, canning, pickling); place transformation (distribution, domestic and export); image transformation (promotion.

packaging, education, health); and price transformation.

ii) *Participants in transformation*: The various participants involved are processing agents, distributors and ancillary services (ice and salt suppliers, credit agents, etc.).

iii) *Factors affecting transformation*: The various factors involved are macro-economic policies, sectoral policy and legislation, environmental/health, micro-economic, institutional, political, technological and social, cultural and demographic.

iv) *Key problem areas*.

v) *Current intervention* by NGOs, private sector and government.

vi) *Further action*.

This article has been adapted from the post-harvest overview study framework prepared for India by Integrated Marine Management Ltd.

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Women and Post-Harvest Fisheries: Role in Productive Functions

WHY only fisherwomen's development projects? This has been a question raised often by technocrats, planners and the general public these days. Is it because men are out at sea and women are available on the shore that it becomes easy to work with women? Or is it because of the fact that men turn out to be politically inclined and hence become difficult to work with?

The answer is "no". The explicit reasons for working with fisherwomen in post-harvest fisheries are that they play a vital role in the sorting, processing, curing and marketing of fish on a small-scale level, whereas the men's role is limited to their involvement in fishing. Besides this, the innumerable production activities carried out mainly by women within the household sector are of critical importance

for the society's survival, growth and development.

Household production is essential for providing the calories that produce energy with which to work in any sector of the economy. The level of any individual's health is largely determined by the household's ability to produce basic levels of shelter and food. Furthermore, the household is

society's primary institution for replacement and development of human capital through the processes of reproduction, socialization and nurturing. The household sector thus fulfils a vital role in contributing to the welfare of the society, and hence the role of fisherwomen in the household cannot be ignored.

Significant role

The role of fisherwomen in productive functions is quite significant. If we ask the fishewomen whether all women are engaged in the productive functions of their families, the answer we get is a negative one. Those who are directly involved in fresh or dried fish marketing are recognized as ones gainfully employed in the trade. Other women who are found in the processing and curing of fish within their households would often say that they do not have any gainful employment opportunities due to the fact that their role as processors within the confines of their households remains invisible to themselves. If we look closely at the levels of activities carried out between separable household production, inseparable household production and production in the household for the market, it would indicate that the boundaries between these activities are fluid and variable.

A fundamental understanding of this complexity is necessary to understand the household decision-making. The fisherwomen who venture out to the market for the sale of fish either obtained from their husband/male kinsmen as their share or purchased at landing sites from auctions derive an income earned through marketing which is being controlled by them.

Those women whose families own fishing assets and are not concerned with the direct sale of fish are involved in processing and curing of fish within

their household domain which is marketed through their male kinsmen to the fish traders. In these cases, the women do not have direct access to the revenues received by their families, and thus would not be in a position to control the income and expenditure of the household or take any decisions for their families. On the other hand, the latter category of women enjoy a better status within their communities because of the ownership of fishing assets by their families. The women also play a vital role in the provision and allocation of community resources.

The fisherwomen in general suffer a double burden among the male-dominated society, being born as women in the first instance, and secondly because of the marginalized nature of the sector itself. If we look at the position of fisherwomen in the society, there are insurmountable issues which subjugate them, such as illiteracy and ignorance, low health, and lack of resources, ownership of assets, etc. Their situation also does not provide a rosy picture: the need to work for long hours both at home and outside; the fierce competition at the landing sites to purchase fish; inaccessible or infrequent transport to the markets; unhygienic market places; lack of credit access; and lack of skills and training.

Practical needs

The U.K. Overseas Development Administration's Post-Harvest Fisheries Project tries to address some of the women's practical needs, such as improved access to markets through the use of fish containers and better transport systems; access to institutional credit through thrift groups; and improved capacities of individuals and groups through appropriate training in communication, group behaviour and mutual cooperation which would result in better collective bargaining Ca-

pacities of groups. The skills training in post-harvest fish handling techniques seeks to improve the quality of products and raise incomes. The approach to women's development is aimed through suitable economic interventions by setting up fish production units apart from raising their general awareness through training and organizing them as groups.

