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Overseas Development Administration

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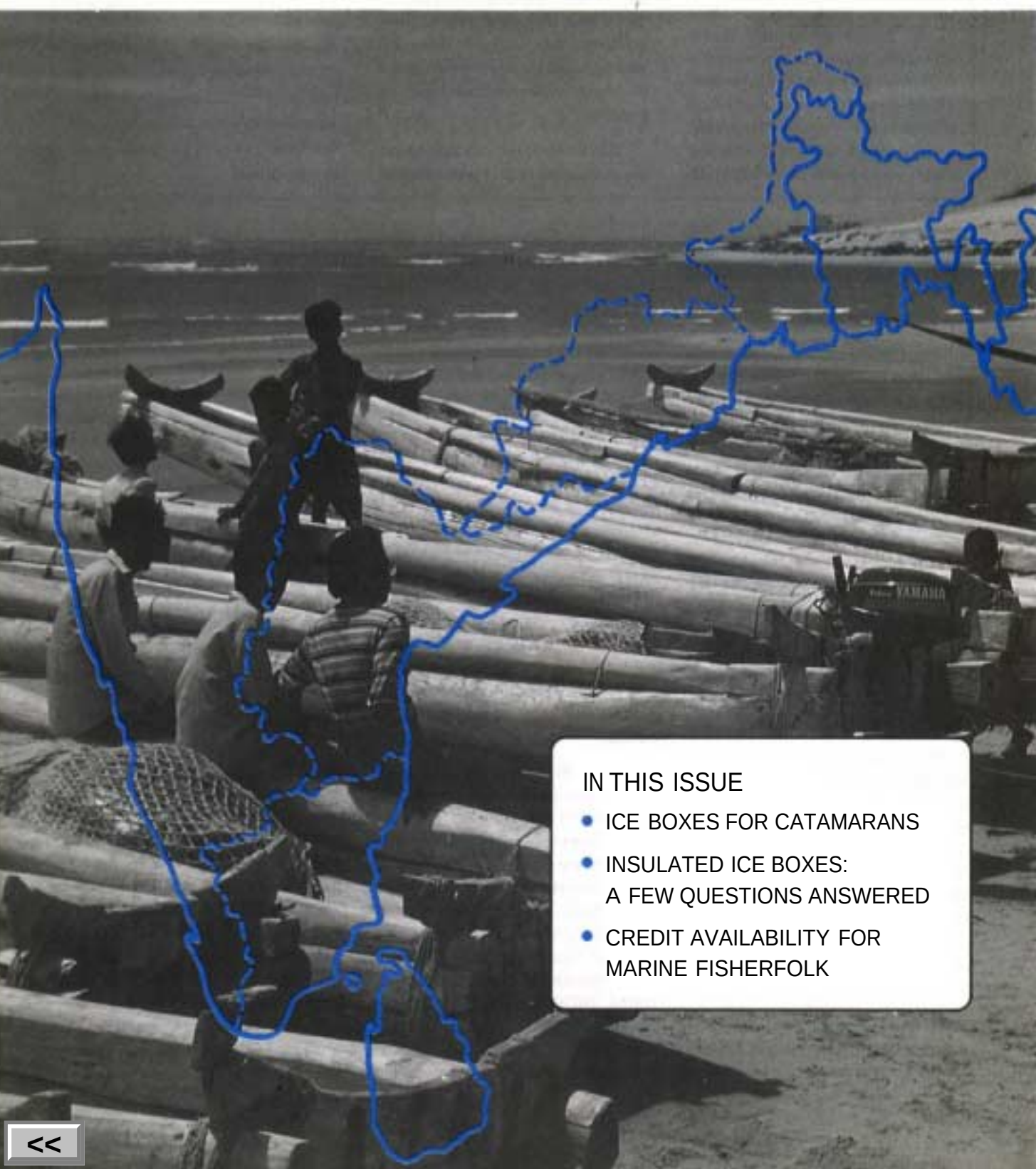

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Editorial

USE OF ICE AND INSULATED BOXES

The benefits of using ice is being reflected in the demand of fishing communities for the provision of ice at the beach level and ice is increasingly seen as an essential commodity by traders and fishermen. There has also been a gradual change in attitudes towards iced fish and fish qualitywith prices reflecting the premium quality of ice fish which has begun to stimulate interest in insulated ice boxes for storage of ice and for fish marketing purposes. Although small-scale artisanal fishermen and fisherwomen vendors are more willing to invest in boxes and ice they still represent a considerable investment. Therefore, any initiative must still demonstrate the wider technical, social and economic advantages of using ice and insulated ice boxes if the uptake of these interventions are to continue.

