

POST-HARVEST FISHERIES

A manual of information and guidelines



POST-HARVEST FISHERIES

**A Manual of Information and Guidelines
for NGOs and Development Agencies
Working with Artisanal
Fishing Communities**

DFID
Department for International Development
Post-Harvest Fisheries Project
Chennai - 600 018, India.

Welcome to this book!

This document is a product of teamwork. Listed here are those who helped prepare it.

Not listed are the hundreds of fisherfolk and animators who co-operated with the project in its activities, and who contributed generously with ideas, insights and experiences.

Not listed are the project's partner agencies – government and non-governmental organisations – to whom we owe a great deal, and who are mentioned several times in the document. To all of them, our heartiest thanks.

Management Team

Duncan King, Project Field Manager

Steve Jones, Consultant and Workshop Coordinator

Staff Team

George Mathew, Social & Economic Unit

Venkatesh Salagrama, Field Liaison and Extension Officer, Andhra Pradesh & Orissa

Ms C. Mohana, Training Officer

Ms B Gomathi, Women-in-Development Officer

Ms Meera Sundararajan, Social & Economic Unit

Binod Mohapatra, Local Project Officer, Orissa

Abul Kashem, Project Officer, Bangladesh

Ms Shamima Nasrin Mili, Women-in-Development Officer, Bangladesh

Chandra Silva, Project Officer, Sri Lanka

Editing Team

S R Madhu, Editorial Consultant

S Jayaraj, Artist

A Gunasekaran, DTP Consultant

For more copies of this book, and other publications from the Project, enquiries should be sent to:

DFID, India
British High Commission, Delhi
50-M Shantipath (Gate No 4 Niti Marg)
Chanakyapuri New Delhi 110021

About this book

This is a book of guidelines for NGOs and development agencies that work with artisanal fishing communities. It may also be useful to people who run small-scale enterprises related to the handling and processing of fish.

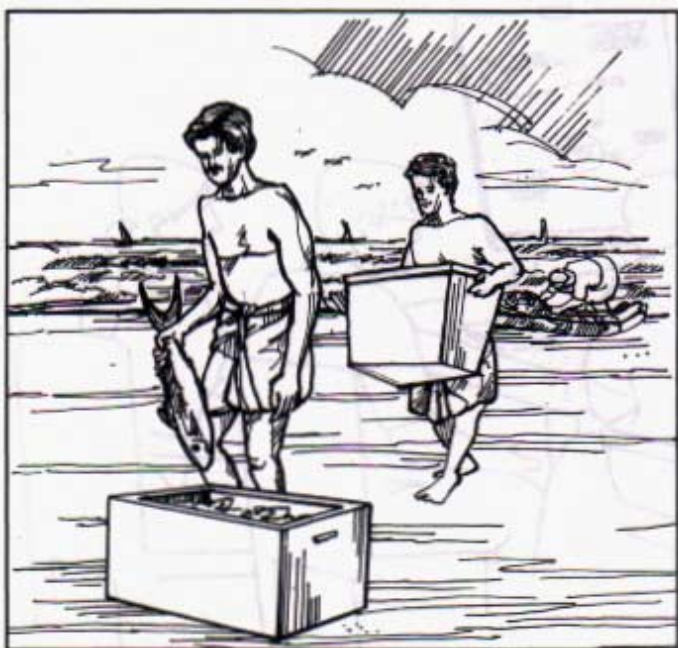
The book reflects the experiences and observations of the Post-Harvest Fisheries Project of the UK's Department for International Development (DFID-PHFP). The Project has been active among small-scale artisanal fishing communities in India, Bangladesh and Sri Lanka.

The book provides background information and case studies, discusses current technologies and practices, problems and possible solutions. It offers guidelines and checklists. It encourages a holistic and integrated approach among agencies that work with small-scale fishing communities.

The book distills the learnings from nearly 11 years of Project work with artisanal fishing communities, NGOs, development agencies and governments in the three countries. It also draws on the findings of other projects and agencies.

The book is divided into three sections:

- A descriptive overview of post-harvest fisheries with special reference to India, Bangladesh and Sri Lanka.
- Community institution-building, human resource development, and gender.
- Enterprise development in small-scale fisheries: Technical issues, marketing issues, credit and finance, monitoring and evaluation.



Section 1 outlines the relevance of post-harvest fisheries and its current status in India, Bangladesh and Sri Lanka.

Section 2 covers three areas: methods for institution-building in rural communities; training principles and methods; and women's issues. It discusses how a project can help the process of institution-building in a community. There is a detailed description of the project's rationale, methodology and experiences concerning training and women's issues. There are case-studies relating to all three areas.

Section 3 on enterprise development discusses topics a small-scale entrepreneur should be familiar with before getting into PHF. It deals with technical, marketing and credit issues, the whys and whats of monitoring and evaluation. There are several case studies, and some notes on the project's publications.

The book is based on the project cycle management approach. It emphasises the importance of the interlinked and inter-related nature of problems facing fishing communities. The narrative is illustrated with case-studies on both project and non-project activities.

Development is, of course, too complex a phenomenon to be guided entirely by a book or a "manual". The Project approach recognises the complexities of development. But we believe that the information we have provided, the principles of participatory learning which we have outlined and the experiences we have documented may help an understanding of issues, problems and prospects concerning post-harvest fisheries interventions among small-scale fishing communities of India, Bangladesh and Sri Lanka.

We hope that such an understanding leads to more effective interventions to help small-scale fisherfolk communities.

How this book was developed

This book reflects the combined effort of the Project staff and consultants, NGOs and partner agencies.

The Project held a workshop in Chennai in November 1996 to discuss lessons from its work with fishing communities. Some 30 delegates took part – project staff from Chennai, Kakinada, Bhubaneswar, Dhaka and Colombo, plus representatives from four of the Project's partner NGOs – ROSA, Santhidan, COPDANET and INASIA. Mr. Steve Jones from Coverdale Consultants, University of Swansea, Wales, UK, acted as facilitator.

It was agreed at the workshop that a book of guidelines should be prepared on effective development interventions among fishing communities. It would serve as a manual for NGOs and other development agencies. The book would follow a holistic approach and discuss both technology and socio-economic issues including credit. It would contain many illustrative case-studies. It would be based on the project's learnings, lessons and observations.

Many chapters were prepared in draft form during the five-day workshop and put together after the workshop was over. The draft book was reviewed and edited by an editorial consultant. Some chapters were rewritten by the original authors. Additional sections were prepared, on



the basis of known knowledge on the subject. Sketches were commissioned to illustrate the text.

The resulting draft was reviewed at a second workshop in January 1998, with Mr. Steve Jones again serving as facilitator. The workshop's comments were incorporated, and the book was edited once more and finalised.

This book is meant to assist thinking, debate and discussion, and action, on development issues concerning fisherfolk communities – with a special emphasis on post-harvest issues.



About the DFID-PHFP

The Project started in 1987. Based in Chennai, it covered three countries: India, Bangladesh and Sri Lanka. Phase I of the Project ran from 1987 to 1989, Phase II from 1989 to 1992 and Phase III from April 1993 till March 31, 1998.

Project outputs:

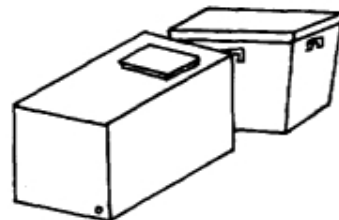
- To reduce post-harvest losses of fish; to develop low-cost improvements in handling, processing and marketing fish.
- To enhance the incomes and savings of artisanal fishing communities and petty fish traders in India, Bangladesh and Sri Lanka through post-harvest activities.
- To help increase the diversity of fish products marketed by these communities.
- To strengthen the ability of NGOs and fisherfolk associations to replicate and secure sustainable benefits from project activities,
- To provide technical support, advice and training to government and non-government organisations, fisherfolk associations and women's groups.
- To disseminate project experiences and learnings among institutions concerned.

Project field locations: 60 villages in India, Bangladesh and Sri Lanka.

Partner agencies: A few score NGOs plus government departments in the three countries,

Project activities:

- Introduce and extend improved post-harvest methods, such as use of ice on board and on shore, racks for fish drying, simple methods for improved fish smoking and value-addition.
- Encourage self-help groups among women petty fish traders and processors, to improve their knowledge, skills and self-confidence, their ability to earn, and strengthen their participation in their own development, through enhanced access to public- and community-managed transport systems and formal and informal credit.
- Exploring opportunities for increasing incomes of small-scale fisherfolk by bringing under-valued varieties of fish into utilisation.
- Strengthening the abilities of partner agencies – GOs and NGOs – to undertake post-harvest programmes in the fishing communities, through training trainers, networking and coordination, providing support for pilot activities, and providing advisory support on marketing.
- Information dissemination: newsletters, advisory leaflets, information bulletins and video films.
Conducting workshops, seminars and awareness programmes for a wider understanding of the issues related to post-harvest fisheries.
- Ensuring sustainability of the programmes initiated by the Project by incorporating them in the long-term plans of the partner agencies.



Abbreviations and acronyms

ADB	Asian Development Bank
AFCCS	Andhra Fishermen's Central Co-operative Society
AFCOF	Andhra Pradesh Fishermen Co-operatives' Federation
AFPRO	Action for Food Production
AP	Andhra Pradesh
ARDC	Agricultural Refinance and Development Corporation
BGD TK.	Bangladeshi Taka
BIS	Bureau of Indian Standards
BOBP	Bay of Bengal Programme
BRAC	Bangladesh Rural Advancement Committee
CAG	Core Action Group
CBO	Community-based Organisation
CCP	Critical Control Point
CIFT	Central Institute of Fisheries Technology
CMS	Catalyst Management Services
CODEC	Community Development Centre (Bangladesh)
COFCON	Coastal Fisherfolk Community Network (Bangladesh)
COPDANET	Coastal Poor Development Action Network
CRZ	Coastal Regulation Zone
DANIDA	Danish International Development Agency
DFID	Department for International Development (UK)
DFID-PHFP	Department for International Development – Post-Harvest Fisheries Project
DOF	Department of Fisheries
DRDA	District Rural Development Agency
EEZ	Exclusive Economic Zone
ESCAP	Economic and Social Commission for Asia and the Pacific
ETF	Employees Trust Fund
FAO	Food and Agriculture Organization of the United Nations
FIQC	Fish Inspection and Quality Control
GDP	Gross Domestic Product
GI	Galvanised Iron
GO	Government Organisation
HACCP	Hazard Analysis Critical Control Point
IA	Impact Assessment
IAS	Impact Assessment Study
IGA	Income-generating Activity

IMM	Integrated Marine Management
IMU	Internal Monitoring Unit
INASIA	Initiative in Research and Education for Development in Asia (Sri Lanka)
IND RS.	Indian Rupees
IRDP	Integrated Rural Development Programme
IRED	Development Innovations and Network (Sri Lanka)
KDFSF	Kanyakumari District Fishermen's Sangams Federation
LOG frame	Logical Framework
M & E	Monitoring and Evaluation
M & IA	Monitoring and Impact Assessment
MPCS	Multi-purpose Co-operative Societies
MT	Metric Tonnes
NABARD	National Bank for Agriculture and Rural Development
NARA	National Aquatic Resources Agency (Sri Lanka)
NGO	Non-Governmental Organisation
NRI	Natural Resources Institute (UK)
ODA	Overseas Development Administration (UK)
ODFI	Oriental Dry Fish Industries
OED	Operations Evaluation Department (of the World Bank)
PAG	Policy Advisory Group (of the CGAP)
PFM	Project Field Manager
PFT	Petty Fish Traders
PHF	Post-Harvest Fisheries
PPC	Participatory Project Cycle
PRA	Participatory Rural Appraisal
RLF	Revolving Loan Fund
ROSA	Rural Organisation for Social Action
RRA	Rapid Rural Appraisal
SBN	Set Bagnets
SEWA	Self-Employed Women's Association
SHG	Self-Help Groups
SIFFS	South Indian Federation of Fishermen Societies
SJM	St. John's Fish Market (Colombo, Sri Lanka)
SRL RS.	Sri Lankan Rupees
SWOT	Strengths, Weaknesses, Opportunities and Threats
TDRI	Tropical Development Research Institute (UK)
UAA	United Artists Association
UDDIPAN	United Development Initiatives for Programmed Action (Bangladesh)
WHO	World Health Organization

Contents

Welcome to this book!	(ii)
About this book	(iii)
How this book was developed	(iv)
About the DFID-PHFP	(v)
Abbreviations and acronyms	(vi)
 <i>Section 1</i>	
ABOUT POST-HARVEST FISHERIES: AN OVERVIEW	
• What do we mean by post-harvest fisheries?	3
• Status of post-harvest fisheries in South Asia	3
• Scope for improving post-harvest activities	4
• Post-harvest methods in small-scale fisheries	5
• The Project's role in post-harvest fisheries	6
• What is the project cycle?	7
• Why the participatory project cycle?	7
• How is the participatory project cycle used in post-harvest fisheries?	7
 <i>Section 2</i>	
COMMUNITY INSTITUTION-BUILDING & HUMAN RESOURCE DEVELOPMENT	
• Community-building through women	19
• General learnings on group building by NGOs at the community level	21
TRAINING	31
• Post-Harvest Project and training	34
• <i>Information Note:</i> Training programmes on post-harvest fisheries for Departments of Fisheries	39
• <i>Information Note:</i> Training fisherfolk NGOs in street theatre	45
WOMEN	47
• Why consider women in PHF?	47
• <i>Information Note:</i> Role of women (along India's east coast) in value-added processing and marketing of fish	49
• <i>Information Note:</i> Income-generating activities for women in Bangladesh	50
• PHFP's activities to assist women in India	52
• Guidelines for planning interventions with women	55
 <i>Section 3</i>	
FACETS OF ENTERPRISE DEVELOPMENT: TECHNICAL ISSUES, MARKETING ISSUES, CREDIT & FINANCE, MONITORING & EVALUATION	
ENTERPRISE DEVELOPMENT	65
• Enterprise development: Problems and constraints	66

POST-HARVEST FISHERIES: THE TECHNICAL ISSUES	69
• General principles of post-harvest fisheries	69
• Experiences of PHFP in introducing new technologies in artisanal fisheries	71
• How to select an appropriate technical intervention	75
POST-HARVEST FISHERIES: MARKETING ISSUES	80
• Why marketing?	80
• Fish marketing channels	81
• Fresh fish marketing by artisanal groups in India <i>by Ann Gordon</i>	91
• <i>Information Note.</i> Emerging trends in market networking	96
POST-HARVEST FISHERIES: CREDIT AND FINANCE ISSUES	106
• Usual sources of credit and terms of credit in India, Sri Lanka and Bangladesh	108
• Notes on the project's work — Credit and finance	110
• <i>Case Study:</i> Banking on the poor <i>by Ashok Mahadevan (Reader's Digest)</i>	112
• "The poor are credit-worthy" <i>by Tim McGirk (Time magazine)</i>	116
• <i>Information Note:</i> The Micro-Credit Summit and after <i>by Satish Babu</i>	117
• Starting a new venture in a rural area? Get NABARD to help! (An interview with Shahji Zacharia)	121
• Fish vendors meeting their own credit needs <i>by J Lucas</i>	124
POST-HARVEST FISHERIES: MONITORING & EVALUATION	127
• Designing project monitoring and evaluation	127
• Monitoring experiences of PHFP: Reflections from a social perspective	129
• Monitoring experiences of PHFP: An economist's viewpoint	131
• Co-ordination and facilitation	134
• Co-operation among development partners - Project partnership with NGOs	136
• Co-operation among development partners — Project partnership with Department of Fisheries, Andhra Pradesh	138
• Fisheries co-operatives in Sri Lanka	142
PUBLICATIONS	144
• Project Publications	145
• Guidelines on marketing	146
• Workshop report: Opportunities for fish marketing and handling initiatives that may benefit traditional fishing communities in India	147
• Rural credit in Bangladesh	148
FURTHER READING	149

Section 1
About Post-Harvest Fisheries:
An Overview

About Post-Harvest Fisheries: An Overview

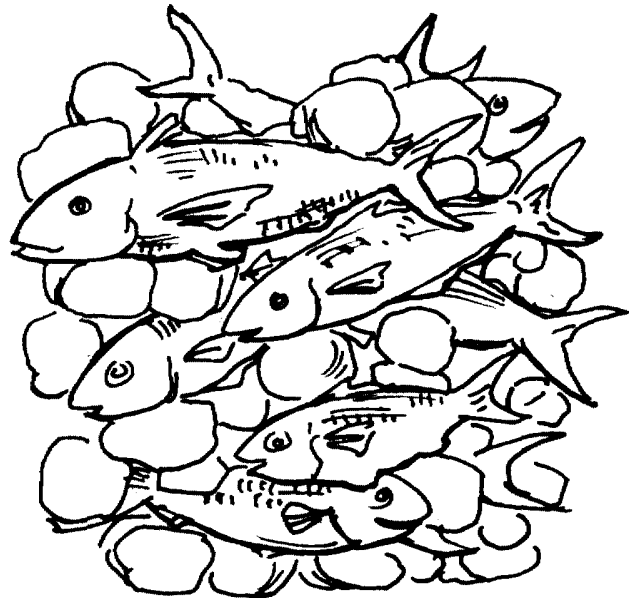
What do we mean by post-harvest fisheries?