These awareness or training programmes do not envisage that women should be raising their voices against men radically in their families, which would ultimately alienate them from their families. Rather, these are aimed to raise their consciousness as total human beings which would enable them to live as equal partners within their families and communities. The women also believe that they make the men realize their role as equal partners, which has resulted in the sharing of responsibilities, especially in bringing up their children. The women *sangarns* have paved the way for sharing their feelings and issues, which are being recognized as common to every woman.

The credit schemes accessed and set up by the women's groups are seen not as an alternative system of providing creditor replacing the already existing systems, but as opening up new social dimensions in the lives of women. As some of the women's groups at Nandamun Nagar, Kakinada (Andhra Pradesh) pointed out, the women's credit schemes have enabled them to have better respect within their families, as these are considered as "good" for the welfare of the family by the male kinsmen in their families, which is a first step towards women's development within their households. Thus the project has taken a small step forward and not made a giant leap in terms of women's development.

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Fish smoking as an income-generation activity for small-scale processors is a potential fact, considering the very good prices smoked fish command wherever they are sold. While capitalizing on the existing markets for smoked products, there is a need to diversify and bring more varieties into active utilization.

Smoked Fish Products and PHFP's Role

In most developing countries, fish processed by traditional methods is a major source of dietary protein. Fisherfolk communities, located in remote areas as they generally are, with little or no ready access to markets and modern preservation facilities, have depended on processes developed over centuries – like salting, drying and smoking – to enhance the shelf life of the fish.

Although icing is increasingly being used to preserve high-value shrimp and larger fish varieties, a major part of the catches continues to be processed. In fact, fish like anchovy, sardine, other clupeids and ribbon fish have always been processed, so much so that consumers want them only in the processed form.

Fish smoking is a very popular processing method in Europe, Africa and the Far East, where smoked fish and meat are relished as a delicacy. Nearer home, Sri Lanka has an insatiable demand for smoked fish. In India, the Laccadives and, on the east coast, the lush Godavari delta area are traditional fish-smoking centres. It is not difficult to see why these areas, surrounded on all sides by water, should have developed this activity.

The Godavari delta – criss-crossed by innumerable creeks, which make transport a major problem, and the very fertile soil with rich vegetation leaving not even a patch of waste land for drying fish – is in fact an ideal location for this method of fish preser-

vation to develop. In due course, despite the growth of transport facilities, smoked fish developed a rich market in the area, the flavour, texture and taste imparted taking precedence over its preservative qualities. There are about 25 villages in the area where smoking is widely practised.

What is smoking?

The preservative process of smoking combines the effects of drying, heating and smoking, coupled often with salting. The pre-treatment before smoking involves gutting/splitting, kench salting/brining/boiling and/or drying, depending on consumer preference. A combined heating/drying/smoking process entails application of smoke using suitable firewood, passing it over the fish in a closed chamber at temperatures of about 30–35°C for a cold smoked product or, alternatively, 70–80°C for a hot smoked product.

Cold smoking does not cook the flesh or coagulate the protein, so refrigerated storage is necessary before consumption. Cold smoking is designed to give the desired flavour to the product rather than a degree of preservation. It is not generally adopted in tropical countries. Hot smoked products are adequately cooked. The preserving effect of smoking on fishery products is attributed to a combination of surface drying, salting and deposition of antioxidant (phenolic) and antimicrobial constituents on the fish.

In traditional practice, fish are washed, scaled and gutted before drying and smoking, but not salted. The traditional smoke-house is a thatched hut, in which a raised platform with bamboo mats spread across it is used for keeping fish. Firewood – generally mangrove wood or any other combustible material available in the village – is placed in the pits beneath the platform. Smoke covers the hut and the temperature rises up to 50°C. Fish, dried for a day or two, are spread on the platform in batches and smoked on and off for 18 to 24 hours. Fresh batches are spread alongside the old ones to facilitate continuous processing. The fully smoked product is packed in gunny sacks or baskets and taken to the markets.