The ODA-PHFP is focusing on the development and promotion of simple low-cost insulated ice boxes for use on shore and on non-motorised craft, especially catamaran craft fishermen along the East coast of India. In Sri Lanka insulated ice boxes have been developed for the cycle traders who play an important role in the informal fish marketing sector throughout the island. The project also continues to provide advice and training to non-government and government agencies on the use of ice and insulated ice boxes for handling and storing of fish.

News from the Region

INDIA

Rural Organisation for Social Action (ROSA) has been able to secure funding for the purchase of tricycles for petty fish traders based in the fishing villages located close to Tarangambadi. ODA under the British Partnership Scheme has provided funding. The tricycles would facilitate market access for these traders whose livelihoods depend on speedy access to the local urban centres. In this connection, ODA-PHFP coordinated a visit by Ms Veronica managing trustee of ROSA to the village of Perikuppam in Chengai-MGR district to study the manner in which operations of the tricycle provided by ODA-PHFP is managed.

The Natural Resources Institute (NRI) has started a training programme on the use of participatory techniques for the staff of the Central Institute of Fisheries Technology (CIFT). Mr Ansen Ward and Ms Victoria Papadopolous of NRI visited the office of ODA-PHFP in this connection. A short training course was conducted between the 10th and 15th of June for which ODA-PHFP staff provided inputs.

Ms Ann Gordon and Ms Ann Gray of the social sciences group of the NRI ware here in India to identify market research problems that had a direct impact on the field. These studies will form part of the Renewable Natural Resources Research Strategy funded by the ODA. A few areas have been identified for research, which will be taken up over the next three months.

The Twentieth Advisory Committee Meeting of Bay of Bengal Programme was held in Malaysia. A report of ODA-PHFP activities for the year was presented at the meeting. Bangladesh emphasised the need to strengthen the existing cooperation between ODA-PHFP and the Coastal Fisheries management Project. Sri Lanka requested the expansion of the ODA-PHFP activities to cover the entire market chain through addressing the post harvest needs and concerns at fish landing centres and fish marketing outlets.

Mid term assessment of project impact was undertaken by Mr Jock Campbell of International Maritime Management Limited, United Kingdom. He visited the villages where the project has undertaken post harvest interventions. His reportwas submitted to the ODA. A follow-up visit by a two-member team from the British Development Cooperation Office, Delhi (BDCOD) has just been completed. The team has submitted a draft report to higher authorities in Delhi and London for comments.

BANGLADESH

A delegation from the Drip Unnayon Songstha (DUS), a partner Non Governmental Organisation (NGO) of the project in Bangladesh visited Santhidan another partner NGO in India. DUS is operational in Hatiya island where it operates a boat-based community transport system which carries fish to the mainland and on return brings supplies. Santhidan which is operational in Kanyakumari district of Tam ilnadu, has been promoting the use of drying racks through identification and accessing niche markets for improved fish products. The purpose of the DUS delegation's visit was to study the market interventions that have been made in the fisheries sector by NGOs. Afew ideas have been generated at the end of the visit.

SRI LANKA

One of the project staff attended the tenth working party of Fish Technology and Marketing organised by the Food and Agriculture Organisation in association with the national Aquatics Research Agency. The staff member presented two papers. One paper gave an overview of the project while the other underlined the process approach adopted by the project using the introduction of an improved smoking bin as a case study.

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OF ICE BOXES AND CATAMARANS

The catamaran is the most common craft used by artisanal fishermen who operate on the east coast of India. For most part, fishing done using this craft is restricted to the inshore waters where small pelagics form a major part of the catch. The income generated from such fishery is rather low. Prawns being an exportable species has now become the major source of income. Unit values of prawns being what they are, any loss sustained during the season has a direct bearing on the income of the fisherfolk.

In order to reduce losses, an ice box was designed for use onboard a catamaran. The present article seeks to bring out the results of a study conducted in Manapad village in Tirunelveli district of Tamil Nadu. For this purpose we have used case studies of Mr Marconi and Mr Edison, two fishermen who took part in the trial. Mr Marconi was given an ice box, thus formed part of the target group, while Mr Edison formed part of the control.

Snugly on board

The box...

The box design is very simple. Five pieces of thermocole enclosed in a boxed shaped bag of laminated tarpaulin was stitched together. An inner lining of aluminium sheeting was bonded to the tarpaulin with metal paste. The box opened at the top with a plastic zip used as a fastener. The zip itself was protected from sand particles fouling the runners by a flap of tarpaulin that was held down with a Velcro arrangement. A drain hole at the bottom, with a one inch brass pipe extending half an inch out of the box with a screw type stopper, was provided.

Manapad Fishery...

The fishing season in Manapad extends from September to March. The prawn season starts from around mid June and extends till the end of November. During the months of October and November, squids are the major catch. During rest of the fishing season, the fishermen use gill nets for the capture of small pelagics such as mackerels and sardines. The period March to May is treated as the off season.