Post-harvest fisheries comprises the activities that take place from the time the fish is landed or harvested until it is consumed. Post-harvest fisheries embraces the cultural, environmental, economic, institutional, social, technical and marketing aspects of the supply, demand, preservation, processing and distribution of fish and fish products.

Why focus on post-harvest fisheries?

Over the last two decades, the fish resources of the inshore areas in all countries bordering the Bay of Bengal have been subject to increasing pressure from both the large-scale and small-scale fisheries sectors. Encouraging further fishing will put the overburdened fisheries sector under still greater pressure. The focus must now switch to reducing waste and enhancing the value of the fish currently being caught.

Improving the efficiency of post-harvest handling, processing and marketing of fish can significantly improve the livelihood of primary producers and petty fish traders. Consumers also benefit through the availability of better-quality fish and fish products.



Status of post-harvest fisheries in South Asia

The fisheries sector makes an important contribution to the national economies of India, Bangladesh and Sri Lanka. It provides food and employment to thousands of rural people, and earns foreign exchange. With the declaration of Exclusive Economic Zones in the 1970s by India and Sri Lanka, and by Bangladesh in the 1980s, the potential of fish resources of the two countries became more apparent. Successive development plans of governments of the three countries have emphasised the importance of raising inland and marine fish production, from both capture and culture fisheries, India, for example, is now one of the largest producers of fish in the world. Total production during 1993-94 was 4.7 million tonnes.

To achieve their goals, governments have

- encouraged the mechanisation and motorisation of the fishing fleet;
- introduced innovative methods of fishing, and improved infrastructural development;
- organised fish transport, storage and marketing.

In recent years, there has been an increased focus on aquaculture as a way of supplementing capture fisheries; on exports; and on post-harvest fisheries. Post-harvest issues within the domestic market have received less attention from industry and governments. While this is slowly changing, as awareness grows of the needs of the poorer producers, there remains a significant policy gap between the production and post-harvest sub-sectors.





India has the longest coastline of the three countries and has some nine million people dependent on fisheries as a main source of income, with over five million actively involved in fishing. The fisheries sector contributes about 2.4% of GDP. In 1992-93, 208,600 mt of marine products with a value of Rs 17,674 million (Table 1) were exported from India.



Sri Lanka declared its EEZ in 1976 and has approximately 230,000 square kilometres of marine fishing rights. About 200,000 mt is currently produced from marine and inland fisheries and aquaculture, and over 111,000 marine and inland fishermen are employed by the sector. In addition, there are many people engaged in fish processing and distribution who have few other alternative sources of income. The fishing industry contributes about 2% of the GDP of Sri Lanka.

Although Bangladesh has only a 480 km coastline, it has a vast and varied fresh, brackish and marine fisheries potential. It is blessed with innumerable rivers, tributaries and lakes and a huge floodplain during the monsoon. Current production is just over one million tonnes, of which 985,000 mt comes from inland fisheries and 279,000 mt from the marine sector. Nearly 12 million people are directly or indirectly engaged in fisheries

Table 1. Number of people actively involved, or dependent, on fishing

Country	Coastline	Numbers dependent on fishing	Numbers actively involved in fishing
India	8000 km	9,000,000	5,000,000
Bangladesh	480 km	12,000,000	1,200,000
Sn Lanka	1,800 km	200,000	110,000

Table 2. Economic indicators of the importance of fisheries

Country	Total production (metric tonnes)	Exports of marine products (metric tonnes)	Value of marine products (in local currency)	Contribution to GDP
India	4,700,000	208,600	INDRs 17,674 million	2.4%
Bangladesh	1,268,000	41,500	BODTk 14,570 million	3.6%
Sri Lanka	275,997	7,591	SRL Rs 855 million	2.0%



activities; of this number, about 1.2 million are employed full-time, the remaining part-time. Fishing contributes nearly 3.6% to the GDP in Bangladesh.

The potential to expand production for both domestic and export markets is thought to be considerable in these countries. Increased marine production will come mainly from expansion of deeper water resources and from brackishwater aquaculture. Expansion of inland fisheries will be based mainly on more intensive aquaculture.

Scope for improving post-harvest activities

There is considerable room for improvement in the way fish is handled, processed, distributed and marketed for

the domestic market. The distribution of benefits may be improved by focussing on traditional producers and processors. Since the scope to expand inshore catches in the long-term is limited, the opportunities that exist for small-scale fisherfolk communities in post-harvest value-added production must be tapped. The potential for this in all three countries is considerable.

Fish is one of the most perishable commodities. Considerable wastage occurs after capture. Small-scale fishermen face problems in handling, transporting and marketing fresh fish under difficult conditions and at high ambient temperatures. The absence of adequate facilities both on fishing craft and ashore prevents the distribution of good quality fish. As a result, microbial spoilage and contamination by pathogenic bacteria occurs. This can have important implications for the export trade, especially as more stringent international quality parameters are applied worldwide.

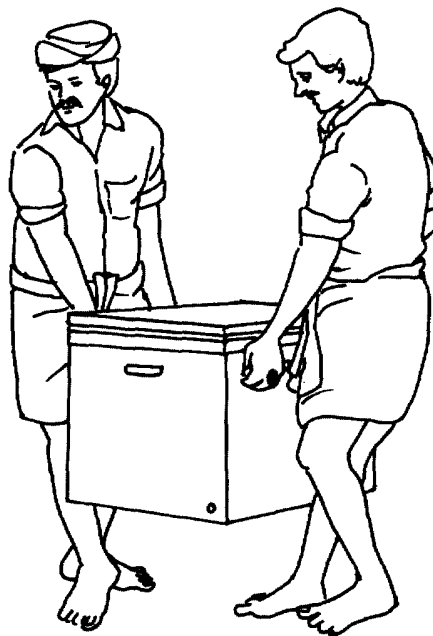
Large quantities of fish are also discarded by shrimp vessels because the financial returns do not make it worthwhile to bring the by-catch back to shore. Large quantities of pelagic fish, in particular, are caught at certain times of the year and cannot be processed. Improvements are possible, but technology alone cannot succeed, without a thorough understanding of the social and economic factors and strong support from the Government in tackling the problems of poor infrastructure that affect small-scale fishing communities.

Market trends are now towards convenience foods that can be rapidly prepared. Value addition in fisheries comes through improved handling, processing and storage, and the use of better packaging materials for fish products. The range of convenience fish products includes spreads, dips and salad ingredients as well as main dishes. Preparations involve shrimp and a wide variety of other fish species.

Post-harvest methods in small-scale fisheries ¹

Fishing craft in small-scale fisheries are generally small. They fish the area of the sea close to the shore. The gear they use often determines the fishing methods used. As the craft are small, there is very limited space onboard, which makes proper handling and preservation of the catch difficult. Fishing communities confront severe problems in handling, distributing and marketing fish. The lack of suitable infrastructure including transport and ice-making plants increases the problems of rapid spoilage. Landing sites are often remote, and it is not economic to provide the infrastructure needed to preserve fresh fish either onboard or immediately on landing. Even when landing sites and roads exist, it is often not economic to transport the catch. Because of these factors, a large part of the catch is processed by traditional methods of salting, sun-drying and smoking.

The best way to preserve fish is by icing it and keeping it cool. However, this is not always technically and economically feasible. The limited use of ice in small-scale fisheries may be due to its high cost or a lack of knowledge about the benefits of using ice. The easiest way is to use a low-cost, sturdy, well-insulated box made of local materials. Boxes should be portable and easy to handle and be designed to meet the rigours of a marine environment and the fishing craft.



Salted, sun-dried and smoked fish are less perishable than wet fish and can keep for several weeks. However, unless the processing is done very carefully, physical losses can occur which reduce quality and quantity and lower value to the fish processor.

Women play a vital role in post-harvest activities, particularly in the small-scale sector where they work in shore-based activities such as handling, processing and marketing of catch. Women have traditionally been involved in fresh and dried fish marketing, which can be seen as an extension of the production process, and provide a crucial link between the supplier and the customer in the rural areas. However, they often face difficulties in procuring, distributing and marketing wet fish and fish products. Any initiatives in the small-scale post-harvest sector must take into account the role played by these women.

¹ There is no standard definition of small-scale fisheries and it is not unusual to find that what is considered a small-scale fishery in one country is a large scale fishery in another. In our context, small-scale fisheries are practised by those fishing communities who have a limited fishing range and are inherently dependent on local resources within a confined area of their community.

The Project's role in post-harvest fisheries

There is concern throughout the world about pressure on fish resources and declining stocks. India emphasises the importance of sustainable development of marine resources for ecological security, conservation of biodiversity and social equity. In principle, it supports the Voluntary Code of Conduct for Responsible Fishing. Over the last two decades, the inshore areas of all countries bordering the Bay of Bengal have been subjected to increasing fishing pressure from both large-scale and small-scale craft.

Any initiatives in the small-scale post-harvest sector must take into account the role played by women.

The region's growing population – combined with unrestricted, open access to fishing grounds – is among the factors that have led to a decline and disruption in the patterns of traditional fisheries. Increasing demand from international markets for high-priced shrimp, and internal demand for shrimp from growing urban populations, have led fishermen to cater to these markets, sometimes to the detriment of their traditional (often subsistence-based) fishing and localised marketing.

Undoubtedly, in many cases, fortunes have been made at the expense of long-established traditional fishing practices. Existing management strategies must change to address the current and future problems faced by the industry. However, solutions are not easy as they must address a complex, and sometimes conflicting, range of issues at both the micro and macro level. These require

careful policy formulation and planning to avoid conflict between the various policies and strategies in other sectors and within the fisheries sector itself.

Therefore, instead of promoting fishery capture and production oriented practices, and putting the already overburdened fisheries under even more strain, the focus must change to improving the management of existing resources. It is paramount that these resources are maximised by reducing wastage and adding value and by making the most, or indeed more, of what is already caught. Improving the efficiency of post-harvest handling and the processing and marketing of fish can have a significant impact on the incomes of the primary producers and market intermediaries. Moreover, the local consumer also benefits through the availability of better quality fish. There are also large domestic markets in these countries that have considerable potential if the processing and packaging of current low-value fish is carried out efficiently and hygienically by small-scale fish processors and retailers in the traditional fisheries sector.

Another management solution when fishery resources are under strain is to introduce alternative income-generating activities for fisherfolk, men and women. In Bangladesh, the Project has had some success in encouraging women to take up non-fishery activities – such as basket-making and mat-making.

Research is a key activity in gaining knowledge on securing sustainable livelihoods through strengthening partnerships between the science communities in the UK and locally. The Project has been a key partner with DFID's Post-Harvest Research Programme and assisted the Programme in liaising with local agencies,



implementation of research activities and dissemination of research findings.

Objectives of the Project

The Project targets poor artisanal fishing groups, particularly poor women. The Objectives of the project are to enhance the incomes of men and women engaged in artisanal fishing, fish processing, distribution and marketing in the coastal villages of Bangladesh, Sri Lanka and the east coast states in India.

Elements of the post-harvest fisheries project's approach

- To assist artisanal fisherfolk to make better and sustained use of natural resources through improved post-harvest interventions.
- To focus on the needs of poor and marginalised fishing communities and help alleviate poverty through the Project cycle approach.
- To understand the complex nature of the issues involved before undertaking any technical intervention.
- To use a flexible, reactive, catalytic and interdisciplinary team-based approach.
- To involve fully all the stakeholders in the design and implementation of the project.
- To assess market opportunities realistically before identifying and undertaking technical interventions.
- To monitor the impact of project interventions and to feed this information into project planning.
- To use a people-centred approach through addressing, and focussing on, improving the livelihoods of post-harvest workers in the artisanal sector.

What is the project cycle?

The project cycle is a simple planning and management tool that the Project makes use of. It is designed to assist in project identification, preparation, implementation, management and evaluation. It takes into account essential factors throughout the project cycle.

At all stages of the project cycle, the active participation of all stakeholders (decision-makers, planners, implementing agents and target groups) is encouraged. Doing so ensures that factors affecting Project success are addressed as and when needed – which is of vital importance for ensuring the success of projects.

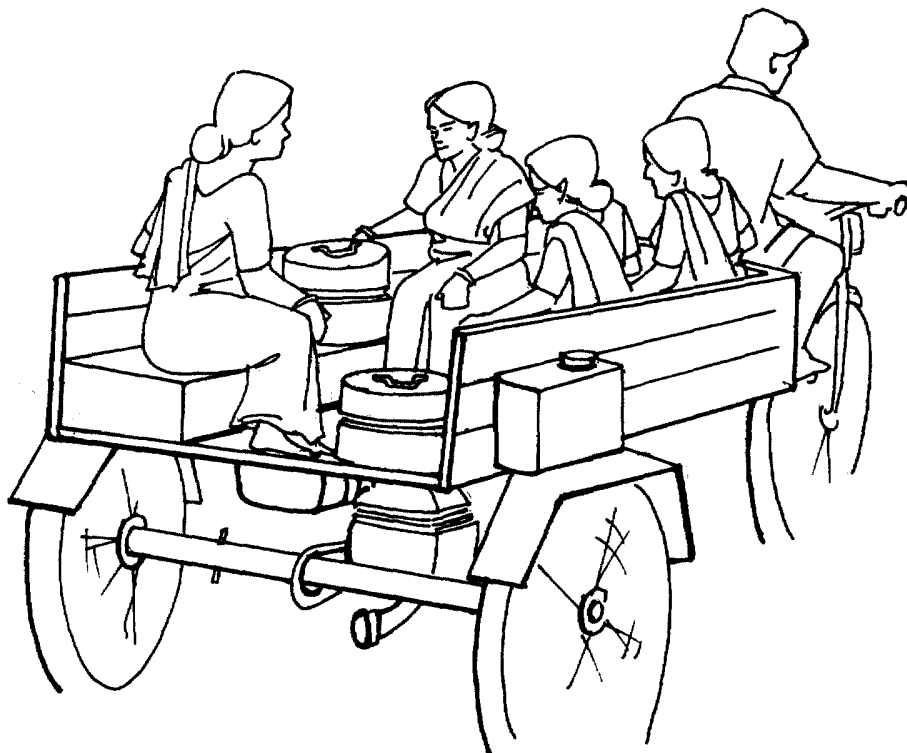
Why the participatory project cycle?

The participatory project cycle is a framework for managing projects. It forms an integral part of the management system. It has the merit of recognising that projects pass through phases or stages, each of which has its own requirements for data, analysis and decision.

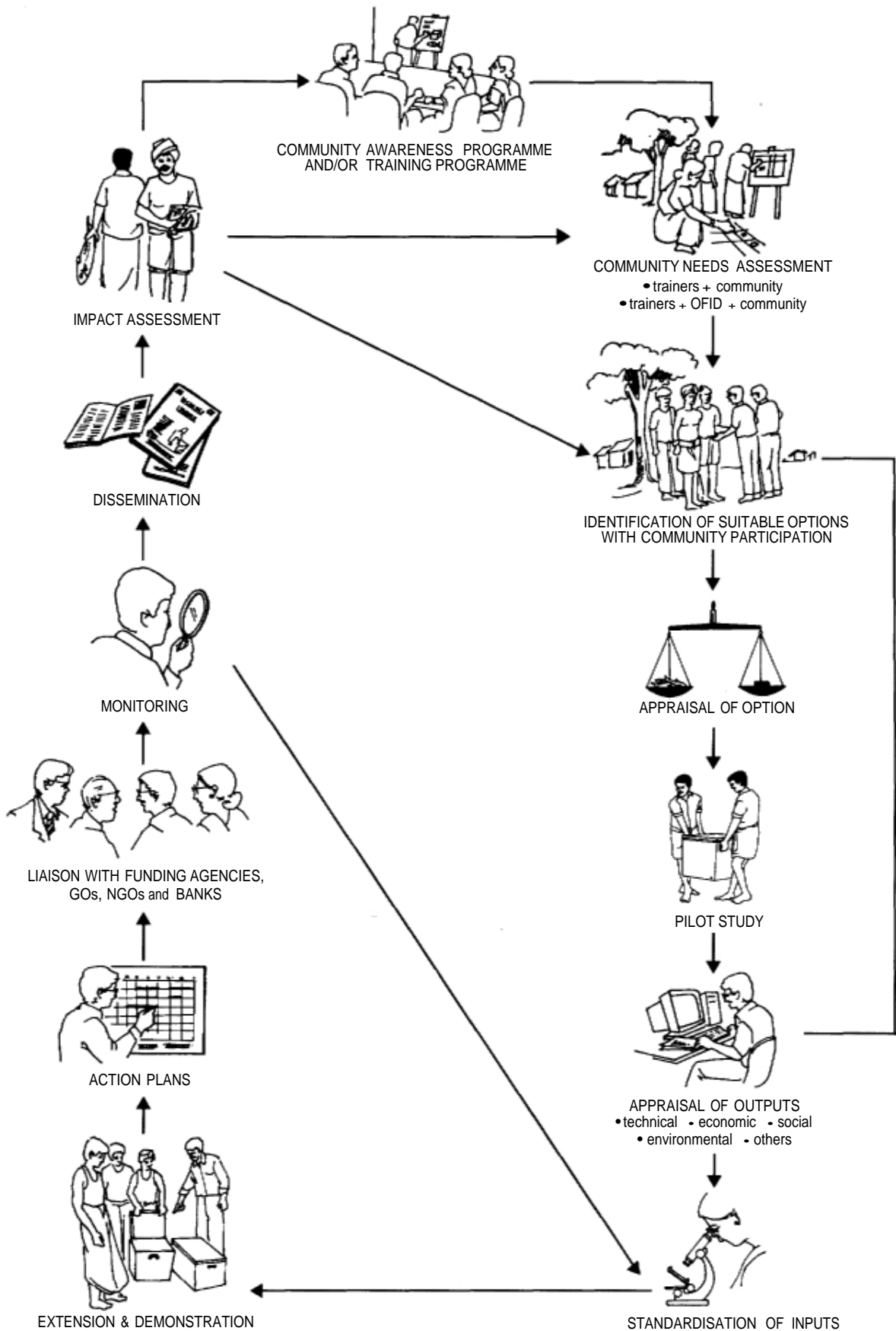
The Participatory Project Cycle (PPC) emphasises the advantages of involving primary stakeholders (target communities and households) in the decision-making process. It ensures that the interventions are need-based, and that all beneficiaries have a stake in the projects activities.