Smoked fish have a great demand and are quite expensive, ranging from Rs.70 to Rs.120 or more per kilogram; smoked shrimp is sold at Rs.150 or more per kg. Although there are about 10 important markets and many lesser ones in the area dealing in smoked products, the range of products is very small (only about half-a-dozen varieties), with mullets occupying pride of place.

The traditional method of smoking has been perfected over the years, particularly in minimizing capital costs through the best use of prevailing conditions and in making products to suit consumer preferences. However, the fact that the enterprises are run mostly on shoestring budgets and the products cater to particular niche markets

within the area has lent a kind of rigidity to the system, leaving a large proportion of catches underutilized or wasted, at the same time making it very difficult to improve the efficiency of the existing system. The region-specific nature of the activity also made the process little known outside the area, restricting the expansion of the method to other areas and, perhaps for making other products.

Likewise, even though, as preliminary surveys show, the market potential for smoked products within the area is quite large, the preference for specific varieties also restricts the activity to scarcely a few months in the year when the particular fish are available. Lastly, perhaps most importantly, although the process is very much standardized, it is not fully fine-tuned to get the most out of it, leaving much to be desired, at different stages. The fact that despite a very good market price the women make very little profit makes the point abundantly clear,

PHFP pilot trials

With the basic objective of improving the incomes and consequently the living standards of the small-scale women processors, by enhancing the range of products to include fish like tuna, sardine, mackerel, etc., which are sold very cheap when fresh but command very good prices when processed, and at the same time to make the existing manufacturing practices more streamlined, the U.K. Overseas Development Administration Post-Harvest Fisheries Project (ODA-PHFP) started pilot trials on smoked products in early June 1994 at BCV Palem, a 'smoking' village in East Godavari District of Andhra Pradesh. As part of the trials, a prototype smoking bin was designed, taking the existing conditions and practices in the area into consideration; and trials were conducted through local women processors to establish comparative efficiencies. Although it is too early to come to firm conclusions, particularly when the trials are still underway, it is how-



At BCVPalem, In East Godavari District Andhra Pradesh, 80-year-old Mrs. Putramma is seen getting a smoking bin ready for fish smoking operations.

ever possible to make some observations.

The smoking bin is a drum 4 feet in height. There is a fire-feeding hole to one side at the bottom. Trays are arranged over the fire one above the other, with a chicken-mesh partition between the fire and the lowest tray. This partition acts as a spreader as well as a screen to prevent larger ash particles from reaching the fish. There is a conical top with a central outlet for facilitating the free flow of air and smoke. Fish are arranged on trays. Sawdust, wood shavings and coconut husk, all of which are easily available in the village, are used as firewood. Temperature can go up to 80°C, and can be maintained at required levels by calculated sprinkling of wet sawdust or removal of the lid. Both cold and hot smoking are possible, and it has been established that smoked fish can be made to order to suit consumer preferences. Uniform product can be made by periodical exchange of trays. Using the bin, hot smoked product can be made within 5 to 5½ hours.

The processor in charge of the activity at the village is an 80-year-old

woman, Mrs. Putramma, with an experience in fish smoking longer than she can remember. Combining her vast experience with superabundant zeal, the lady set to familiarizing herself with the bin for a brief period before making a smooth transition from her age-old kiln to the bin. Scorching all comments that accompany any new introduction into the village with a firm "Let's do and then talk", she, with a few other processors assisting her, quickly standardized a 'code of conduct' for using the bin and then went on to make comparative studies with her kiln on her own.

The initial objective of the trials was to ascertain the technical feasibility of making *masmeen* (boiled, smoked and dried tuna, which has great market potential in southern India and Sri Lanka), which could not however be established before the onset of the monsoons and consequent disappearance of tuna from the catches.