Marconi

A proud owner of a catamaran, Marconi operates from Manapad. He has a six log catamaran fitted with an outboard motor. He possesses a gear combination of a trammel and gill net. Till aboutayear ago Marconi had been a crew member on board a catamaran of Darsis. He had saved enough to make his contribution towards the purchase of a catamaran. The balance having been met by the local fishermen cooperative, which had in turn obtained refinance from the Apex federation.

The gear combination possessed by Marconi is such that his fishing activity is limited to the capture of prawns, mackerel and sardine. The prices fetched for mackerels and sardines in Manapad is rather low. Price of sardines range between Rs 5 and Rs 25 per 100 and that of mackerel between Rs 0.50 and Rs 1.50 per piece. "Almost seventy five percent of my income comes from the sale of prawns" says Marconi. Therefore losses sustained during the prawn season has a direct bearing on the cash surplus obtained during the course of the fishing season.

To meet consumption requirements, Marconi had taken a loan of Rs 6000 at Christmas from Kamilas, a local trader, who procures prawns on behalf of various marine export companies based in Kerala State. The understanding between Kamilas and Marconi is that he (Marconi) would supply prawns by the kilogramme to Kamilas at pre fixed prices, the amount being paid after a week. Not all the prawns brought by Marconi is accepted by Kamilas, a few are usually rejected if they do not meet minimum quality standards of the company.

Edison

Unlike Marconi, Edison has a eight log catamaran fitted with an outboard motor. His craft is however almost the

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same size as that of Marconi with a few logs being of a smaller girth. The gear combination that Edison uses is the same as Marconi. Consequently he faces the same problems as that of Marconi with his fishing season being limited to about seven months during the year. His main source of income as with Marconi is the prawn season. Edison had also purchased his craft and gear using resources provided by the Apex federation.

Edison like Marconi had taken a loan of Rs 7000 from a prawn trader Vanitha, during christmas to meet consumption requirements. He is obligated to sell to Vanitha, who paid him more or less the same price as Kamilas did to Marconi. At the start of the season, the value of prawns sold by both Marconi and Edison were more or less equal, with both parties reporting rejection of about 30 to 40 percent of the prawns landed.

Prawn season of '95

The 1995 prawn season, unlike the previous season, was very bad at Manapad. Only on 50 per cent of the occasions when Marconi and Edison set out with a trammel net were they able to capture prawns (table 1). Only extremely small quantities of prawns were landed by the catamaran operators in the village. The size of the individual prawns were also very small, this had its effect on the count.

Both Marconi and Edison had a fairly bad season with their average per day monthly landings not exceeding 2 kg (table 2). In 1994, the average monthly landings was between 20 to 25 kg.

Trials

As mentioned earlier, an ice box was given to Mr Marconi in last week of June 1996. The box was put to use right away with the prawn season having started. Marconi faced some problems initially in handling the box. He pressed the plug into the drain hole rather than screwing it in. This resulted in the leakage of water from the box whith he did not notice said Marconi by way of explanation when we found that 250 gmsof prawns was rejected after we had given him the box. We then advised him to ensure that the plug was properly threaded onto the nozzle before screwing it in. At the end of the trial, on no other occasion did Marconi ever face a rejection of the prawns he had brought for sale to Kamilas.

Table 1 NUMBER OF DAYS WHEN ATTEMPTS WERE MADE TO CAPTURE PRAWNS AND NUMBER OF DAYS WHEN PRAWNS WERE LANDED

	MARCONI		EDISON	
MONTH	FISHING	LANDED	FISHING	LANDED
JULY	8	6	11	6
AUGUST	8	7	7	4
SEPTEMBER	8	5	10	7
OCTOBER	7	3	10	9
NOVEMBER	6	6	3	3

Table 2 AVERAGE QUANTITY OF PRAWNS LANDED PER DAY PER MONTH

	MARCONI	EDISON
MONTH	QUANTITY (in kgs)	QUANTITY (in kgs)
JULY	1.53	0.56
AUGUST	0.88	0.54
SEPTEMBER	0.24	0.38
OCTOBER	0.53	0.15
NOVEMBER	1.13	0.33

As light as ever

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Besides rejection, the weight loss due to dehydration of prawns after capture was reduced considerably. "The very appearance of the prawns is the same as when we take it off the net said Marconi when we met him during our qualitative study". "The size of the prawn is bigger when I reach the trader unlike in the past when it shrank in size by the time I got to the shore said Marconi". However Kamilas was not a happy man. For in the past he would place the prawns in water, which was absorbed into the body of the prawn, resulting in a gain in weight which he cashed on. Now he had to pass on this gain to Marconi. He was not ready to meet us when we went in search of him.