How is the participatory project cycle used in post-harvest fisheries?

The Project recognises that technology development *per se* is not sufficient for the success of an intervention. The PPC starts with the needs assessment level; and progresses gradually through various stages, with inputs from different disciplines. This ensures that the intervention is well integrated into the process and is also sustainable in the long run.



Flow-chart of the Participatory Project Cycle



Flow—Chart of the Participatory Project Cycle

Definition of Concepts

Awareness Programme

A two-way process of sharing of information, experiences and lessons learnt with the community and other stakeholders. This exercise is iterative.

People: Identified stakeholders, e.g: community, policy makers, Government officials, development organisations, CBOs, community leaders, project staff.

Techniques: Group discussion, workshops, media (folk, radio, TV, video, print), field extension, demonstration and exposure trips.

Needs Assessment

Understanding the needs and priorities of the community.

People: Community & project staff

Techniques: Group discussion, family PRA/RRA techniques (including ranking).

Stakeholder Analysis

Identifying jointly the needs and interests of the various stakeholders.

People: Community, Government representatives, CBOs and development organisations, local opinion leaders, trade channel players, credit providers, potential consumers, project staff and other identifiable stakeholders.

Techniques: Workshops, group discussion, individual interviews, review of literature, lessons learnt from other CBOs.

Identification of Options

On the basis of needs and priorities, jointly assess various options for intervention.

People: Target group

Techniques: Workshops, group discussion and SWOT analysis.

Appraisal & Selection of Options

Agree on the most appropriate and possible option and work out modalities. The output will be an approach paper or a project report which covers social, technical, economic, environmental and other concerns of the project.

People: Target group.

Techniques: Workshops, group discussion and logical framework.

Pilot Phase

A small-scale version of the proposed project, implemented by careful choice of location and other resources. This tests and validates assumptions, brings to the surface problems and solutions, provides experience to community and project staff, creates awareness through demonstration effect, brings to the fore issues not foreseen during formulation, provides lessons and options for recasting.

People: All stakeholders.

Techniques: Field work, trial and error.

Appraisal of Pilot Phase

An assessment of the processes and outputs in a framework of social, economic, technical and environmental concerns.

People: Project staff/external agencies, interacting with stakeholders.

Techniques: Group discussions, individual interviews, observations, end user reactions, measuring performance parameters.

Planning for Scaling-up of Operations

Standardise inputs and incorporate feedback. Modify processes and define outputs more clearly. Plan for extension of the pilot phase into the full project area.

People: Target group.

Techniques: Workshops, group discussions and logical framework.

Scaling-up of Operations

Implement the steps charted in the action plan on the strategies agreed, and using resources allocated, aim at achieving the stated project objectives.

People: All stakeholders.

Techniques: Extension, demonstration, capacity-building, networking, liaison, advocacy.

Monitoring

At specific time intervals, assessing the progress of the project in terms of the defined outputs and set processes.

People: External team or project staff, interacting with stakeholders.

Techniques: Group discussions, individual interviews, observations, end user reactions, measuring performance parameters.

Dissemination

Constant sharing of information, experience and outputs through various media to the stakeholders to create awareness.

People: Project staff, Government, NGOs/CBOs.

Techniques: Group discussion, workshops, media (folk art, radio, TV, video, print), field extension, demonstration, exposure trips,

Impact Assessment

Jointly assess the impact of the project on pre-defined indicators. The impact will measure the quantitative and qualitative changes achieved with stakeholders. The assessment could be in terms of needs fulfilled, benefits generated, attitudinal changes, adoption of techniques, adaptation, and any negative impact.

People: Project staff, CBOs, Government representatives, external team.

Techniques: Field visits, group and individual interviews, documentation review.

Liaison and Network

Interact, co-operate, share ideas, resources and experiences with other CBOs, Government, banks, development and donor agencies, in order to synergise operations in the field. Also take up issues relevant to community for policy changes.

People: CBOs, project staff, Government representatives and other developmental agencies.

Techniques: Newsletters, meetings, workshops, seminars, exhibitions.

Training

Need-based inputs to stakeholders at various phases of the project, aimed at imparting skills, attitudes and knowledge.

People: Project staff, Government, external agencies, CBOs/NGOs,

Techniques: Field visits, classroom lectures/discussions, case studies, demonstrations, media (printed materials, audio visuals, folk/cultural media), role plays.



Extension and information dissemination among target groups.

Case Study to demonstrate the Participatory Project Cycle

Introduction of an improved smoking technique in Andhra Pradesh

It began in an Andhra Pradesh village as a venture to produce Masmeen (a fresh tuna product which is boiled, smoked and dried). It was modified during the course of a participatory pilot activity to produce a better smoking kiln. Result: Better benefits for the target group of women fish smokers.

Fish smoking is a popular processing method in several parts of the world. In India, smoking is confined to the Godavari Delta area of Andhra Pradesh. About 1,500 processors, mainly women from over 70 villages, produce smoked fish and prawns, using traditional methods, for sale within the region. Smoking is an ideal processing method because it requires less space and time than drying. It improves the shelf life of the product, especially for shrimp.

The Project tried to develop an improved fish smoking technique in the area. Result : a sub-project whose evolution from a technology-driven, product-oriented intervention to a people-oriented, need-based one, illustrates the participatory project cycle adopted by the project.

Background

The sub-project originally started as a venture to produce and market *Masmeen* or 'Maldivic Fish', a product made using fresh tuna, which is boiled, smoked and dried incessantly over a period of 3-4 months. The production of *Masmeen* is confined to the Maldives and Laccadives. The impetus for starting the pilot project was provided by the abundant quantities of tuna landing on the east coast of India, fetching very low prices. Initially, it was proposed to start the activity in Tamil Nadu. But when preliminary studies indicated that tuna prices were going up, because of fresh market channels opening to Kerala, it was decided to take the activity to Andhra Pradesh, where tuna landings were abundant and fish smoking was widespread.

Preliminary interactions with the community

During the pilot studies, which were conducted with local fish processors, it became clear that *Masmeen* was not a viable proposition because (a) the fisherwomen had no previous experience of preparing *Masmeen* (b) the processing itself was very complicated and time-consuming, and (c) cost of production was very high, compared to the returns.

The fact that the products command a market only in distant Sri Lanka, did not help.

However, during the pilot study, the women processors became aware of the aims and objectives of the project, as well as the intentions behind the pilot study: to raise the income-level of small-scale processors like themselves. The project also came to realise that the actual needs of the fisherfolk were different, and needed to be assessed before any intervention could be made.

Needs assessment

During the needs assessment, participatory surveys were made to identify villages where smoking was practised, the number of people dependent on the activity, the economics of individual processors, the marketing channels, details of operation – including details regarding problems and constraints in the present methods – and possible options for improving the methods, as perceived by the processors.

Identification of suitable options

Suitable options for upgrading the method were discussed. The most feasible option, that of converting a drum into the main component of a smoking system, was decided for a pilot study. In the traditional system, the smoke-house is a thatched hut, in which a raised platform with bamboo mats placed across it is used for spreading the fish or shrimp. The fireplace is located beneath the platform.

During smoking, a fire is lit, and smoke is allowed to permeate the hut, raising the temperature up to 75 degrees. As the actual smoking area is very small compared to the area covered by the fire, a lot of wastage, in terms of firewood, time and space, occurs. An enclosed system like the drum, processors felt, would reduce firewood consumption, and allow more fish to be smoked in layers. It requires very little space, releasing the

smoke-house for other uses, besides significantly reducing health hazards that confront the processors.

Preliminary appraisal of the option

While studying the feasibility of the option, the following factors were considered:

- only locally available material and local expertise would be used in the method;
- the feasibility of using alternate firewood material, other than mangrove wood, in the new method, would be studied;
- the new method should not reduce employment opportunities in the village for women-processors; and,
- the cost of the improved method should be affordable to the processors.

Pilot study

In the pilot study, a prototype smoking kiln was constructed by local artisans with galvanised iron (GI), which was available locally. The pilot study was conducted over a period of six months, with the women processors of BCV Palem village taking the lead role, assisted by the project and the local Department of Fisheries. During the study, comparative data on traditional and improved processes were collected to establish the feasibility of the improved system. Data collected during the pilot study included

- Smoking time and effort;
- Varieties used, species, weight and price of procurement;
- Different combinations of firewood materials used;
- Yield ratios.

The women processors were trained in data collection methods, and the Department of Fisheries assisted them in data collection.

Appraisal of outputs

After the pilot study, an appraisal was made of the technical, social and economic, cultural and environmental aspects of introduction of the improved smoking system.

Technically, the improved method was shorter. It used up only a fraction of the firewood consumed by the traditional process; gave good results with alternate firewood material; was easily adoptable by the women,



gave a better quality product; and reduced fire and health hazards.

Economically, reduced firewood meant substantial reduction in production costs, better appearance of the product ensured immediate marketability, increased shelf-life reduced distress sales. Reduction in breakage losses during processing increased the yield ratio.

Socially, the employment opportunities for women in the village remained the same. The kiln reduced the time and effort that women had to spend in processing, giving them more time for other household activities.

Environmentally, the improved process substantially reduced consumption of firewood, and so had a positive impact.

At the same time, a few concerns were identified:

- The growth of aquaculture in the area, and the mass destruction of mangroves, could mean less firewood for the processors, and less smoking activity in the longer run;
- Test marketing and sampling of the improved product showed good acceptance; however, it remained to be seen if local consumers would be willing to pay a better price when full-scale production was undertaken;

Standardisation of inputs

The processors were quite enthusiastic about the new method, and in the next stage, the prototype design was used to construct a bigger kiln, that could be used to smoke fish and shrimp in quantities comparable to the traditional kilns. The design problems identified in the prototype were removed, and the kiln was made available to the women for another period of six months. During the trial period, the women again collected evaluation data, with the assistance of the Department of Fisheries.

Developing action programme for extension and promotion

Having established that the improved kiln met the processors' requirements, the Project developed an action programme to replicate the activities, and increase the numbers of women who could access the kilns.

Extension and demonstration programme

As part of the demonstration programme, the Department of Fisheries undertook extension programmes on the improved technique in other villages where smoking was practised, with the assistance of the project, and the trained fisherfolk themselves. Detailed documentation on the activity was provided to all concerned agencies in the district so that they could incorporate the technology into their action plans in support of the fisherfolk.

Liaison with funding agencies

The officers of the various Government agencies, including, the District Collector, were invited to the village where the pilot study was under way, to familiarise them with the process. The response from the funding agencies was positive, and improved smoking kilns were incorporated into the action plans of at least three agencies: the Department of Fisheries itself, the District Rural Development Agency, and the Backward Classes Development Corporation. The Department of Forests showed interest in providing the smoking kilns through their programmes as well, because the improved kiln reduced firewood consumption substantially. In the first phase, 200 smoking kilns were constructed and provided to the women processors on credit with subsidy.

Monitoring

The project monitored the implementation of the activity, and provided feedback to the concerned agencies from time to time to ensure effectiveness. In the course of monitoring, the project found that in those villages where extension programmes had taken place, the processors were using the kilns regularly, in many cases destroying the traditional kilns altogether. However, many kilns were provided in villages where no extension had taken place. The processors here were not interested in changing over to a new system. The Department of Fisheries took up awareness and extension programmes in these villages, with moderate results. Monitoring also

Preparing a tray for loading into the smoking kiln.



An impact assessment of the smoking kilns showed a high adoption rate by processors.

revealed that the funding agencies were not trying to get loans repaid. When the Backward Classes Corporation failed to start recoveries, some of the groups opened bank accounts with the help of the project, and started savings to ensure that they would be prepared to repay anytime the Backward Classes Corporation insisted on repayment.

Dissemination of the activity

The project documented the activity through reports, and articles in the project newsletter, and circulated them to all agencies working with artisanal fisherfolk communities. The findings of the study were presented at numerous workshops and other fora. Exposure visits for many government and non-governmental agencies and fisherfolk were facilitated – not just to demonstrate

the new technique, but also to demonstrate the success of a need-based, participatory programme.

Impact assessment

An impact assessment conducted by the Project, with the help of consultants, concluded that the smoking kilns have had a high adoption rate among the processors. The main reason women processors adopted the technique was that it prevented health hazards. Other reasons included: ease of operation, reduction in fuel used (50%), possibility of stocking products in the kiln, away from cats and dogs, good product appearance and hence a premium in market price (10%), reduction in processing time (up to 50%), reduction in wastage. Net gain to processor from using the improved kiln was calculated to be 105% over traditional practices. In some places, traditional smoking kilns were removed from the houses, enlarging living and storage space.

Fish smokers busy with tile improved smoking kiln.

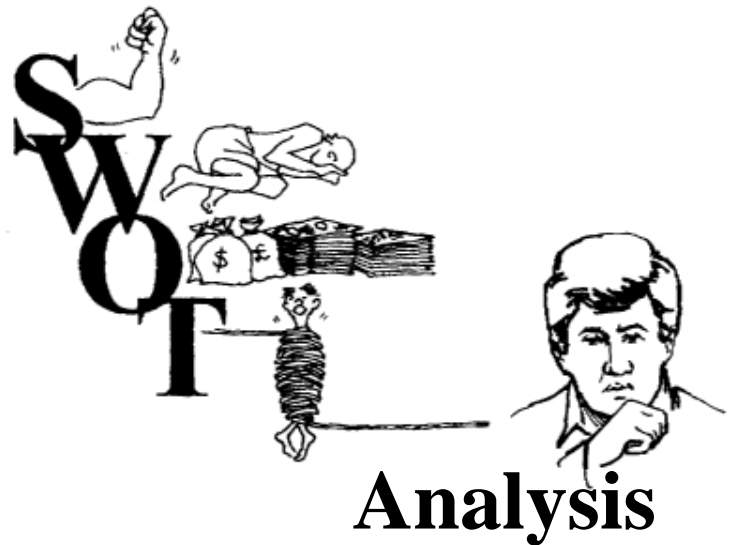


A SWOT Analysis of the Participatory Project Cycle

Approach to Post-Harvest Fisheries Development

SWOT analysis is a popular management tool, carried out for both projects and approaches. It identifies Strengths, Weaknesses, Opportunities and Threats. It clarifies ideas about the positive and negative features of the subject being discussed.

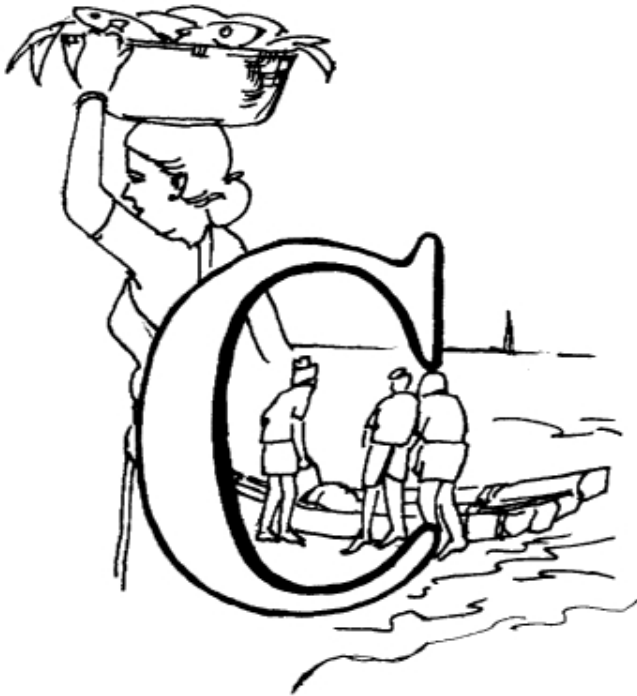
Here's a SWOT analysis of the participatory approach to project cycle management.



STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Encourages community ownership of project; identifies community-relevant priorities, approaches and interventions, • Promotes coordination and synergy among stakeholders. • Involves feedback and monitoring at each level, • Encourages flexibility and responsiveness to the needs of communities. • Encourages optimal development of local resources. • Brings about an integrated approach. 	<ul style="list-style-type: none"> • Long gestation period and consequent high cost. • Location specific There may be difficulties in scaling-up because of the small scale of pilot activities. • May be slower because of the time needed to integrate all stakeholders. • Low priority accorded to fisheries, particularly post-harvest fisheries, by many agencies. • Limited skill transfer to other agencies unless they are involved in pilot activity.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Introduction of new values, resources, interventions. • Learning and innovation. • Changing the top—down approach of other agencies. • Capacity-building through local institutions to attain sustainability. • Networking with other agencies. • Developing improved project management systems. • Replicability over a wide geographic area. 	<ul style="list-style-type: none"> • Divergence of perceptions, priorities, criteria of stakeholders. • Inertia on the part of other agencies. • Non-project focus. • Lack of continuity at field/community level. • Adverse reactions of some stakeholders.

Section 2
Community Institution-Building &
Human Resource Development

Community Institution-Building



Background

Most fishing villages have their own community headman. He consults a few others on important matters. Together they form an informal group. This group has a certain standing within the fishing community and its chief is recognised as their collective head. Most decisions on social and economic matters in the community are taken by this group and its chief,

Over time, fishing communities began to interact more and more with the outside world. They also sought government assistance in various areas. This resulted in formal groups or cooperative societies being established. But the strength and sustainability of such cooperative societies has often been uncertain.

It is in this context that community institution-building was taken up by the Post Harvest Project.

What is a community institution?

A community institution describes a group of people from a common living area or habitat who get together for a common purpose, either of their own volition or on the request of an external agency. They serve as a base for activities—developmental, recreational or any other.

The Project approach was to attempt pilot interventions at the community level replicable at the state or country level. This approach would lead to empowerment and sustainability in the long run. It was also the only institution approach given the Project's limited means.

The Project thus decided to focus its interventions at the community institution level. Since the Project did not have the manpower or the time to deal directly with communities, it identified partners through whom community-building activities were undertaken. The partner institutions were usually NGOs and the Government (the Department of Fisheries).

Community-building through women

Being major participants in post-harvest fisheries activities, women are an important target group for post-harvest technology interventions.

in India and Bangladesh, the project worked with both men's and women's groups. But women-oriented activities were given priority. This was done to ensure a more organised uptake and to encourage the empowerment of women within a largely male-dominated social system.

While the target group was easy to identify, the actual process of bringing the women together proved to be more difficult. Whether the Project was working through partner institutions or directly with the community, identifying an issue around which a group could be constituted was important.

A "community institution" describes a group of people from a common living area or habitat who get together for a common purpose.

Example : For its work in Tamil Nadu, the Project was clear that it would focus on petty fish traders. It looked at their immediate requirements so that an issue could be identified to bring them together.

One issue of prime importance to fish traders was credit. Most women depended on moneylenders for credit and paid huge amounts of money as interest. They did not access institutional sources of credit, such as banks. One reason was that they knew little about banks and kept away from them. Further, the scale of investment of petty fish traders was very small.

Credit therefore seemed to be a good entry point into the community for the project. It would provide a

focal point around which groups could be got together.

In Sri Lanka, it is mostly men who produce and market fish. The project's target group therefore consisted of fishermen and petty fish traders, but the door was kept open for women.

While the first stumbling block of bringing the women together was overcome, keeping them together and building an identity as a group proved more difficult. In many cases, the groups continued to tackle only credit and did nothing else. At some locations, technology interventions through these groups were problematic. At some other locations, it was much easier.

One of the main reasons for the success of community institution-building at Santhidan: clearly defined rules for membership, and strict adherence to the rules.

Both Bangladesh and Kanyakumari in Tamil Nadu have seen a great deal of success in building community-level institutions. Community-based organisations have evolved in Bangladesh within a short period through direct project interventions. In Tamil Nadu, the project partner Santhidan has been working with women from fishing communities for many years, and has established many savings and credit groups which are also active on other fronts.

Every Santhidan group had its own identity. Women took pride in their membership of a particular group and in activities. Project work in the area, in response to the stated needs of women, began with design and development of strategies and action plans for each specific problem identified.

These Project activities concerning fish containers, rack-drying of anchovies and use of ice boxes — were taken up with great enthusiasm at Santhidan. They helped the process of institution-building.

The main reasons for the success of community institution-building at Santhidan:

- A long history of work with the community.
- Close relationship between the community and Santhidan staff (many of whom belonged to the community).
- A very good credit programme which operates through groups without any links with banks. Members' savings form the basis for loans. Funds are transferred between villages in accordance with need and demand.

- Groups with a surplus in savings transfer money to those with a deficit. These inter-group transactions automatically build group identity. Decisions to transfer money in this manner are taken jointly by group members on the basis of a general majority.
- Clearly defined rules and regulations of membership, and insistence on strict adherence to the rules.
- Collective group action for problem-shooting. This has often benefited the entire village, and it has overcome any male resistance.
- Support from an influential body (the Church) to group formation and other developmental activities of Santhidan. This was a great help in a community that was predominantly Catholic. The Sunday Church habit was perhaps conducive to attendance and order at regular group meetings.
- Use of techniques to build group identity — such as group songs, group days, group uniforms for special occasions, constant stress on pride in membership, financial assistance to members during emergencies (when a member lies, the group contributes to funeral expenses). Group activities are funded by interest generated through loans.
- Members and leaders of the community are encouraged to visit the Santhidan office and ask questions whenever they have doubts. This increases the accountability of the NGO to the people.

The Project's experience with Santhidan — because of the latter's ability to form groups and implement activities has been very positive. The experience at some other locations has not been so positive. This is partly because of lack of familiarity of the NGO with fishing communities and coastal areas. It is therefore unable to move beyond credit and unable to identify any possible post-harvest needs.

Groups at these places have not been able to establish an identity within or outside the community. Existing groups (formal and informal) have not become part of a new institution without losing their individual identity. If an intervention has to be collectively managed, the groups have not had the maturity to manage it.

A community-building project in Bangladesh was significantly successful. Under a two-year project to strengthen NGOs that work with set bagnet fishing communities, 45 groups with more than a thousand members were set up through seven coastal NGOs. Training was imparted, savings and credit initiated, and a number of income-generation activities (fish processing, net-making, livestock-rearing, poultry rearing, vegetable cultivation, sewing, rickshaws for fish transport) introduced.

The project's work helped strengthen the NGOs' knowledge base, their ability to manage credit, and their capacity for undertaking income-generation activities.

An NGO ought to identify the right issue as entry point into the community. The issue should address a collective need, which can be tackled through groups.

Delegation of responsibility and continuous monitoring and follow-up were cited (by the project trainers, NGO field staff and target group members) as two of the reasons for the success of the activity.

General learnings on group building by NGOs at the community level

The right issue: An NGO ought to identify the right issue as entry point into the community. This issue should address a collective need, which can be tackled through groups. Example: If drinking water supply is an issue with most families, it may be an appropriate entry point for the NGO into the community. On the other hand, an issue such as helping retarded children is quite worthwhile, but may not be appropriate if the village has only a couple of retarded children.

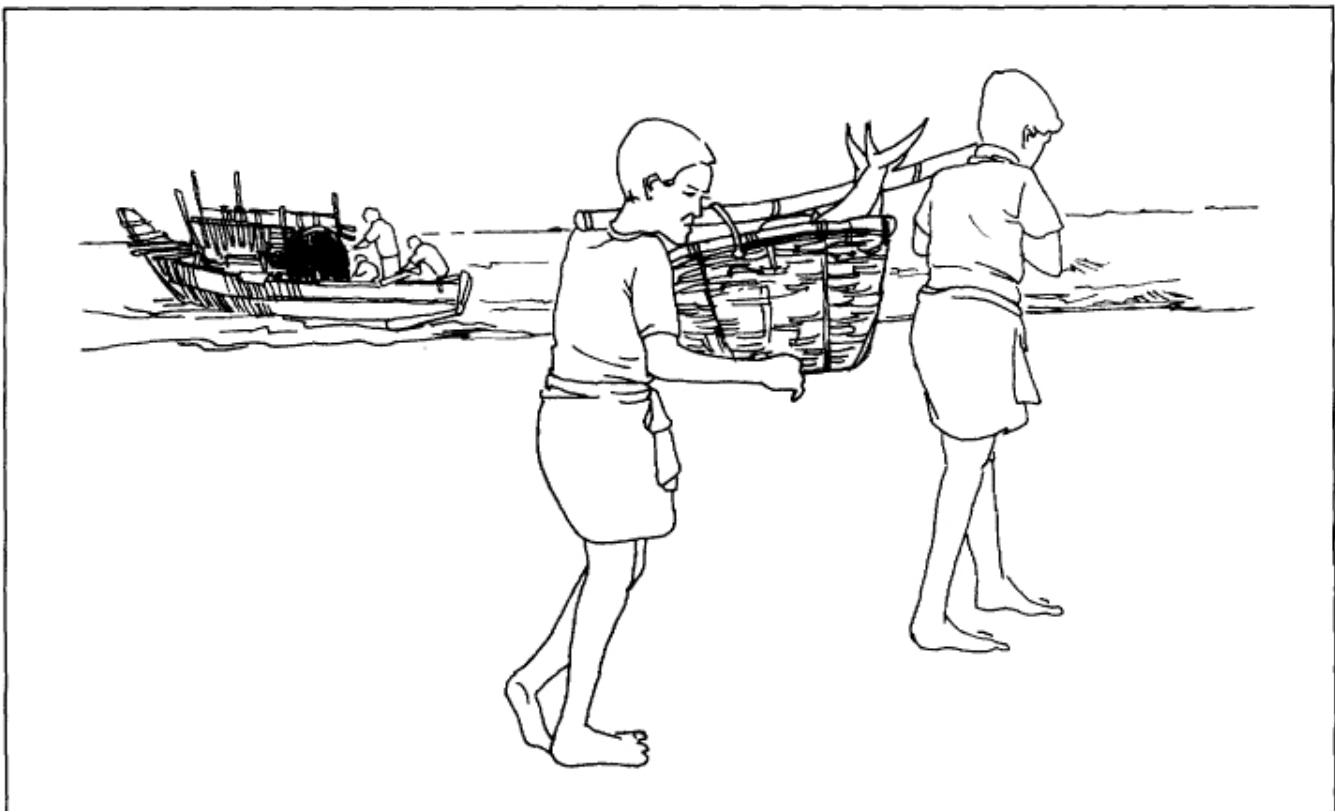
2. *Clearly defined identity:* A group should decide what constitutes its identity. The facilitator should then work

towards building this identity. This would give members a feeling of pride and a sense of belonging about the group.

3. *Need to evolve definite procedures for the functioning of the group:* Every group should evolve procedures for itself. Like how often it should meet and when and where. Members should understand why they ought to attend meetings regularly and take active part in decision-making.
4. *The right leadership:* There should be a good leader at the group level who can take the group forward and help it to grow. A democratic way of functioning should be encouraged.
5. *Self-examination:* Getting the group to constantly look at itself and see if it serves the objectives for which it was set up. Members must introspect occasionally to examine whether their individual needs for coming together as a group are being fulfilled and whether they are still putting individual goals before group goals.

These are some of the project's learning experiences during the course of institution-building within the community. It must be borne in mind that if such experiences are to be replicated elsewhere, they may have to be modified to suit local conditions.

The Project's community-building activity among set bagnetfisherfolk of Bangladesh was very successful.



CASE STUDY

Building Community Institutions: An experience from Orissa, India

A helpless, impoverished fishing village in Orissa is today bustling with activity, thanks to an NGO that mobilised women and encouraged them to save.

Nolia Naogaon is a fishing village in Ganjam district on the coast of Orissa. It lacks basic amenities. The people of the village made a strident protest in 1980 by boycotting the general elections; this had some effect.

A local NGO, United Artists Association (UAA), which works with small-scale fishing communities along the Bay of Bengal and the Chilka lake in Orissa, urged organised action by the villagers to realise their demands. In 1983, it helped form a fisherwomen's group, known as the Nan Shakti Sangha (roughly translated, women's power group) or NSS. Its first step was to encourage savings among members.

Village fisherfolk mailed 5,000 post-cards on the same day to the President, the Prime Minister and other VIPs, protesting against coastal pollution and other problems.

Members of the NSS saved Rs 5 per week. After a few months, the NSS decided to provide credit to members from the savings fund. A member who had saved continuously for six months would be eligible a loan up to Rs 500, provided she repaid the loan within 10 months. The NSS would receive a commission of Rs 10 on every Rs 100 of loan at the end of the repayment period.

The UAA then agreed to facilitate linkages between the NSS and banks and donor agencies. It provided a one-time grant to NSS for a revolving fund, which the latter used for local marketing of fresh fish and dried fish.

The success of the group-based approach of women from Nolia Naogaon inspired more fishing villages. By 1989, women from 14 fishing villages had approached UAA to facilitate the same process in their own villages. UAA prepared workplans for them to include regular meetings and training in record-keeping and financial management.

By 1994, 15 NSS-type groups or sanghas had been registered at the block and district levels. An apex body of fisherwomen's organisations was promoted at the



state level. This body coordinates action by members to address common issues and concerns. It promoted exchange of experiences with other women groups such as SIFFS, SEWA and MYRADA.

The apex body decided to address broader concerns such as coastal pollution, the encroachment of Indian waters by foreign trawlers, and the rights of fisherfolk to access the seashore (up to 500m high tide CRZ). The apex body planned and implemented a postcard campaign: some 5,000 post cards were distributed among fisherfolk along the Orissa coast. All the post cards were mailed on the same day, so that they were received by the President, the Prime Minister, the Chief Justice of the Supreme Court, the Minister for Agriculture and the Leader of the Opposition.

Today, members of the women's groups have taken up local issues and have reduced exploitation of coastal fisherfolk by money-lenders. A uniform savings and credit policy has been formulated for the sanghas. The sanghas sometimes share funds among themselves and thereby ease cash flow problems.

The government and financial institutions now approach the sanghas to channel and implement various schemes and services. Through the sanghas, grants have been provided for schools, roads, ponds, health centres and community halls. Both fisherwomen and fishermen have strengthened their collective bargaining power.

CASE STUDY

Building Community Institutions: Bicycle traders in Sri Lanka

This case study illustrates an intervention by the Post-Harvest Project to assist the cycle fish traders of Sri Lanka. The intervention had elements of both technology and socio-economics.

There are thousands of small-scale mobile retail fish traders in Sri Lanka, operating from the major wholesale markets and fish landing centres along the coast. These include an estimated 8,000 cycle fish traders.

A survey conducted by INASIA, a Project-supported NGO, found that more than 800 bicycle and motor cycle traders operated from the main wholesale fish market in Colombo – the St. John's Fish Market.

Background

Sri Lankans are a fish-eating community. More than 70% of the population are village-based. Most do not own refrigerators. They depend on cycle fish traders for their daily fish supply. The traders usually cut the fish according to consumers' requirements. They resort to credit sales to maintain good relations with consumers – though they themselves need credit from money-lenders at very high rates to carry on their trade.

The cycle traders work hard but lead a difficult life. Despite their immense contribution to Sri Lanka's national economy and the island's large community of fish-lovers, they get no recognition or support from either the government or the private sector.

- The cycle traders have no way of preserving unsold fish. By the evening they are compelled to dispose

of any unsold fish at reduced prices or risk spoilage.

- Fish prices fluctuate, depending on production and supply. So do the retailers' margins. Incomes are not stable.
- Cycle traders cover long distances to reach the marketplace.
- They are a highly disorganised lot, scattered over a wide area.
- They have no opportunity to meet and discuss common socio-economic problems.

On an average, a push bicycle vendor carries between 10 to 30 kg. of fish a day and a motor cycle trader between 25 to 80 kg. Assuming 10 kg. as the average, 8000 traders would be marketing around 80 tonnes of fish per day. They carry the fish up to the doorstep of the consumer, in containers strapped to their push cycles or motor cycles. A majority of the traders use wooden boxes, some use galvanised boxes, a few use styro-foam boxes reinforced with wooden frames. These boxes are unhygienic and lack insulation.