Market reactions

As a next step, mullets were smoked in the traditional way, accord-

ing to consumer preferences – i.e., without adding salt, gutting the fish but not splitting, and hot smoking for long durations. Since the beginning, the trials have been inextricably linked to the market reactions to the product, and consequently markets were watched carefully and samples were distributed among the traders and the consumers to gauge their reactions. Based on the feedback from local markets, necessary changes were made in the product to suit the requirements. The prototype bin, too, had undergone changes depending on processing requirements, difficulties faced while processing, the feedback from the processing women, and experts' suggestions.

The processing schedule – i.e., pre-treatment of fish, amounts of different combinations of firewood required for different varieties of product, time taken for smoking, regularity of interchanging of trays, and, most importantly, the correct yield ratios of finished products – has been fine-tuned to make a very good product. With the experienced processors allowed a free hand in the activity, and a free flow of ideas, comments and opinions floating around all the time, the trials have become as much the women's own as they were the project's. The response to the final product has more than compensated for the 'trials and tribulations. Many traders have come forward to place firm orders for large quantities of the product on a sustained basis.

The advantages of using a smoking bin over a traditional smoke-house are manifold and often are so interlinked as to make it difficult to pinpoint specific aspects. Broadly, however, as brought out by the women processors themselves, the bin saves on firewood, time, space, labour and manpower. It curtails the health-related problems often associated with the traditional smoking process. Further, the quality, texture and appearance of the product is enhanced to a high degree. Shelf

life also is more than doubled, and consequently chances of marketability are very much improved.

On the negative side, the women pointed out, the small size of the bin does not stand comparison with the capacities of the existing kilns. However, this being a prototype model, dimensions can always be increased to optimum sizes to get more product. Also, the duration required for smoking in the bin being so much shorter than that of the traditional kiln, it is always possible to make good quantities of product in comparable time through 'chain smoking'.

While this smoking bin is designed to suit local practices – it is in fact only a more efficient traditional kiln – to enable processors to adopt it easily, countless variations in design, like the Ivory Coast kiln, the Altona oven, the Rogers kiln, the Chorkor kiln and a few others, have been developed using the same basic principles in various parts of the world.

What next?

Whereas only mullets and a few other estuarine varieties are smoked at present, potential exists in other parts of India for making smoked fish products using tuna, mackerel, sardine, croakers, eels, goatfish, threadfin, breams and many other varieties. Smoked fish score over the dried products in that they command premium prices. Although not all available quantities can be smoked, it is however a proposition worth giving a thought to.

Information on existing markets within and outside the country, particularly Sri Lanka, shows great promise. However, lacking concrete data on markets, it is unreasonable to expect the small-scale women processors to diversify their range of products. Given the state of market information

for traditionally processed products, it is imperative that market surveys be undertaken immediately.

Towards this end, smoked products using fish like mackerel, sardine and clupeids were made in a more systematic way than those using mullets – i.e., brining the split (butterfly cut) fish, drying and smoking at gradually rising temperatures up to 70°C for five hours. The samples were used for exploratory market surveys in Sri Lanka and India (Hyderabad and Visakhapatnam), as also in traditional markets on the delta itself. ODA-PHFP is concentrating on exploring new markets for smoked products as the next part of these trials.

The prevalent notion about smoked products, which also acts as a hindrance to more people accepting it, is that they carry carcinogenic organic compounds. After thorough investigations, it was concluded that the aromatic hydrocarbons in the smoked products are unlikely to present a major carcinogenic hazard to man, and that the concentration of carcinogens in smoked fish is not significantly higher than in other foods.

Fish smoking as an income-generation activity for small-scale processors is a potential fact, considering the very good prices smoked fish command wherever they are sold. While capitalizing on the existing markets for smoked products, there is a need to diversify and bring more varieties into active utilization. The existing network for dried products can be so organized as to handle smoked fish in a ready-to-use form. The urban areas, in particular, have so far been excluded from the smoked fish marketing chain, and it is well worth the effort to promote value-added products.