Edison's tale of woe

Edison, on the other hand, faced a situation where about 30 per cent of the prawns were rejected by Vanitha. The reasons given for rejection varied from the out right spoilage to breakage of the outer shell. The average loss per day was 10 grams. The prices that prevailed in the '95 prawn season varied from Rs 350 to Rs 450 per kg, which in value terms worked out to Rs 3.50 to Rs 4.50 per day for Edison.

At the start of the prawn season, the quantity of prawns rejected by Vanitha was rather low. This was attributed by Edison, to the fact the landings in the other parts of the state were low and quality standards were lowered by the exporters to increase the level of procurement. But in August and September, landings increased, and with it the quantity rejected also increased. Both Edison and Marconi complained that they faced increased rejection whenever landings went up, as their respective traders were unable to procure all the prawns. However, Vanitha said that Royal exports, for whom she procured prawns raised quality standards when landings improved. Consequently, she had to raise her standards if she was to stay in business. For Vanitha, quality was a reason used by the players in the supply chain to control the procurement process.

In FRP at Orissa

Of fibre glass and canvas...

When we visited Manapad in mid November, the boxes had been used by Marconi for a period of 45 days. Besides the problem with the drain hole, he faced other problems in handling the box. The bottom of the box was torn said Marconi when one of the crew members dragged it on the sand. The stitches had given way leaving the insulation exposed at places. "The ice is completely melted complained Marconi by the time we reach the shore". I believe its the atmospheric heat entering the box via the opening he said. "A box made of tougher material is what we need". What about fibre glass but that will cost more. "I am willing to anything between Rs 1000 - Rs 1500 replied Marconi". How about the present box- would you pay 50 per cent of the cost we asked. A resounding, yes, was what we got for an answer. Edison who was present demanded a box on the grounds he had patiently provided data over the past months.

— **GEORGE MATHEW & N. VIJAYALAYAN**
ODA-PHFP. Madras.

ICE BOX FOR CATAMARAN'S - TRIALS IN ORISSA

An ice box meant for catamarans designed by ODA PHFP is currently undergoing trials at Chandrabagha in Orissa. The box is made using Fibre Reinforced Plastic (FRP) with thermocole as insulation. The box has a capacity of around **30** Kg. A drain hole with a plug type stopper has been provided. (See above picture toget a better idea) The box is primarily meant for the storage of prawns. Initial results of the trials conducted have shown that the box is seaworthy and does not affect the stability of the craft. It is estimated to cost between Rs. 1200 to Rs. 1 500 when produced on a commercial scale.

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INSULATED ICE BOXES: A FEW QUESTIONS ANSWERED

Use of ice is on the increase in traditional sector as more and more varieties of fish find profitable markets within and outside the country. Motorisation and specialized gears have contributed to the need for proper icing of the catches at the time of capture itself.

The ODA Post Harvest Fisheries Project (PHFP) has been involved since 1988 in identifying/designing and promoting suitable insulated ice-fish containers for the various artisanal fishing craft on the east coast of India. In the process, the activity has grown to include five boxes of different sizes that have been designed for use on various traditional crafts, and 2 varieties of ice boxes for using onshore for storage of ice and fish. In fact, the activity has grown to an extent where any of these boxes can be adapted for use in different contexts at different places for improving the quality of preservation. This also, naturally, led the Project to look in-depth into aspects other than strictly technical and economic ones, and modify the activities accordingly, to suit the target communities.

Information on various aspects of the use of ice and ice boxes is still rather sketchy for most fishermen, planners and extension workers, and here an attempt is made to answer some of the most general questions.

Q. What is an insulated ice box?

A. Insulated ice box is no more than a variation of the thermos flask, which is widely used. It does not allow heat to penetrate inside, nor allow the inner temperature to escape through the walls. Just as a thermos flask can only retain the liquid at the temperature it was poured in, for sometime, the insulated ice box too can retain the temperature within the box constant over a period of time, but, by itself, cannot bring down the temperature or produce ice.

There are different insulation materials (for more information, read the PHFP leaflet on "Insulated Fish Boxes-Types, Specifications and Usage"), but styroform and poly-urethane foam (PUF) are more generally used. In constructing an insulated box, the insulation material is embedded between two walls of water resistant material, like fibre glass (FRP, also known as GRP), High Density Poly Ethylene (HDPE), and, at a more local level, galvanised iron (GI), or wood. For embedding the insulation material in between the walls, two methods are adopted: in the more general and easier method, sheets of insulation material are arranged in required shape and the walls - of FRP, GI etc.- are built up around them. In the second method, which requires machinery as well as expertise, the walls are constructed first, and the insulation material, in liquid form, is injected in between the walls, which then froths and solidifies, leaving no air gaps. For the laying up of the outer-and inner-walls, the easier method would be to apply directly the shell coat on the insulation material itself, but a more efficient method would be to have moulds constructed.