In 1991, the Project identified cycle traders as a target group – to study their social and economic conditions, and identify their problems, needs, aspirations and priorities with a view to:

Cycle traders at St. John's Market, Colombo.



A cycle trader delivers fish to a customer.



- Improving their income levels.
- Reducing trading risks and providing better-quality fish to consumers.

Preliminary INASIA surveys and studies revealed that one of the major problems of the cycle fish traders was non-availability of credit (to conduct business or meet urgent household and health needs). They did not know how to deal with commercial banks. Their sole source of credit was private moneylenders operating from the marketplace, who lent money at exorbitant daily rates of interest.

Formation of a co-operative for cycle traders

Following the INASIA surveys and studies, it was decided to work with the cycle traders operating from St. John's fish market. Initially, 31 cycle traders formed the St. John's market mobile cycle traders co-operative society. An insulated fish box was designed and developed and issued by the project to some members to test. The design of this prototype box underwent a number of changes to accommodate the views and opinions of users.

Encouraged by the success of the C'olomho experience, another cycle trader association was formed for cycle traders operating from Negombo. The two societies now have over 600 members. Each society has its own manager, with a 7-member executive committee elected annually. One of them is elected president.

Objectives of a co-operative society

- Bring together itinerant petty fish traders into a cohesive unit to strengthen their vocational identity.
- Bring about closer interaction and co-operation among the traders and guide them towards a common goal.
- Manage and regulate their socio-economic environment.
- Improve their living standards and achieve better social recognition.
- Provide better-quality fish to consumers at reasonable prices.
- Improve their access to credit and marketing.
- Establish links with government, non-governmental and community-based organisations.

The activities of the two societies are closely monitored and guided by INASIA, the project-assisted NGO. Continuous training, orientation and skill development programmes are being provided for managing of the two societies.

The two societies now have their own bank accounts and maintain records, registers, and ledgers. To inculcate the habit of savings and thrift, a number of credit schemes have been introduced. Each member is able to obtain an instant loan up to Rs. 1000, depending on his savings and repayment record. As a result of such innovative schemes, the two societies have successfully weaned most members away from private moneylenders who lend at 3 to 5% per day. Some members now have their own bank accounts and deal with commercial banks for their credit needs.

Apart from its support for cycle fish traders, the project successfully introduced fish trading to 37 unemployed people living in Kandy and Matale areas through a pilot venture. Ten multi-purpose co-operatives in these two provinces provided loans to some unemployed members to take up fish trading on push bicycles. The success of this pioneering activity has generated demand from co-operative societies in hinterland areas for fish marketing.

It is proposed to start more cycle trader associations for petty fish traders based at other fish landing centres in the island, and organise them into a federation.

Lessons learnt

- Forming a society out of scattered informal groups and holding their interest is difficult.
- Attitudinal change takes time.
- Project progress is slow: there is a need for continuous guidance, support and supervision.
- The cycle trader associations tend to rely heavily on the project and its partner NGO for management and financial support.
- The cycle traders give high priority to credit to improve their image. It also helps reduce their dependence on money-lenders.
- Sharing of benefits of the societies' resources among members is not equitable.
- Low priority for adoption of insulated fish boxes. Main reason: high cost of box, short trading time.

CASE STUDY

Building Community Institutions: An example of Rehania, set bagnet fishing community in coastal Bangladesh

How self-help groups and savings have helped a neglected fishing community of Bangladesh.

Bangladesh has many NGOs, but few of them work with small-scale coastal fishing communities which live in remote areas. Frequent cyclonic storms make them even more vulnerable. As a result, they suffer neglect.

One such community is in Rehania, on the southeast of Hatiya island in Noakhali district. Most settlers here came from northern Hatiya, where their land had been eroded by the river. They built huts on both sides of the embankment near the sea owned by the Bangladesh Water Development Board. To earn their livelihood, they operated set bagnets or worked as hired labour on SBN fishing boats.

In 1995, the Project held discussions with the set bagnet community at Hatiya. Groups of interested women came together and formed four mohila samities (women's groups). Later, one of the samities got dissolved; its members joined two other samities. Thus three samities, with between 20 and 30 members each, were established. They were advised to keep membership down to 30. (One group wound up mainly because of the group leader's inability to manage the members, and lack of transparency in running the group, which sowed the seeds of frustration and distrust). Purush Samities (male groups) were also formed later.

Every samiti formed subgroups of five members each, on the basis of common interest, with a leader for each subgroup. These leaders formed an executive committee. The subgroups began the habit of saving money with their very first meeting. Every group could change the savings rate by common consent. Project staff assisted these subgroups to keep records and maintain registers and savings passbooks.

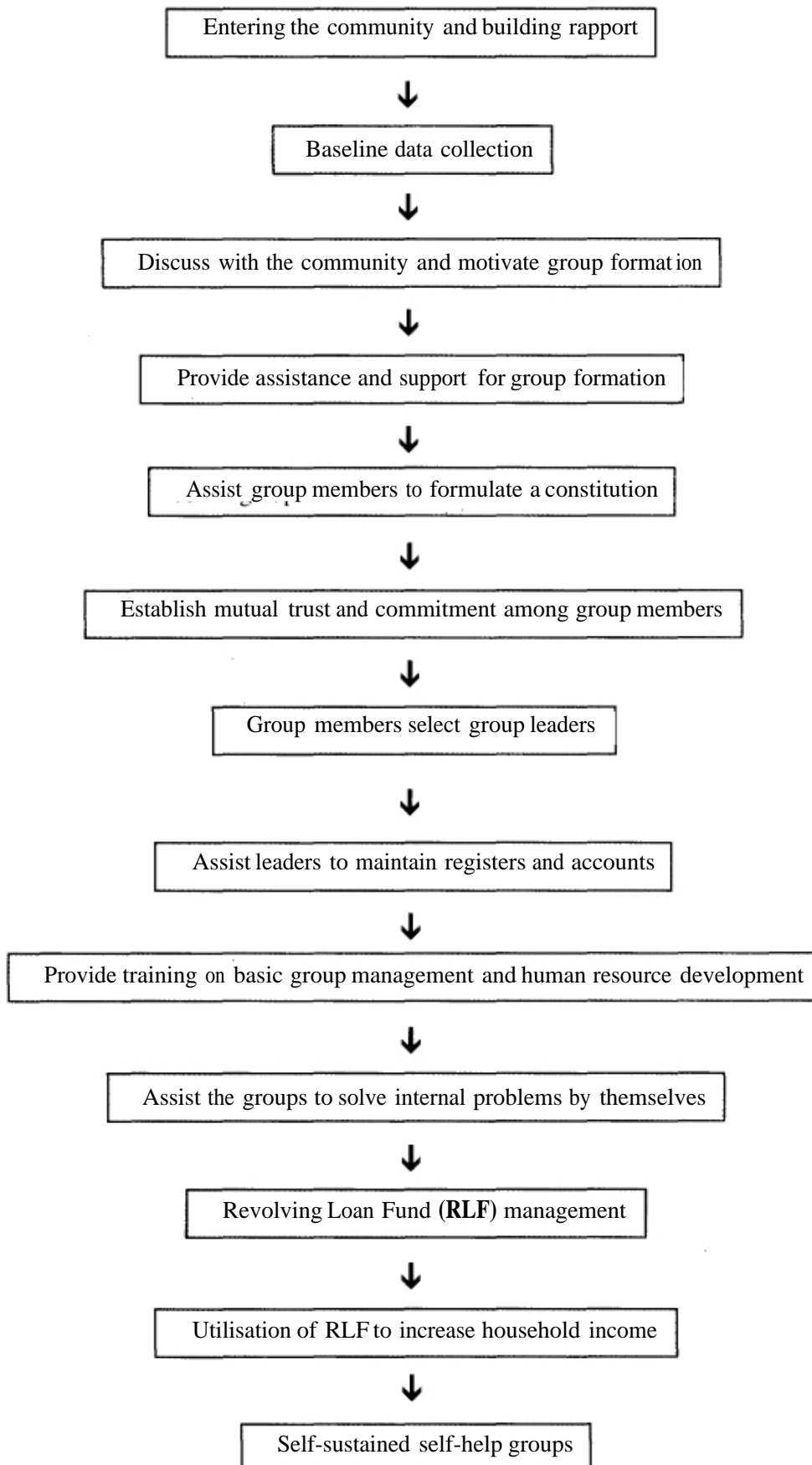
The subgroups identified and gave expression to the community's problems. Adult literacy and health service programmes were started for all three samities. A Revolving Loan Fund or RLF was also started for each samiti.

The executive committee is responsible for the fund and its utilisation. Before providing loans to members, the committee considers the purpose of the loan and the member's capacity to repay. Consent by two-thirds of a samiti's members is required for a loan to be sanctioned.

The groups have gradually got stronger, and are close to self-reliance and sustainability. Despite some internal problems, which they solved through group discussion, the samities are running well, with some assistance from the PHFP. It is a new experience for them to run their own Revolving Loan Fund and be responsible for it.



Steps Towards Community Institution—Building in Rehania



Assessment

The self-help groups in Hatiya are making progress towards self-sustainability. So far the groups are more or less stable. The Revolving Loan Fund has been handed over to the concerned groups. Management efficiency and income generated by use of RLF can be assessed after one 12-month cycle. The RLF is a new experience and a challenge for the group – to prove their strength, cohesiveness and trust.

Lessons learnt

- The groups' expectations should be kept low.
 - Community groups should be formed on the basis of their cohesiveness and common concern/interest.
 - Some influential/opportunist community members could interfere and try to benefit from the group. Care and tact are needed in dealing with them.
 - At the initial stage a group could wind up if proper leadership is lacking, or cohesiveness and common interest are missing.
 - Comprehensive training On leadership development, record-keeping and organisation management are essential.
- Differences of opinion on personal matters could lead to conflict and break-up of the group.
 - Family problems and obstacles posed by in-laws could make some members withdraw from groups.
 - Transparency of objectives and motives among members sustain the group even after group leaders desert it.
 - Group activities should be participatory and closely monitored.



CASE STUDY

Institution-Building in Bangladesh Coastal Fisherfolk Community Network (COFCON)

“Individually, NGOs in Bangladesh are often unable to effectively meet the needs of coastal fisherfolk. Collectively, they can.” COFCON was formed to enable such collective effort.

In Bangladesh, the Project invited a number of NGOs working in coastal areas to a workshop in December 1996 to identify the needs and problems of coastal fisherfolk communities and NGOs. Nineteen NGOs took part in the workshop, and identified and prioritised issues and concerns among coastal fishing communities.

The following month, the forum met a second time and formed a “Coastal Fisherfolk Community Network (COFCON)”. **It started with 33 NGOs, and a 9-member Executive Committee** was also formed. The forum prepared a constitution summarising the network’s goals, objectives, principles and approaches. **UBINIG (Unnayan Bikalpur Niti Nirdharoni Gabeshana)** was excluded, since it is registered as a private organisation, not as an NGO. Another NGO, Proshika, was also excluded from the forum because of non-participation. The membership of COFCON came down to 31.

These 31 NGOs organised “awareness workshops” in 20 coastal thanas. Government officials, political leaders, the social elite, teachers, journalists, fishermen, and fish traders discussed the alarming state

of marine fisheries and the problems of fisherfolk communities. These workshops created some awareness among the general public about current dangers to fishery resources, the need for conservation, **and the fisherfolk community’s problems.**

Twenty female and 27 male community facilitators from COFCON were given an orientation on problems and prospects of coastal fishing communities, and on communication skills which would enable them to work with the coastal communities effectively. This orientation course was supported by the Project.

COFCON started to publish a quarterly newsletter, **COFCON Barta**. The first issue, out in April 1997, aroused much interest among coastal NGOs. As of August 1997, 22 new NGOs had applied for membership of COFCON.

The COFCON Executive Committee decided to evaluate its membership and hired a consultant to do so. COFCON felt that assessing the legality and strength of member organisations was essential for the network’s sustainability.

COFCON has a vision for the future – of available resources being energetically harnessed to help poor

Awareness workshop in progress



fisherfolk communities. NGOs take collective initiatives through a process of networking and bear the collective responsibility to improve the socio-economic conditions of the people.

COFCON's "command area" is the country's coastal belt. It is free to work in any coastal area.

COFCON believes that poverty eradication and people's participation are mutually reinforcing concepts. COFCON will focus on

- Research, extension and capacity-building towards participatory community development.
- Advocacy and social campaigns to uplift the rights of the people; fishery resource management; fishery resource utilisation; combating destruction of the ecosystem; controlling environmental degradation and its effect on fisheries and the fisherfolk community.
- Consultative and participatory assessments, planning, implementation, management of sustainable livelihood strategies by artisanal coastal fisherfolk, especially behundi fisherfolk and pushnet operators catching shrimp fry.
- Network resources and capacities within COFCON and outside to ensure the achievement of overall goals and objectives,

Assessment

In Bangladesh, the coastal fishery is a neglected sector. All' fisheries development effort is directed at freshwater and capture fisheries. A forum makes possible advocacy at local, national and international levels through which stakeholders in the coastal fishery can assert their needs. The forum will also enhance the effectiveness of NGOs to solve the problems and needs of coastal fisherfolk communities. COFCON has already sparked enthusiasm among NGOs active in coastal areas, especially in fisheries.

Lessons learnt

On their own, NGOs are unable to effectively and efficiently meet the needs of coastal fisherfolk. Collectively, they can.

- Evaluation/assessment of an NGO is necessary before it is admitted to a forum.
- All members should agree on approaches to address fishing community development.
- Large NGOs were not interested in such a forum. It is medium and small-sized NGOs who are interested in networking.
- The forum enabled younger NGOs to learn from the more experienced ones and win their support.

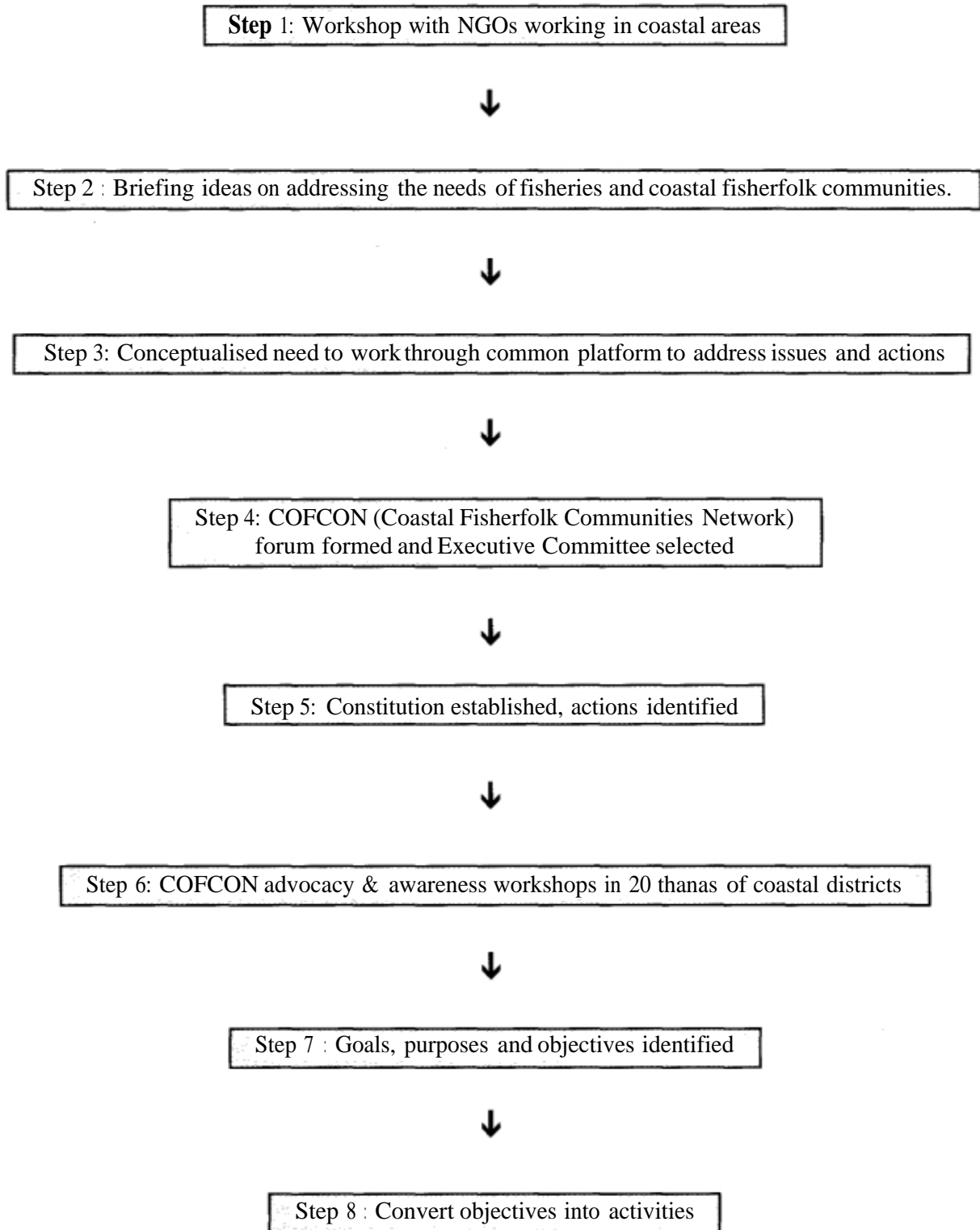
This enthused the younger NGOs.