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Training Programme at Paradeep on Post-Harvest Techniques

A TRAINING programme on post-harvest fisheries techniques for the staff of NGOs (non-governmental organizations) and marine extension officers of the Department of Fisheries, Orissa Government, was organized at the port town of Paradeep from February 22 to March 2, 1995. The programme was conducted in two batches – the first one from February 22 to 25, and the second from February 27 to March 2.

The need for such a training programme was felt at the two-day workshop held in Bhubaneswar in September 1994, which was attended by representatives of various NGOs and fisherfolk, officials of the state Department of Fisheries, and officers of the U.K. Overseas Development Administration Post-Harvest Fisheries Project (ODA-PHFP).

At the recently held training programme at Paradeep, the first batch comprised nine Fisheries Department officials and five representatives of NGOs – three from Lokshakti and two from Samagra Bikash Parishad. In the second batch were seven Department officials and another seven from three NGOs – Project Swarajya (3), United Artists Association (3) and People's Rural Education Movement (1).

The subjects dealt with during the training programme covered all aspects of post-harvest techniques, both theoretical and practical. The whole programme was conducted in an open manner to enable all participants to share their experiences and field knowledge.

The training programme was inaugurated by Mr. M.K. Ahmed, Director of Fisheries, who also gave a talk on

fisheries resources for post-harvest activities in Orissa. He expressed the need for the application of various post-harvest techniques in the state for the better utilization and realization of value for the exploited fishery resources in Orissa.

The topics

The topics covered in the training programme included:

Theory

1. Post-harvest fisheries overview in India.
2. Fish spoilage and causes of spoilage.
3. Quality assessment and control.

4. Preservation of fresh fish, hygienic curing and other simple processing methods, and good handling practices.
5. Control of fungal and insect infestation in cured fish.
6. Opportunities in PHF – case studies from PHFP, and technology transfer.

Practical

1. Sensory assessment of spoilage, and preparation of fish for processing.
2. Drying rack construction and usage.
3. Field visit to Sandakud village and



Mr. M.K. Ahmed, Director of Fisheries, Orissa (extreme right), delivering the inaugural address at the training programme. The others in the picture are Mr. R.C. Choudary, Deputy Director of Fisheries (centre), and Mr. R.S. Mishra, Assistant Director of Fisheries (extreme left).

fishing harbour, to observe the conditions relating to post-harvest activities.

The resource persons for the training programme were Mr. Venkatesh Salagrama and Mr. N. Vijayalayan from ODA-PHFP. Mr. R.S. Mishra, Assistant Director of Fisheries (Marine), Kujong, and Mr. S.N. Sircar, Assistant Director of Fisheries, Ganjam, moderated the final day's sessions for each

batch, when free and frank discussions were held on the application of the knowledge gained during the training programme vis-a-vis the needs of the small-scale fisherfolk by NGOs and Fisheries Department officials.

The participants were enthusiastic to utilize the knowledge gained, and indicated that when they got back to their field locations they would make efforts to identify the post-harvest

needs of the fisherfolk and come up with viable and useful proposals.

ODA-PHFP acknowledges with thanks the co-operation extended by all the officials of the Fisheries Department of Orissa.

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Report on exploratory phase ICSF Programme on 'Women in Fisheries'

THE exploratory phase of the "Women in Fisheries" (WIF) Programme of the International Collective in Support of Fishworkers (ICSF), which commenced in 1993, ended in June 1994. The final report covering this phase, submitted by the international coordinators Nalini Nayak (India) and Cornelie Quist (Netherlands), has been released by the ICSF Secretariat in Madras, India.

The WIF Programme was initiated by the ICSF following meetings of fishworkers in Rome (in 1984) and Bangkok (1990), when the role of women in fisher communities was among the subjects discussed. Implicit in this is the acknowledgement of the fact that the ongoing capital and energy-intensive, technologically aggressive and environmentally destructive development of fisheries cannot be sustained from the resource and social points of view. Crucial to this change is the evolution of "nurture" and gender-just fisheries.