Q. What are the problems with the 'traditional' boxes?

A. Before answering this question, one point needs to be clarified. The so-called 'traditional' boxes have come into existence based on a genuine need felt by the fishermen themselves. The boxes serve a useful purpose, because they were made to address a particular need. In most areas, the wooden or GI boxes are so efficient that there is every little need, or scope - in terms of economic returns - for introducing an improved container. This clarification is also necessary, since the feeling in some quarters is that ice boxes are an alien concept, and are not practicable for carrying on traditional craft. The boxes designed in the recent past are, at best, improvements on already existing designs, or are designed based on a need felt by the fishermen themselves.

Now, coming to the problems with the 'traditional boxes', as often felt by the fishermen themselves, one of the major problems is their short life-span. Secondly, they can retain ice without melting for a limited period, requiring constant re-icing to retain the quality. Thirdly, the wooden

From onboard - onshore

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boxes are very heavy and also, after a few days of use, become soggy and harbour various micro-organisms which not only enhance spoilage rate, but also could be quite harmful.

Q. What makes the best ice box?

A. The best ice box obviously is one which retains ice without melting for the longest period. More importantly, the best ice box is one which serves the purpose adequately and be economical. Ice boxes made of FRP and HDPE are many times better than a GI or wooden box, in terms of performance, longevity and efficiency. The average life of a sea-goingice box of CI or wood is a maximum 2 years, where as an FRP box, if properly looked after, can last upto 12 years. Considering the FRP box, while costing about 3 times as much as a GI or wooden box, also lasts six times as long, it is simple arithmatic to see the savings from it.

A good ice box is one, which

- can hold all sizes of different varieties of fish caught by the fishing craft;
- can fit into the craft, without impeding the crew in their regular work;
- can withstand rough, sea conditions, be rust proof and does not get easily damaged due to pitching and rolling while on board and while handling on shore;
- can retain the ice (and fish) long enough to land the catch in prime condition;
- is light in weight and can be easily handled by the crew on board as well as on shore;
- is preferably fitted with a drain hole (with a plug) and has as few metal fittings - such as clamps, screws and bolts - as possible;

Q. Does a good quality, and consequently, expensive box require as much care as a 'traditional' box in usage and maintenance?

A. A common assumption among the fishermen as well as the extension workers seems to be that since the FRP or HDPE boxes are many times as expensive as a locally-made box, it requires less maintenance than a less expensive box. On the contrary, all ice boxes, and the expensive ones more particularly, require constant attention and maintenance. For ensuring the longevity of the box, certain precautions need to be taken:

- the boxes should not be exposed to direct sunlight or heat. When they are being used on the craft during day-fishing periods, the boxes will have to be covered with a wet gunny sack, which has to be wetted at frequent intervals. They must be placed in the shade (under the nets or under the tarpaulin canopy etc.), and away from the engine. If not properly shielded from sunlight, the plastic boxes have a tendency to expand, and the differential rates of expansion of the PUF and the plastic walls would generate air gaps in the shell, which brings down efficiency. In the initial period, plastic would regain its original position when temperature is brought down, but after a point of time, elasticity of the plastic is lost for good, and the bulge remains permanent, disfiguring the box and making it difficult to fit the lid properly on the body.
- the boxes must be constantly checked to see if there is any seepage of water inside. Water can enter into the body of the box in different ways: it could penetrate through the holes pierced through the body for insertion of bolts; it could enter through improper sealing of the walls, for example, where the drain plug is inserted into the body; and, it could enter through external and internal damages to the box, such as cracks etc. sustained due to rough handling etc. Water inside the walls is very damaging for many reasons: it brings down efficiency drastically, it brings down longevity of the box, and it increases the weight of the box inordinately. If seepage of water into the body is detected, the box should not be used until the water is removed and the entry point sealed properly. Seepage of water inside the box has been the most important cause of failure of the ice boxes in the traditional sector.
- ice cannot be carried in blocks into the sea, and powdered

Mullets after 48 hours

there. Block ice damages the box as well as the fish, as many fishermen learned through experience. Crushed ice only need be carried on the box. It has been found that in most instances, for lack of space on board the craft, ice is crushed within the box itself, and this damaged the box, in some instances irreparably. Crushed ice, though it gives the appearance of solidifying when kept in the box, is not hard to crack, and does not cause any damage, either to the fish or to the box.