- Such a network spreads information quickly to remote coastal areas.

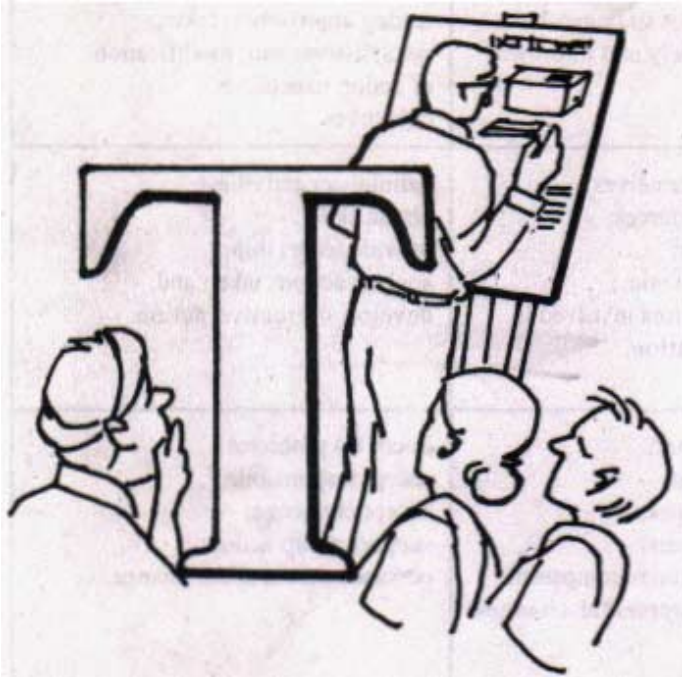
NGOs should shoulder responsibility collectively to improve the socio—economic conditions of coastal fisher folk communities. COFCON is an example.



Stages of COFCON evolution



Training



Training is a process of *learning* designed to improve the *performance of people* on their jobs. Training isn't the same as education or communication, though it has elements of the two. The three terms are often confused with one another. Training is an application of principles

derived from education and communication as well as from organisational science.

Let us examine each component of our definition of training.

Jobs: Jobs are made up of tasks. The number of tasks and their complexity vary widely from job to job. The relationships between the tasks also vary. If training is to improve job performance, the job itself must be fully understood.

People: The person to be trained brings existing knowledge, skills, and attitudes to that job, as well as ways of learning. We should therefore pay attention not only to the training goals but also to the goals and skills of the learner.

Performance: People's "performance" refers to how well they carry out the tasks that make up their job. When job performance is sub-standard, training may be needed to improve performance.

Learning: The changes needed to improve the performance of people in jobs.



Training needs for popular participation in development programmes

	Knowledge-building	Planning and decision-making	Action and corrective action
Understanding the problems	Develop awareness of problems; determine the need for change; understand the consequences of change.	Develop an understanding of: the value of planning; the importance of strategy; the need for timely and informed decisions.	Develop an understanding of the need for: organisation; testing approaches; taking risks; assessment; modification of action to achieve objectives.
Building capacities	Examine problems; gather data; organise data; identify major difficulties; develop substantive knowledge.	Analyse alternatives; estimate resources; set priorities; develop strategies; examine factors involved in implementation.	Administer activities; obtain skills; provide leadership; analyse actions taken and develop corrective action.
Attitudes and values	Enthusiasm for learning; positive self-expression; Self-confidence; active in discussion; individual and group interaction; proactive in communication; free in sharing with others; acceptance of others.	Work together; compromise; make decisions; mobilise others; identify attitudes compatible with developmental changes.	Focus on problems; accept responsibility; accept challenge; support group action; persuade others about change.



Attitudes needed in trainer and trainee

Trainer	Trainee
<ol style="list-style-type: none"> 1. Creating a learning climate in a group, in which all feel free to participate actively, 2. Recognising the needs of any group, and maintaining a spirit in which all members are able to contribute their best. 3. Keeping everybody involved and active through common agendas, using small groups whenever possible. 4. Following a process of decision-making that ensures that everybody 'owns' the decision and feels committed to carrying it out. 5. Taking people's feelings into account, and where necessary bringing them out into the open. 6. Dealing constructively with conflict, so that all are heard, new insights are included, and neither side feels that it has to withdraw. 7. Using regular participatory evaluation, 8. Giving and receiving 'feedback' in such a way that each person can grow, and blocks to teamwork can be overcome. 	<ol style="list-style-type: none"> 1. Willing to learn and to create a friendly climate. 2. Willing to listen and to improve communication skills. 3. To express feelings and reactions. 4. To assess needs together with colleagues. 5. To analyse the causes of problems. 6. Should be open to criticism. 7. Should discuss his/her experiences to help provide a better picture of the community or a better understanding of the problem. 8. Should provide a framework for creative thinking and active participation. 9. Should raise questions: why, how, who. 10. Should be active, whether the task involves describing, analysing, suggesting, deciding or planning.



Participatory concepts are designed to increase both the efficiency of training (the achievement of training goals) and the effectiveness of training (contribution to the objectives of development programmes).

In the work of the Project, the participatory methodology is adopted in social development training. The instructional and interactive concepts are combined in post-harvest fisheries technology training.

Post-Harvest Project and Training

Recommendations for a training strategy for coastal fishing communities

The Project aims at improving the handling, processing and marketing of fish in the Bay of Bengal region. Improving the fishing community's control over post-harvest activities is essential for this purpose. Promoting the socio-economic development of fishing communities – especially women, who are totally involved in all post-harvest activities – is another important aim.

Achieving this aim meant working with local NGOs involved with fishing communities, especially women. Such organisations need strengthening, specifically in post-harvest fisheries, so that they may take up project initiatives.

Hence, another immediate objective is

- Strengthening the effectiveness of local NGOs in their work with fishing communities, especially women.

For achieving these objectives, the project has several action components. A major component is training of the fishing community, especially women, and the staff of local NGOs at the managerial level.

Training fisherwomen meant helping them to

- develop skills in improved methods of fish handling and processing for better marketing.
- discover their abilities as women in a male-dominated social system.
- develop a sense of power within themselves, so that they increase their self-confidence and their ability to strengthen the community.

The training given to grassroots-level staff of local NGOs is somewhat similar to the training given to fisherwomen.

Training managerial staff of local NGOs means developing their ability to plan and manage post-harvest fisheries projects, focussing on the economic development of the fishing community.



Discussion about training needs — Tamil Nadu

Evaluation of training with NGOs

During the PHFP's second phase, a decision was taken to work with NGOs. A workshop was held in Nagercoil to discuss project planning and management with NGOs. This workshop aimed at strengthening the specific skills of NGOs in planning both technical and non-technical aspects of projects including the design of project proposals for funding.

Participants at the Nagercoil workshop comprised a highly heterogeneous group. It did not generate any specific follow up activity, but the participants gained immensely from it.

The Project wanted to build and improve on the workshop's experiences. It decided to design a course curriculum that would give NGOs the skills necessary to identify and plan fishery projects to improve the socio-economic conditions of fisherfolk.

A preliminary meeting to discuss a series of workshops on Fisheries Project Planning and Management was held in June 1993 with experts from the CIFT (Central Institute of Fisheries Technology), Cochin, the Mangalore College of Fisheries and the British Council Division.

In 1994, a consultant reviewed the training programmes conducted by the Project, and made the following recommendations about strengthening NGOs in the task of fishing community development.

- The project planning and management workshops should have sessions dealing specifically with approaches to social development.

- Exchange of visits between partner NGOs should be considered.
- The project should engage a training consultant for three weeks to work with the project's training officer in developing a longer-term strategy composed of the following elements:
 - techniques that trainers could use;
 - training methods (e.g. the use of different types of courses, exchange of visits, on-the-job training);
 - planning and managing community-level training courses;
 - identifying target group needs;
 - training course curriculum;
 - assessing the impact of training;
 - strengthening the training capacity of partner NGOs, especially in social development.

Following on from this, the Post-Harvest Project should develop a long-term training strategy that would cover

- institution-building for partner NGOs.
- skills training for community groups.
- social development training for community groups and NGOs;
- capacity-building of local training organisations.

After a study of available documents, field visits, and discussions with planners and trainers, in connection with the Project's training programmes, a Chennai consultant



Training in fish handling and processing was imparted to fisherwomen in the local language.

The three training goals of the **PHFP**:

- Training to build up the institutional capacity of NGOs.
- Training to build skills and promote awareness among women in fishing villages.
- Training to increase incomes through alternative income-generating activities.

These goals can be achieved through two levels of training:

- Training for NGOs and Government officials,
- Training for community groups.

made several recommendations about institutional strengthening of local NGOs.

- the training should be intensive and in the local language;
- it could be imparted at the fishing village or at training institutions;
- it should be practical; theory should be linked to practice.
- the approach to training should be participatory, focussing on the process of learning;
- methods and materials should be developed or selected which are appropriate for building the capacity of the trainees.
- a "Training Unit" should be formed within each partner organisation, consisting of select staff.

The box (on page 36) contains the recommended curriculum for "training of trainers."

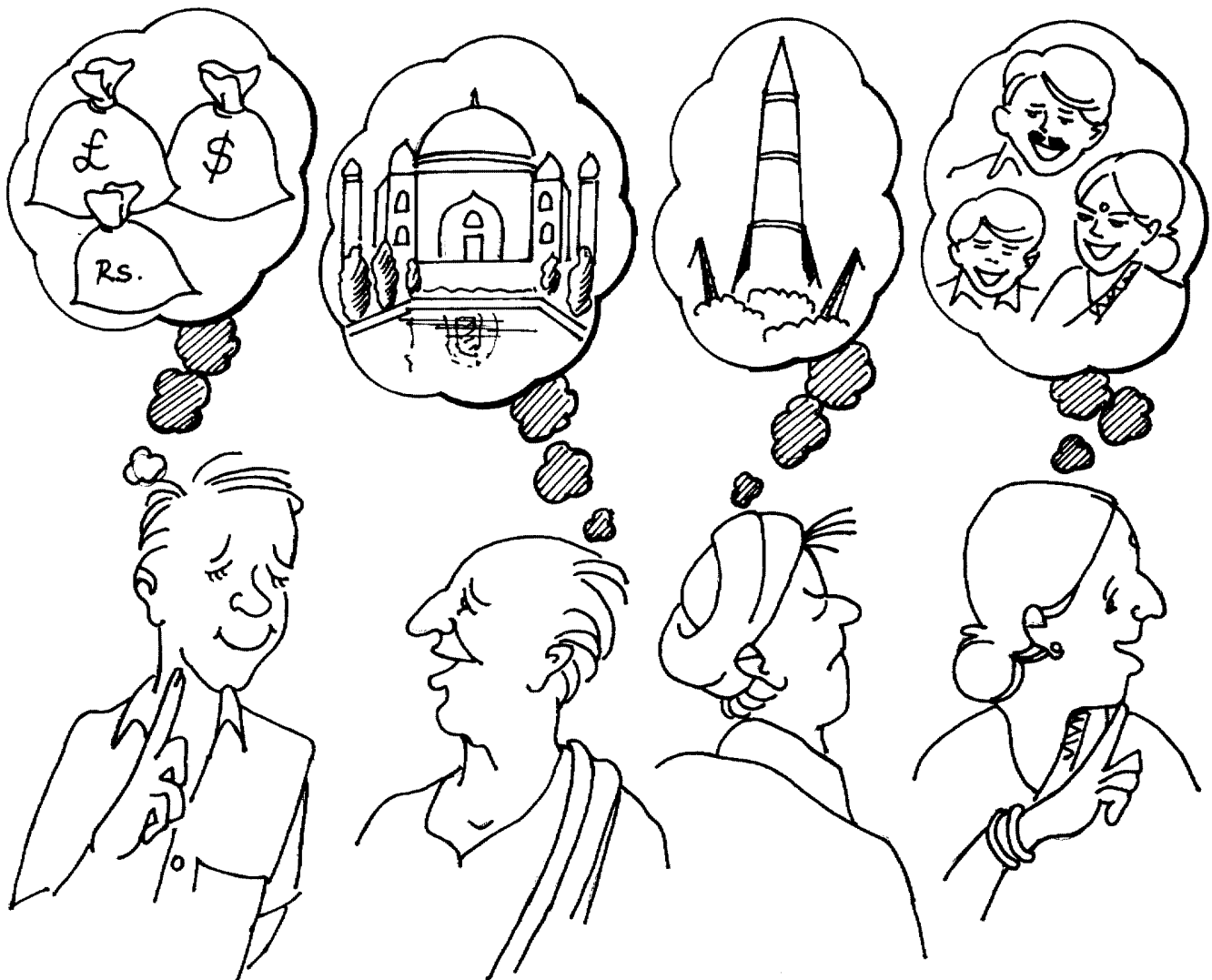
Since the project was scheduled to close by March '98, DFID in consultation with NGOs at the workshop decided to concentrate over the next two years on developing a resource team within each partner NGO and on working with it.

In the light of these recommendations, the Project's three main partner NGOs in Tamil Nadu – Santhidan, ROSA and COPDANET – considered their own training needs, planned curricula and conducted training programmes accordingly. Meanwhile, the Departments of Fisheries in Orissa, Andhra Pradesh and Tamil Nadu realised the need for a 'trainers' training' for their extension staff. and requests were made to the Project for conducting the training.

Recommended curriculum for “Training of trainers”

- Understanding the concept of development.
- Developing skills in communication – listening, observing, providing feedback, levels of participation in discussion, decision-making.
- Practising methodologies that promote participation : discussion – questioning, role-plays, simulation exercises, field visits and PRA methods.
- Self-analysis.
- Skill development in post-harvest fisheries technology.
- Planning field-level training programmes.

Developing skills in monitoring and evaluation through a built-in monitoring and evaluation system in the training programme itself.



Understanding the concept of development

How the project benefited, and what it learned, from its approach to training and the training methodologies adopted

- ❑ It enabled the project to get close to fishing communities.
- ❑ Improved the project's awareness of the economics of fisheries technology.
- ❑ Training cannot be a one-shot effort. It has to be followed up regularly.
- ❑ Post-training follow-up in the field is necessary.
- ❑ The participatory methodology makes possible free expression of individual opinions.
- ❑ What is the right training approach? It is not converting others to your point of view. It is helping them to understand their own viewpoint with reference to those of others, including that of the trainer.
- ❑ The trainer is not an expert. He isn't omniscient. He is only a facilitator in a process of self-discovery.

Points to consider in selecting trainees:

- ❑ Lay down clear criteria for selecting a group (qualifications, background, work experience).
- ❑ Carefully examine the purpose of training.
- ❑ Meet NGOs face-to-face to assess their needs before selecting trainees.

The training venue:

Training in fish handling should be done at the village level. Else, it creates the impression that it can be done in a laboratory not in the field



Participatory methodology – many perceptions, many opinions.

How the communities benefited from the training

- ❑ Organised efforts to analyse the lives of rural communities, identify both long-term and immediate problems, consider solutions, and take decisions for action, help to strengthen members of community groups. Training is an example of such efforts.
- ❑ The communities come face to face with a social system that seems to oppress the poor, and poor women in particular.

Useful information provided by the training:

- ❑ The need and value of sangams or co-operative societies.
- ❑ Accounting procedures concerning receipts and book entries.
- ❑ Government development schemes for the rural poor.

What women participants of "Sangams" (savings groups) learned, in their own words;

- ❑ We recognised our low status within the family and the community.
- ❑ I should analyse my household problems and understand them before solving them.
- ❑ I am able to move freely with others.! no longer indiscriminately oppose other viewpoints.
- ❑ We helped two groups of women to stop fighting and understand each other.

Skills acquired by members

Capacity building: Members acquired the skills to express themselves orally in groups; to listen to, observe and understand others in the groups; provide feedback; take part in group discussion. They learnt about decision-making for group action, about planning for action and implementation. They improved reading and writing skills in the language of the region.

Occupational skill development: Members improved their skills in post-harvest fisheries technologies such as fresh fish handling, drying, manufacture of value-added products, marketing.

Group building/team building: The training inculcated attitudes and values that emphasised the development of human relationships within a family, within a women's group, within a community as a whole. An environment conducive to healthy and positive attitudes self-respect, respect for others, mutual trust, co-operation and humility - was promoted.

"We helped two groups of women to stop fighting and understand each other".



CASE STUDY

Training of Trainers – ROSA

ROSA at one time maintained a very low profile in Nagapattinam, TamilNadu. Now it is widely known in the area. Training activities have played a part in strengthening recognition of ROSA.