It is generally accepted by the ICSF that for a variety of reasons the otherwise creative potentials of women have hardly been channellized for their own advancement and that of the community. The WIF Programme was launched to indicate ways and means by which this can be adequately understood and changed. The long-term and medium-term objectives to facilitate the evolution of the programme, as outlined by the ICSF, include the following:

Long-term: To strengthen the participation of women in fishworker organizations and decision-making processes at various levels. Means of empowerment and creative involvement in the production and organizational processes will be worked out to

make this possible.

Medium-term: Among the objectives are:

- studying the history of women's role in fisheries (the sexual division of labour), and recording their struggles against marginalization, if any
- documenting the impact of development activities (under the aegis of the State and the private sector) on women in fisheries
- working with concrete development alternatives in different regions, at different levels, in income generation and resource management
- interacting with fishworker organizations and helping to evolve an understanding towards gender equality and nurture-oriented fisheries.

Reprinted from VOICE OF THE FISHERFOLK, Newsletter of the Asian Fisherfolk Consultative Assembly of ACFOD, Bangkok - No. 6, August 1994.

Role of coordinators

Under the programme, a country coordinator was made responsible for coordinating the activities in each country in close collaboration with the local ICSF members. The role of the two international coordinators is to provide inputs (such as information, local visits and discussions) to the country coordinators; to organize workshops to exchange experiences and methodologies; and to work for a clearer understanding of women's role in changing the present fisheries scenario.

The countries initially chosen for the programme included the Philippines, Thailand, India, Senegal, Spain, France and Canada. The first, exploratory phase commenced officially in January 1993 with the appointment of the international coordinators,

The country visits under the ICSF-WIF Programme to India, Thailand, the Philippines, Senegal, France and Spain revealed that there is little information available about women's role in fisheries and the changes resulting from development processes. It is understood that there is a distinct sexual division of labour in fisheries, where the activities of men are primarily sea-based and those of women mainly land-based. Although the role of women is most visible in the post-harvest activities (such as auctioning of the fish, fish processing and market vending), they also play a role in pre-harvest and harvest activities,

As a result of technological developments in fish capture, men now spend even longer periods at sea, leaving the women with all the responsi-

bilities on the land. For the women this often leads to an increased work load, and makes it more difficult for them to be away from home to expand business or find regular employment.

In all the countries surveyed, women are losing their traditional role in net-making, as fishing nets are now industrially produced. Only when women's labour is cheap enough to compete with machines do they continue in this activity,

The report says that "women generally lose control and/or access to means of production in fisheries. Women are also largely under-represented in the decision-making levels of society, which contributes to their marginalization and limits their opportunities for change.... Nevertheless, women are not passive victims, but undertake actions to achieve improvements in their situation."

The WIF Programme report briefly discusses the ongoing programmes in six countries: the Philippines, Thailand, India, Senegal, France and Spain. It introduces the partner organizations in these countries, and reports on the work undertaken in 1993 and the plans for 1994.

Achievements

The concluding chapter of the report deals with the reflections of the two international coordinators on the programme. The achievements of the first year listed by them include:

- A greater interest in the role of women in fisheries. The WIF Programme has succeeded in initiating an awareness process on the

important role of women in fisheries, not only as supporters but also as workers/producers.

- The formation of WIF core groups in India and the Philippines, and a WIF support network in Thailand. These will ensure the continuation of the programme.
- The identification of potential women leaders and possibilities for developing the WIF Programme in scope and content.
- Contacts between the fishworker organizations and the women's movement in the Philippines and Senegal.
- Discussions on gender relations in the fishworker movements in India and Senegal.
- The initiation of an ICSF support group in Europe to promote discussion on an alternative fisheries development.

The international coordinators say that it was "certainly a worthwhile challenge that the ICSF took in launching the WIF Programme despite initial funding problems.... We may sum up by saying that some seeds have been sown which will require time to germinate and take root. Nurturing these seeds is an important task. The ICSF should continue to support the country programmes. Canada and Ghana should also be included, as some processes have been initiated in these countries."

An annex to the report includes study outlines that could assist those interested in pursuing deeper studies on the role of women in fisheries.