— as already mentioned, ice box can only retain fish at a certain temperature provided by the ice within the box, and frequently opening the lid would bring up the temperature every time the box is opened, thereby accelerating spoilage rate. An ice box, with ice and fish, should be opened strictly when required, and kept closed at all other times.

— the metal clamps etc. provided in certain boxes have so far proved to be inefficient to withstand the saline environment, and are lost very quickly. The best option would be to get rid of all metallic fastenings, and use some locally available materials like ropes, rubber tubes etc. for the purpose.

In conclusion, a properly constructed and well maintained ice box is definitely a valuable acquisition, which could increase a fisherman's income some times by as much as 80 percent. At the same time, if not well taken care of, the box could turn out to be a white elephant, making a sizeable hole in the average fisherman's not-too-large pocket with no benefit at all.

— **VENKATESH SALAGRAMA**
ODA-PHFP, Kakinada

Opportunities for the Traditional Post Harvest Fisheries Sector in India

The Natural Resources Institute in the UK is collaborating with the ODA Post Harvest Fisheries Project and other Indian organisations in carrying out a research project to identify income increasing opportunities for members of traditional fishing communities involved in fish processing and handling activities in India.

The project arose from a recognition that demand for fish in India has risen faster than supply over the past 10-20 years, and that mechanisation and an increase in the export market has disproportionately favoured those with access to capital and markets, with two principal negative effects;

- firstly on local poor consumers whose access to the fish for consumption is reduced as a result of higher prices,
- secondly on artisanal fish distributors, who face rising costs both in procurement and marketing. Procurement costs are increased by higher price of the fish at the landing combined with increased centralisation of the fish landings which means that fish has to be procured from greater distances. Furthermore, the enlarged size of the landings more often requires bulk purchases for the handling for which many artisanal distributors lack the financial resources and the relations of co-operation among themselves (Meynen, 1989)2. On the marketing front, increased investment costs associated with supplying the large urban markets (transport, storage etc.) often cannot be met by many artisanal fish distributors, who are then in danger of being squeezed out by those who operate on a large scale.

The research, which will take place over an 18 month period, will be carried out as a series of marketing and feasibility studies undertaken by various Indian organisation. It is hoped that the findings will give an indication of fish processing and handling activities which have market potential and are accessible to low-income groups in traditional fishing communities. Besides providing an analysis of market opportunities and the requirements in terms of infrastructure, labour, capital, skills and market contacts.

On completion of the research, a workshop will take place in India to discuss the results with collaborators, organisations representing the interests of target fishing communities and organisations experienced in producer marketing initiatives. The purpose of the workshop will be to develop a strategy for increasing value added to fish products in the fishing communities themselves, and identify sites for pilot-scale implementation by participating organisations.

Such a strategy will require a multi-faceted approach, taking into account broader social and political economy issues such as the need for a degree of organisation among target communities and reduced indebtedness, as well as, the technical issues of handling and marketing. To ensure this type of approach is taken, the project will work with a wide range of organisations, including NGOs and producer organisations, as well as, fisheries experts in the ODA Post Harvest Fisheries Project and the Central Institute for Fisheries Technology.

An NRI economist visited India in March to meet with various organisations involved in fisheries activities and identify areas for research. The next phase of the project will be the commencement of marketing studies in June-july of this year.

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[1]Meynen, W. 1989. Contradictions and constraints in Fisheries Development: Capital, Artisanal and Shrinking Resources in Kerala. Institute of Social Studies, Working Paper Series No. 51.

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Credit Availability for Marine Fisherfolk

Credit is an important input required by fisherfolk for consumption and production purposes and it plays a crucial role in their livelihood. Fisherfolk have problems in accessing formal sources of credit due to various factors related to administrative and transaction costs. They tend to rely more on the informal sources of credit, from traders, moneylenders and others. The ODA Post Harvest Fisheries Project address this problem by undertaking a catalytic and facilitative role in assisting fisherfolk to access formal credit sources, improving the channels for disbursement and working with the fisherfolk communities and non-government organisations to establish and implement informal sources of credit.

In order to assess the current demand for credit by fisherfolk for various purposes, the project commissioned a local consultancy group to study the credit availability of marine fisherfolk in Andhra Pradesh and Orissa. Credit usage was grouped under two categories, namely consumption and production purposes. The major consumption requirements are towards conducting marriages, expenses for illness, household expenses and education of children. Production requirements are for purchase of boats and nets, working capital for fishing and repairs! maintenance of boats and nets. The credit usage patterns in the two states indicated a higher use of credit for production purposes than consumption (see Tables 1 and 2). When the loans are less than Rs 10,000 the credit usage for consumption purposes increased whilst the credit usage for production purposes decreased proportionately which would indicate that for poorer, artisanal fisherfolk consumption needs are greater.