The Project developed a poverty alleviation focus during its third phase. This was reflected in support for NGOs and fisherfolk communities by building their capacity for self-help.

Capacity-building is accomplished through training. Select NGO staff were trained in community-building and in post-harvest fisheries activities (skills were imparted in handling fish, use of ice and making value-added products).

The basic strength of good NOOs, apart from their energy and commitment and their knowledge of communities, lies in their ability to identify the right person to work with the community. Their basic approach is to form women's groups around savings and credit. They need inputs to strengthen managerial capacity and to train their staff in development work with communities.

The project's initial discussions led to the finding that NGOs need skills in project planning and management and in project formulation for funding support. The communities had to understand the need for co-

operation and self-help, which meant training in self-help groups and group-building. The best trainer a community can have is someone from within the community – who speaks their language and enjoys their trust. He or she obviously has to be educated and skilled. Hence the concept of "training of trainers."

The best trainer a community can have is someone from within the community – who speaks their language and enjoys their trust.

ROSA's self-help groups

Two of the project's partner NGOs (Santhidan and ROSA) identified core staff and requested the Project to train them as trainers. Santhidan staff were experienced and had had some training earlier. ROSA staff, except one, were new to community work but were keenly interested in learning. A workshop held in December 1994 in Nagercoil discussed training plans for both NGOs. A curriculum was developed focusing on capacity-building and problem-solving

Animator's meetings



Training programmes on Post-Harvest Fisheries for Departments of Fisheries

Issues such as credit and marketing are usually given less importance during the pre-harvest stage, but they are an important part of post-harvest fisheries. Training programmes for government departments must stress these issues.

How does post-harvest fisheries differ from pre-harvest? One significant difference is that issues like credit and marketing, which are usually not part of the mandate of the Department of Fisheries, are relevant to post-harvest fisheries. This complicates planning, implementation and monitoring of any development activities in post-harvest fisheries.

Technology transfer used to be the main focus of government agencies. The more important question of who the technology was going to benefit, i.e., the target populations, was overlooked. Consequently, imbalances were created in access to fisheries resources. The environment necessary for small-scale and marginalised communities to survive and thrive was not established.

Numerous government and quasi-government agencies in Orissa and Andhra Pradesh have taken up post-harvest fisheries...

Training programmes for Department of Fisheries officers in Andhra Pradesh and Orissa, conducted at the request of the DOF itself, tried to bring out these issues and look at possible strategies for tackling them.

The training programmes were essentially awareness programmes. They dealt with technical problems related to fish handling, processing, storing and marketing of various fish and fishery products in small-scale fisheries. This involved hands-on training for the officers on fish handling and processing both onboard and on shore, and field trips to villages. Constraints and problems that confront fisherfolk using improved/hygienic handling and processing methods were discussed, also potential areas of improvement for disposing of catches. A training programme would generally last about 3-5 days, depending on the subjects covered. The participants were from the middle level of the Department of Fisheries. Some NGO representatives were also included.



Awareness programme with DOF in Hyderabad

Strategies for undertaking post-harvest activities were generally discussed at the end of the programme. All participants would be asked to prepare a project report based on the needs of the communities in their areas of work, and send it to the Project within a month of the training programme. The response was quite encouraging, with about 70% of the participants sending their proposals in the stipulated time period. In fact, the Project's activities in Orissa are a direct outcome of proposals submitted by trainees at various training programmes.

That the training programmes have been useful is underlined by the fact that the DOF in both Andhra Pradesh and Orissa, as well as numerous government and quasi-government agencies, have taken up post-harvest fisheries, and are planning to introduce a number of PHF-related tools in the near future, many of which target small-scale fisherfolk and petty fish traders. The State Institute of Fisheries Technology, Andhra Pradesh, is in the process of including post-harvest fisheries in its curriculum.

skills, on inculcating attitudes and values among the community for collective action.

The Project supports a part of ROSA's activities. But all of its staff benefited from the project's training programmes.

Before contact with the Project, ROSA had carried out literacy related activities in three villages. After the Project started its training programmes (around January 1995), ROSA expanded activities to a dozen villages including six fishing villages.

At present, 19 ROSA self-help groups operate in six villages. More women are interested in forming groups. However, bank support for the self-help groups has been insufficient, despite the recognition won by self-help groups for regular loan repayment. The lack of bank support has slowed the pace of group formation and tempered enthusiasm.

Animator selection is crucial to the success of the entire "Training of trainers" exercise. If the animator is from the local area and has the right attitude, she can be a great help as a problem-shooter.

Animators in the ROSA area have been systematic in conducting group meetings and energetic in addressing problems. The women of Kuttiandiyur village, for example, approached the officials concerned and obtained borewells for drinking water. Sangam members from the six villages succeeded in getting land to construct sheds; these could be used to hold meetings and conduct classes in non-formal education. Women in Vellakovil obtained sanction for constructing roads and bridges through their concerted efforts, and work is in progress. Women have been managing tricycles and fixing tariffs for use of the tricycles.

ROSA has been successful in securing the services of students from the social work departments of local colleges. Its animators are invited frequently to take part in college functions and discuss their experiences with students. All-India Radio has invited them to give talks. ROSA at one time maintained a very low profile. Now it is widely known in the area. Training activities have played a part in strengthening recognition of ROSA.

Credit should be given to animators for their innovative approach. They didn't stick to what they learnt in the training programme. They made their

own recipes for preparing fish pickles, worked out the costs and fixed the prices and organised the marketing themselves.

ROSA animators recognised the training needs of the fisherfolk communities of the area and identified their own training needs. They identified leaders in the community and made them responsible for community activities. Consequently, the animators attracted the attention of village elders, health officials and other government functionaries in the six villages. All of these people now approach the animators for assistance in disseminating information and implementing activities.

The animators can conduct awareness programmes for self-help groups on their own. They can write their own scripts and work out their own solutions to problems identified.

Constraints to the follow-up

The Project expended much effort on training the animators, on the assumption that the skills they acquired would remain with the communities. However, in many cases, the animators happen to be unmarried girls, who will leave their job and the village on getting married, and the community loses their services. However, some other community may benefit if the animator is able to continue working with that community.

Lessons learnt:

- Animator selection is crucial to the success of the entire "Training of trainers" exercise. If the animator is from the local area and has the right attitude, she can be a great help as a problem-shooter.
- An animator who comes from the community can play a better facilitative role than one who is an outsider, because she is easily accepted by the community.
- The training should be continuous and not a one-shot affair. Problems that the trained animator encounters in the field should be discussed and solved at a follow-up session. Training doesn't have to be a structured or elaborate affair each time. Advice provided through discussion or a staff meeting is a form of training.
- Field work should follow the training. This is a must. Else the training is only of limited value.

CASE STUDY

Training Experiences: Sri Lanka

Several training programmes were undertaken in Sri Lanka to help mobile fish traders, a vulnerable low-income group, and impart both skills and self-confidence.

In 1991, the Project, with the assistance of IRED, an NGO, undertook a study of mobile petty fish traders operating from St. John's Fish Market (SJM), Colombo.

Objectives of the study:

- To increase the incomes of small-scale fish traders (who use bicycles or motorcycles to deliver fish to household consumers), initially in the Greater Colombo area and eventually throughout Sri Lanka.
- To reduce the risks inherent in fish trading, improve the availability of better quality fish to consumers and lessen health hazards associated with poor post-harvest handling.

The project sought to introduce an improved ice box, more hygienic and with better insulation properties than other ice boxes, among the traders. It was believed that this box would help improve the quality of the fish.

IRED undertook a series of base-line studies, needs assessment surveys and workshops to identify the characteristics and socio-economic background of the small-scale fish trade, as well as the basic problems, needs and aspirations of the traders.

Strategy

Initially, 31 volunteers were selected out of more than 800 cycle traders operating from St. John's Market. After some discussions and workshops, a co-operative society was formed of the cycle traders. A similar co-operative was formed for cycle traders operating from another major fish landing centre, Negombo.

IRED organised several training programmes and workshops to upgrade the skills of the co-operatives' members. The areas covered were

- Needs and problem analysis.
- Leadership qualities.
- Awareness building.
- Motivation.



Baseline studies to identify characteristics of small-scale fish traders.

- Management and administration.
- Basic book keeping and accounting.
- Financial management, banking, interest calculation.
- Participatory Rapid Appraisal methods.
- Micro-enterprise development,
- Problem analysis.

Even people with very little formal education can be trained to take up management responsibilities,

Technology-oriented workshops and training programmes were also conducted with the assistance of scientists from NARA (National Aquatic Resources Agency). These helped educate members on how to identify good and bad quality fish; how and why fish spoilage occurs; the handling, packing and icing of fish. They were also taught about proper maintenance of the insulated fish box.

The training helped members overcome many of their day-to-day problems concerning the handling of fish. It also strengthened their management skills and built up their confidence. To improve the management of the society, a 7-member executive committee was formed. A full-time manager, responsible for day to day operations including issue of loans, cash collections, banking and book keeping was appointed,

Training was provided to the cycle fish traders in several areas including basic book-keeping and accounting.



Lessons learnt

- People from distant locations with common problems can be brought together to form an organisation of their own.
- Even people with very little formal education can be trained to take up management responsibilities.
- In spite of being trained, the members were not sufficiently motivated, as a result of lax management and financial controls by the executive members. Training, unless followed up with proper mechanisms for utilising it, would not be sufficient to bring about changes in working patterns and outlook of people.
- Training as a one-off exercise will not achieve its objectives because bringing changes in the attitudes of the people is a long drawn process, requiring continuous motivation and orientation. The motivation of the people to undergo training could also depend on the financial support that they expect to get from the supporting NGO, which might lead to dependence on the NGO for implementing any follow-up programmes.
- A well-structured institutional base is necessary for an organisation to access external resources, especially when the target group is socially and economically backward.

CASE STUDY

Training experiences: Bangladesh

Training, coupled with modest funding, can be valuable for grassroots-level NGOs. It can make them more knowledgeable and effective.

NGOs are the most appropriate organisations to support fisherfolk in coastal districts of Bangladesh. To address the needs and priorities of coastal fisherfolk, the Project aimed to build the capacity of selected NGOs through a series of training workshops to promote sustainable income enhancement in small-scale fishing communities.

Seven NGOs from different locations of the coastal areas were selected (AZAD, BSUS, CODEC, GUP, JBPB, Proshika and UDDIPAN). Two representatives from each NGO participated in the training workshops.

From May 1993, a series of six training workshops was organised, using participatory methods and techniques. Besides giving the participants a socio-economic framework to assess the fisherfolk community's specific needs and problems, the role of NGOs and GOs in addressing poverty in coastal regions was also highlighted. At these workshops, the following subjects and skills were covered:

Participatory Rapid Appraisal methods.

Status of fisherfolk.

Needs and problem analysis.

- Baseline survey techniques and group profiles.
- Group formation and mobilisation.
- Guidelines for project identification.
- Project formulation guidelines and identification of IGAs.
- Savings and credit management.
- Micro-enterprise management.

Following the training, the participants undertook field work using Participatory Rapid Appraisal (PRA) to:

- Identify target groups and potential group members.
- Assess felt and actual needs.

- Conduct baseline surveys and prepare group profiles.
- Form fisherfolk groups and mobilise them.
- Undertake problem-analysis to identify suitable options to help target groups.

The participants put their learning into practice through community institution-building in a typical location. Learnings from this practice were discussed and the findings disseminated among interested agencies and institutions.

Assessment

Most NGOs implement identical package programmes for farming and fishing communities though their needs and priorities are different. The series of training workshops gave participants the opportunity to change some of the ways they work with coastal fisherfolk communities. Moreover, the training strengthened the capacity of NGOs to build community institutions. Participation in the workshops enabled NGOs working in coastal areas to exchange views and experiences. It made them think of a common platform – a network.

Lessons learnt

- Small/grassroots level NGOs could be assisted by larger and more experienced NGOs.
- Learning through practice is much more effective than classroom training. Problems could arise during practice, which might not be perceived during theory.
- This kind of training workshop helps NGOs share experiences and create a foundation for future partnerships.
- Training, coupled with funding at a modest level, can be valuable for grassroots-level NGOs. It can make them more knowledgeable and effective.

Training fisherfolk NGOs in street theatre

Street theatre can be a powerful communication tool in a rural community — particularly to provoke thinking or discussion. Here's a report of a training programme on street theatre conducted for animators of an NGO in Tamil Nadu, India.

Street theatre is a powerful form of self-expression in rural communities. It is staged in the open. The actors are drawn from the community. The audience therefore identifies fully with the play. No wonder Street theatre has an impact that print and even audio-visual media cannot match.

How can Street theatre be made an effective communication tool in fishing communities? The best way is to train some leaders or animators from this community. Here's a report of a 4-day training programme on street theatre from Nagercoil, Tamil Nadu. It was held for 19 women from the NGO Santhidan — five community organisers and 14 animators.

The main trainer was Mr P J Britto, Director of the Indian Institute of Social Development, Thanjavur, who has conducted over 1,000 training programmes, many of them on street theatre.

Mr Britto's first task was to know and assess the group he was to train. He asked participants to come forward and sing a song — it could be devotional, film-related, folk, pop, anything. The groups were then asked to form pairs and perform instant role plays — e.g. as husband and wife, father and son, doctor and patient, mother-in-law and daughter-in-law. The songs and the role plays gave Mr. Britto a good idea of the group.

"Let's form committees," said Mr Britto. "There's a lot to be done, and the responsibilities have to be shared." Four committees of two members each were set up for report-writing (detailed proceedings of each day). There was a 4-member committee for "maintenance", a 1-member committee for time-keeping, a 1-member committee for obtaining medical help (if necessary), a 7-member committee to compile a book out of the entire exercise. There was also a central coordinator for the whole exercise.

The participants learnt and discussed theory, took part in games and exercises, wrote role plays and stories, some of which would be selected for the actual performance. Group members learnt to use musical instruments — such as the *dholak* and the *kanjeera*. They began work early every morning and were on their toes till late in the evening.



A game to demonstrate team effort.

Theoretical inputs

Mr Britto told his trainees about the nine elements of street theatre — space, body, script, sound, rhythm, time, audience, mind and imagination, team and teamwork. He dealt with each of these elements in detail. He conducted exercises and games to enable the team to understand these elements better. A few examples of games:

Aim: To induce confidence and trust among the participants. Every participant was asked to fall without inhibition in front of a fellow-participant. "Just fall. Don't worry about injuring yourself. Your partner will hold you before you hit the ground," Mr Britto admonished. Till she fell properly, the participant had to repeat the exercise.

Aim: To display and develop body co-ordination. Participants danced in pairs, their arms round each other, a potato between their foreheads. The potato wasn't supposed to fall. The potato dance was good fun — though the dancers were panting at the end of it!

To demonstrate group effort or team work: Six women had to lift up one of their colleagues by stages – the final stage being above the head. The burlier participants posed problems, but the task was accomplished.

Efforts at story-writing, song-writing and playing musical instruments posed a different kind of challenge. “I’ll start writing stories regularly from now on,” gushed one participant. By the end of the second day, the busy participants had written up five plays in the rough. Two plays were selected for the next day’s performance, one on alcoholism, another on ice and ice boxes – a social theme, a technology theme.

The play on alcoholism highlights the plight of a typical fisher family. The man is addicted to the bottle, the woman is distraught and ill-tempered, there’s neither food nor money in the house, the child has to leave school because fees are unpaid and books are not bought.

The 150-strong audience got totally involved with the play. One woman in the audience got terribly angry with the main character, the alcoholic. “Flog him”, she yelled out to the suffering “wife”, forgetting that her “husband” was actually a woman animator from the community.

The play on ice boxes aroused interest in the technology. People wanted to know how much the ice boxes cost, where they would be available.



The girls were tired and excited after the performance, but a lot of work remained to be done. The “book committee” worked during the rest of the evening to compile the learning materials from the entire training programme – the plays, the scripts, the songs, the games, the exercises – into a resource book. It was in fact a complete record, virtually written overnight!

Santhidan’s 19-member resource team is richer for the training experience in street theatre. At the end of the training, they were eager to put their skills to use.

Audiences are fully involved with street plays.



Women

Why consider women in PHF?

- They are active in post-harvest fisheries.
- They care for the family. This is their first priority, which may not often be the case with men.
- They add to family income and save for the future.
- They are constantly marginalised.

How are women marginalised?

- Women in fishing communities are oppressed, both domestically and socially;
- They lack organisation and have little say in decision making;
- A major share of their labour inputs remain invisible;
- Low level of literacy. Concern for women's education is absent;
- Property inheritance – women suffer severe discrimination;
- Poor access to technology, information, jobs or capital;

- They have limited control over the use of income.

These and other constraints hamstringing women.

Role of women in fisherfolk community

The role of women is not confined to domestic or reproductive activities, as is generally understood. They play multiple roles (page 48).

The Post-Harvest Project seeks to assist women overcome their obstacles and strengthen their capacity for overall development.