Table 1. Andhra Pradesh: Credit Usage in Andhra Pradesh and Orissa

Credit Source	Informal		Formal		Total	
Usages	AP	Orissa	AP	Orissa	AP	Orissa
Consumption	28	15	0	0	28	15
Production	62	66	10	19	72	85
Total	90	81	10	19	100	100

Table 2. Purposewise credit requirements by fisherfolk in Andhra Pradesh and Orissa

Purpose	Percentage of respondents in Andhra Pradesh	Percentage of respondents in Orissa
Consumption		
1. Daily household expenses	77.8	50.0
2. Medicine, drugs during illness	36.1	33.3
3. Weddings, social functions	66.7	40.0
4. House repairs	19.4	30.0
5. House construction	2.8	6.7
6. Children's education	0.0	3.3
7. Others	2.8	6.7
Produdion		
1. Repairs to fishing boats, nets	36.1	33.3
2. Purchaseofmachines	2.8	3.3
3. Working capital	63.9	30.0
4. Purchase of boat and nets	22.2	50.0

Formal sources of credit contribute between 10-19 percent of credit usage respectively in Andhra Pradesh and Orissa. This is in spite of a large network of financial institutions in both states. Institutional finance has been declining over the years for marine fisheries as the policy focus is now towards inland fisheries and aquaculture. Government agencies also play an important role in the provision of credit to fisherfolk. However, the reach and coverage of these government programmes, though well conceived, is very low among fisherfolk.

It was against this background that the ODA—PHFP held two workshops earlier this year in order to disseminate these findings at Bhubaneshwar, Orissa and Hyderabad, Andhra Pradesh. High level officials from the Department of Fisheries and other government agencies, as well as, credit institutions and the banking sector attended. In addition, there were representatives of non-government organisations working with fishing communities.

The various weaknesses and strengths of the formal and informal sector was discussed and these are

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Table 3

institution	Strengths	Weakness
Government	Financial and technical resources	Focus on aquaculture and inland fisheries
	Development mandate	Importance given to mechanisation results in over exploitation
		Marine production policies have led to conflict (livelihoods threatened)
		Subsidy linked schemes prone to patronage and leakage of funds
Banks	Wide network of branches	Poor outreach due to apathy to small borrowers
	Access to large funds	High transaction costs
	Access to government schemes and technical assistance	Insistence on collateral security for larger loans
Informal	Flexible lending outreach is good	Interest high and also made up through low prices for catch lack of transparency (no account books)
	Timely and adequate credit dependent on credit history and social pressure	Monopolistic competition due to collusion among traders
Development agencies	Innovative (self-help groups) and only ones reaching the fishing communities	Very limited in time given to credit programmes due to lack of resources.

briefly highlighted in table 3. Some of the suggestions on how to address this problem was that small consumption loans could best be met through fisherfolk self help groups promoted by NGOs which would provide an effective channel for distribution of small loans with very small transaction costs. Also, small credit needs for petty fish traders for fish marketing could also be addressed through self help groups which could be linked with branches of commercial banks. However, medium and long term loans for working capital and production needs are best addressed through the banking system on the basis of a saving history.

Meeting in progress

This workshop was instrumental in bringing together the various agencies working with fisherfolk communities and provided the forum to discuss the availability of credit to this group. The fact that many senior officials took the time to come to the workshop is a clear indication of the importance that they place on the topic. It brought about a greater understanding of the problems related to credit for marine fisherfolk and the difficulties faced by the respective institutions responsible for them. The ODA-PHFP, on its part, will continue to play the pro-active role of convenor and facilitator in bringing these points to the policy makers and credit institutions in the marine fishery sector.

– **Duncan King**
ODA- PHFP, Madras

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Mrs. PUTRAMMA: A PIONEER FISH PROCESSOR

THE creased face breaks into a chirpy smile, betraying a childish delight atfindinga new toy. A glorious zest for life, with all its vicissitudes, is visible on Kopanati Putramma's 80-year-old face. Metaphysics doesn't interest her, nor for that matter does plain physics.

"Fire is our friend; it has given us a livelihood. Why would it burn us?" she asks when someone mentions that hers was a hazardous occupation. To her, the trials that the Overseas Development Administration's Post-Harvest Fisheries Project (ODA-PHFP) conducted in the village were an elaborate game - and the newly designed fish-smoking bin was her toy.

Loading fish for smoking with her sister-in-law

Boddu Chinna Venkatayapalem is quite a mouthful for a name, but is in fact a small fishing hamlet on one of the numerous creeks of the river Godavari in East Codavari district of Andhra Pradesh. It is an area where fishing is good practically round the year, and fish-and shrimp-smoking is among the more important processing methods.

Kopanati Putramma claims credit for bringing fish-smoking into the area, and all other processors agree. There is hardly anyone who remembers how long ago she entered the village: a shy bride hanging onto the arm of her husband. He was a fisherman, noted for quite a few escapades both on sea and on shore; and she, after the customary period of pining for her native place, set about making a new home and two hearths-one for cooking their food and the other for fish-smoking. "I remember my mother-in-law going from house to house, complaining bitterly about the new generation showing scant regard for tradition and running after new fangled inventions," she recalls. "And when I showed her my first income, she wrangled a few pies for indulging her passion for another new fangled invention-watching films!" Putramma herself has always felt restless in a movie theatre, and cannot understand why people have to go to a theatre just to know someone else's story.

Putramma hailed from Pallam, in the lush Codavari delta area and considered to be the heartland of fish-smoking. "We had a mangrove swamp for the backyard, and a cowdung heap in the front," she recalls. Her mother was an expert fish-smoker, and marketed her product through one of her widowed sisters in the nearby markets. One of the tasks of young Putramma was to go into the mangrove swamps and cut firewood for use in smoking. "We never had any problem getting wood, and using dung cakes was unheard of," she says. Even now she avoids dung cakes as much as she can, and uses them only sparingly and with great reluctance. In between rearing her two sons and a daughter, Putramma managed to make her business not only work, but also flourish enough to make a few other - who, like Putramma, hailed from the 'smoking belt' - venture into getting their kilns going. It was a great disaster when her husband died from a mysterious ailment. Medical facilities in the area were almost non-existent, and the crude remedies never quite managed to keep him for long. With the mainstay of the family income gone, and three young children left to look after, Putramma somehow pulled herself together. She expanded her business, constructed a new hut for housing the smoking kiln, started financing the fishermen to ensure regular supply of catches, and brought her recently widowed sister-in-law in to manage the activity along with her. "All I had was a couple of hundred rupees, and there I was promising away thousands of rupees to fishermen against their catches! I don't know what caught me, but if I had failed I would

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have had to sell myself and the kids to make good on my promises, - she reminisces.

She managed to give the two sons enough education to get them government jobs, and to marry off the daughter into a respectable family in a neighbouring village. And when the daughter died giving birth to a girl child, Putramma brought the child to her home. With the two sons married and working in distant places, it was good to have someone to look after.

And her business saw her through. Mullets, shrimp, half-beaks, eels, croakers -in fact, whatever was landed in the village, she had the first option on them. Her name had become quite popular in fish-smoking circles, and traders came from distant places to procure her product directly from her. "Sometimes, for one full year I never needed to move out of the village to market my product. In fact, the demand for my product was so great that the processors would bring their product to me for sale."

The mid-eighties saw Putramma slackening the pace. "There were more processors now, and consequently more competition at the landing centres. And I wasn't getting any younger," she says. Gradually, she began to withdraw, encouraging her sister-in-law to take on the business, but assisting her in the effort.

Misfortune has a knack of getting at Putramma at fairly regular intervals. Death and disease are as much a part of her story as fish and smoke are. A very fit individual herself at all times ("I never had even common cold"), she spent most of her life nursing sick individuals. Her granddaughter, whom she got married when she was about 14 returned within months with a mysterious ailment, which was later diagnosed as tuberculosis, and her treatment proved expensive.

Weighing sawdust for trials

It was at this point of time that Putramma got involved in the trials conducted by the Overseas Development Administration's Post-Harvest Fisheries Project, which were aimed at designing an improved smoking system to suit the local practices and at the same time was more efficient. While she agreed to undertake the trials, and lend her smoking hut for the activity, she made it clear that she was too old to do the marketing of the product. Her sons had been requesting her to come and live with them, but she felt she had not quite reached the end of the tether to go and depend on others, even if they were her sons; and the trials provided her with a good excuse to delay her departure for a while.

Putramma was a very hard taskmaster, and the PHFP's field assistants, who were assisting her, dreaded her. Her commands were instantly obeyed and they got a through tongue-lashing if they made mistakes. When one of them proudly displayed a burn scar he had acquired during the trials, she lashed out. "I have been in this longer than you are on earth, and haven't a single scar. Don't forget that you are in this to market the smoked fish, not to smoke yourself." She took on the sneering villagers belligerently. "It might turn out to be utter rubbish, but how do you know it won't work? First try, then throw it out if it's worthless," she used to tell them. (For more details of the smoking story, see PHF News Nos. 2 and **4.)**

When the trials ended with the successful design of a smoking bin, and as the Project staff took leave of her, there were tears in Putramma's face. "I have become young all over again these last few months with you around," she told them, adding that her place was always available to the Project for any further activities-"even if I'm not here." The time has come for her to go to her elder son's place ("my final journey," she adds), though she is yet to know what it is to be old and infirm.

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