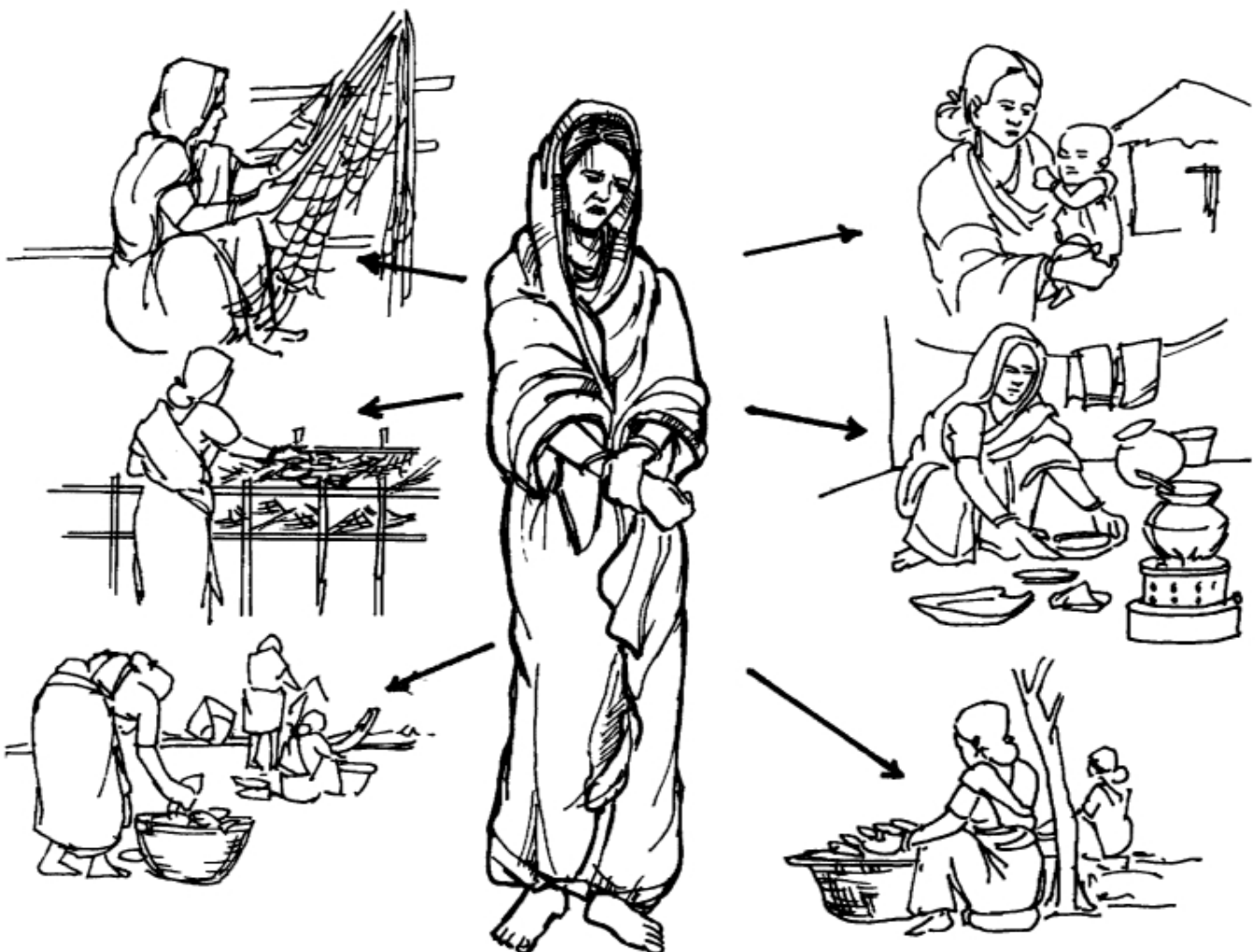
The project's agenda to assist women in fishing communities:

- Organise the women into groups;
- Ensure women's participation in decision-making;
- Increase level of awareness on legal, social and home management issues;
- Strengthen knowledge and skills to increase incomes through post-harvest activities as well as alternate income-generating activities outside fisheries.



The many roles of women

Productive	Reproductive	Community-based
<p>1. Activities that generate income:</p> <ul style="list-style-type: none"> – net making/repair – fish handling, sorting, grading – fish trading – fish processing <p>a. Activities in paid employment:</p> <ul style="list-style-type: none"> – drying – processing – marketing <p>b. Income in kind:</p> <ul style="list-style-type: none"> – work in farms 	<p>1. Domestic activities that household responsibilities:</p> <p>a. <i>Creative role</i> Child bearing, caring for children.</p> <p>b. <i>Maintenance role</i> Cooking food, washing clothes, growing food for own consumption.</p>	<p>1. Intervention with the community — to discuss, tackle and solve community issues.</p> <p>2. Religious and cultural activities (such as a community celebration of the Diwali festival)</p>



Many roles of women.

Role of women (along India's east coast) in value-added processing and marketing of fish

Micro-level interventions combined with macro-level lobbying – that's the only way the problems of women can be addressed, says a project seminar paper abstracted here.

Women from fishing communities constitute a high percentage of fish workers in India, and are major players in the post-harvest fisheries sector. But their labour and their contribution to the sector are not reflected in the census or in surveys of fishing communities. Many of their needs remain unaddressed and ignored.

Women are active in processing – including icing, drying and smoking fish – and in marketing it. They perform these tasks at home or work as labourers in commercial processing units. Some practices, like fish smoking, expose women to extremely hazardous working conditions.

Fish marketing is another important women's activity. The profits they earn depend on the kind of species they handle, their investment capacity and the markets accessed. They are hamstrung in their fish marketing work by poor access to credit. They usually take credit from informal sources at high rates of interest. They do not usually go to institutional sources such as banks. But recent NGO and other interventions have led to credit schemes that the women have found attractive. However the question of control within the household over the money obtained as credit remains unanswered.

Transport is another problem, because of the remoteness and isolation of fishing villages, and poor linkage with state-run bus services. The general bias against fish vendors makes entry to buses difficult.

The issue that comes up repeatedly – whether we discuss women's role in producing value-added and processed products, or in organising fish marketing – is their control over fish resources. Be it fish, credit or transport, women find themselves marginalised. This is partly a result of centralised production systems arising out of mechanisation.

Micro-level interventions together with macro-level lobbying is probably the only way these problems



Women are active in fish smoking in Andhra Pradesh.

can be addressed. Only then will the contribution of women to post-harvest fisheries get the importance it merits.

(Abstract of a paper presented by the Project at a seminar held during May 26-30, 1997, in Kuala Lumpur, Malaysia. The subject of the seminar: Enhancing value-added production and marketing of fishery products in Asia and the Pacific.)

INFORMATION NOTE

Income-generating activities for women in Bangladesh

A summary of the scope for income-generating activities that exists for women from the fisherfolk community in Bangladesh – in and outside fisheries.

Fisheries is regarded mainly as a male preserve in Bangladesh. Though women take part in a wide range of pre-harvest and post-harvest activities such as net making, fish handling, processing and marketing, the role of women has been unrecognised, undocumented and ignored. A literature search revealed that little has been done to improve women's participation in fisheries, or bring women into the mainstream of fisheries development. They need empowerment.

The status of women in fishing communities usually depends on their families' economic position and their assets. Only by contributing cash to the household, can women enjoy some decision-making power within the household.

What is the scope for economic activities by women within and outside fishing? Here is a summary.

Net-Making

A study in a fishing village revealed that 86% of working women are involved in net-making (Banu & Mustafa, 1992:18). However, net-making is not considered a regular job and a regular source of income, because wages for net-making are very low. Fisherwomen generally make nets for their own family, for which they are not paid. But sometimes they make the nets on order for others. Twine is provided to the women for net-making. The wages for net-making vary according to area, demand and urgency, and also depend on the fishing season. During the peak season, the women get a good price for their nets; the lean season rate is lower. Now-a-days, net fabrication machines are displacing fisherwomen from their traditional net-making activity.

Fish Fry Collection

Because of extreme poverty, many poor women and girls from fishing communities catch shrimp fry from rivers and the sea-coast. Women take part in fry-collection and fry trading either as family labour or as independent catchers. A UBINIG study found that only women from the poorest families work as fry collectors. Women in families without male earners catch fry to earn their livelihood despite cultural, social and religious taboos. (UBINIG 1990:10).



Fry collectors need to buy nets and **some** other equipment. If there is only one net in a family, it is the male who uses it. The women would use a second net if one was available. Since fry collection is outdoor work, it is not suitable for women who have heavy household responsibilities.

Fry sorting is another activity in which women take part. Even when the men collect fry, it's the Women who do the sorting. However, fry sorting can be done in between household chores.

Preparing Fishmeal

Women prepare fishmeal for aquaculture. They usually do not sell it direct to the market but to middlemen. The women also work as paid labourers for preparing fishmeal.

Handling, Preservation and Processing

Women help unload boats and nets, and sort fish. They are also normally responsible for fish processing – i.e., sun-drying and salting. They supplement the family labour.

In most small-scale fishing communities, the women dry any unsold catch. This dried fish is sold or used

for the families' own consumption during the lean season. During winter, many women buy fish from landing places for sun-drying and later sell it to the traders who visit their village to buy dried fish. Or the women sell dried fish directly to consumers. In commercial fish-drying areas, women also work as paid labourers.

Marketing

In many places, women sell fish in their own or adjacent villages and sometimes to the market nearby. These women buy fish from landing centres and carry it on headload or by rickshaw to the nearest market. Sometimes, they sell it door to door. Most of the women fish traders are from the traditional Hindu fishing community. They are either old, divorced or separated from their husbands, or widows. Young wives are generally not allowed to sell fish.

In Bangladesh, both men and women in fishing communities, whatever their religion, regard women's participation in fish marketing as socially undesirable. However, growing poverty and unemployment have driven women to selling fish and collecting fish fry, which are not regarded as prestigious activities. Fish marketing is considered a low-status occupation for women and those engaged in this activity belong to the poorest strata of the community.

Income-Generating Opportunities Outside Fisheries

Fishing is a seasonal occupation – with periods of bounty and scarcity. Both women and men often face long stretches of unemployment or underemployment. Rural women in an agrarian society have a wide choice of agricultural processing jobs which they can take up to earn a little money. But women in fishing communities do not enjoy such an advantage because they lack cultivable land in their surroundings.

Very few members of fishing communities own cultivable land. Household density is high. Activities that need space – vegetable gardening, livestock rearing or nursery – are not possible for women in coastal fishing communities. Cultural norms do not allow the women to go far from their households.

Another constraint is that women from Hindu fishing communities cannot work in neighbouring non-fishery Hindu households, as the fishing community supposedly belongs to a lower caste.

Women from fishing communities need external support – credit or training – to take up non-fisheries activities. Some NGOs are trying to interest fishing communities in economic activities outside fisheries. Examples:

Cane and Bamboo Work

Women in coastal fishing villages help make baskets, mats, stools, hand fans and other products with cane, bamboo and date palm leaves. They do this whenever they have free time. The products are sold in the village market or from their homes, but often, these are used in their own households – which means no income.

Mat-making

The majority of the women have mat-making skills. Plants, locally known as *pati pata*, are used to make mats. Besides household use, some women sell these products at the village market. The quality of the mats is very good. Some of the designed mats are very attractive, but because marketing facilities are limited, profitability is low.

Poultry and Livestock

Very few women own livestock. Hindu fishing communities are superstitious about chick rearing, only ducks are reared. Income from the sale of eggs and poultry is used to buy household essentials.

Small Trade

Some destitute women in fishing communities are active as small-scale traders or vendors. In most cases, these women sell household goods, toys, bangles and cosmetics in the village market nearby, or from door to door.

Rice Husking

Many agrarian families are pushed to coastal areas by river erosion, and become fishermen or hired labourers in fishing vessels. A few women from such communities engage in rice husking, though on a small scale. They purchase paddy from the market, and after soaking, drying and husking, sell the rice in the market.

Women in fishing communities are now quite willing to tap income-generating opportunities outside fisheries.

PHFP's activities to assist women in India

The Project's activities for fisherwomen in India have ranged from use of fish containers, drying racks, fish smoking kilns, and tri cycles for fish transport to support for NGOs, training for self-reliance, and better access to credit.

Women in fisheries in India's east coast take part mainly in shore-based post-harvest activities such as fish handling, sorting, grading, gutting, drying, processing and marketing. They also serve as agents and auctioneers, as vendors in streets and marketplaces.

The Project has introduced several technologies and socio-economic innovations to help the fisherwomen. This has often been done through NGOs. Here is a summary.

Better fish marketing container

In 1990, the Project started working with women traders to overcome problems with the traditional baskets used to transport fish in public buses. The containers came in different sizes and took up too much space. Water oozed out from them, and the fish inside emitted a foul odour. Very often, the women were refused entry to buses with their fish baskets.

At the request of Santhidan, a new fish container was designed. It was modified a few times on the basis of feedback from women's groups. It has now been "adopted" by the government – the Department of Fisheries and the Social Welfare Board. Fisherwomen can buy the container at a subsidised rate.

NGO support programme

During its third phase the Project has addressed the needs of fisherwomen through a programme of support to NGOs. These needs include access to credit, training, and simple fish processing techniques (such as fish handling and processing, enhanced drying methods, use of ice and ice boxes, preparation of value-added products, and better transport systems).

Credit

The Project has assisted some women's groups by enabling them to obtain bank credit. These groups, located in Chingleput and Nagapattinam districts of Tamil Nadu, are working with the NGOs COPDANET and ROSA.

- Self-help groups have been formed at two places in Nagapattinam. Elsewhere, women have obtained assistance in cash or kind (fish containers).
- Women's groups have set up chit funds to mobilise resources and distribute them through auctions to those most in need.



Fish container designed by the Project in use at a fish market.

Such schemes have given the women access to additional credit – small sums of money at low rates of interest. Caution will have to be exercised to ensure that such schemes are not appropriated by men.

Access to institutional credit by women has generated greater confidence among women both at the individual and the sangam levels.

Smoking kilns

In June 1994, the Project started a pre-pilot study in BCV Palem village, Andhra Pradesh, on producing a new product named *Masmeen*, using tuna.

It turned out that the production of Masmeen was not as attractive economically as envisaged. The scope of the pre-pilot study was therefore enlarged to cover other smoked products. A new prototype smoking kiln was designed. Based on feedback from women's groups, it was modified several times. A standard commercial-size version was then designed; it was at once adopted by the women processors. They were convinced about the usefulness of the kiln; even before the pre-pilot phase ended, they started demanding the kilns. The Project encouraged the women to apply the Government credit to buy the kilns.

Drying racks

The Project has demonstrated the use of drying racks which can be constructed with locally available material such as wooden poles and old fishing nets. These racks enable better fish drying, are cleaner and sand-free. Santhidan in Nagercoil managed to tap the potential of drying racks as an additional income-generating activity in selected villages. The increase in income per 100 pieces of rainbow sardines was Rs. 30-40.

Efforts were also made to introduce fish pickle, and to set up cold chains by getting women to use portable ice boxes to cut down on fish spoilage.

Training

Organising rural people to play a more active role in their own development is important; because as individuals they lack the strength to overcome the forces that thwart development. Training is vital for this process; it has always been an important component of the Project.

The training approach is holistic, focusing as much on technology as on socio-economics and community organisation.

The Project's training programmes focused on capacity-building in partner institutions. The training approach is holistic, focussing on technology, socio-economics and community organisation.

Tricycles to market fish – at Periakuppam and Nagapattinam

At Periakuppam fishing village (near Mahabalipuram in Chingleput district, Tamil Nadu) the project made available a tricycle to help women fish vendors to transport fish. Funds for the tricycle were provided through COPDANET, an NGO.

Normally, the women walk 4-5 km under a blazing sun to catch public buses, carrying headloads of fish that weigh as much as 35 kg. Result: Physical strain, chest and back pain, fish spoilage, inconvenient bus rides, and loss of money if the bus is missed. The tricycle alleviated hardship, saved time and effort and perhaps raised incomes.

The tricycle has been a multi-purpose convenience. It has saved lives on a few occasions by rushing people injured or critically ill to hospital. It takes children to school. It transports not only fish, but also vegetables and groceries and cement for construction. Some problems the women have faced with the tricycle:

- Initial hostility and interference from men. This problem has been solved diplomatically – by co-opting some men into the management committee at Periakuppam.
- Engine trouble frequently handicapped operations. The Project trained local people on engine maintenance and trouble-shooting.

Women fish vendors of Periakuppam near Chennai use tricycle to take fish to the market.



- A local driver is difficult to find in this fishing village. Young men from the fishing community are reluctant to serve as drivers. A male driver willing to live in Periakuppam was hired from outside the fishing village. He did not stay on in the job – he frequently went on “home leave”. Efforts have been made to get the village panchayat to identify a good driver. These have not had much success. The high turn-over of drivers has affected fish marketing.
- Caste clashes around the village inhibit free movement of the tricycle.

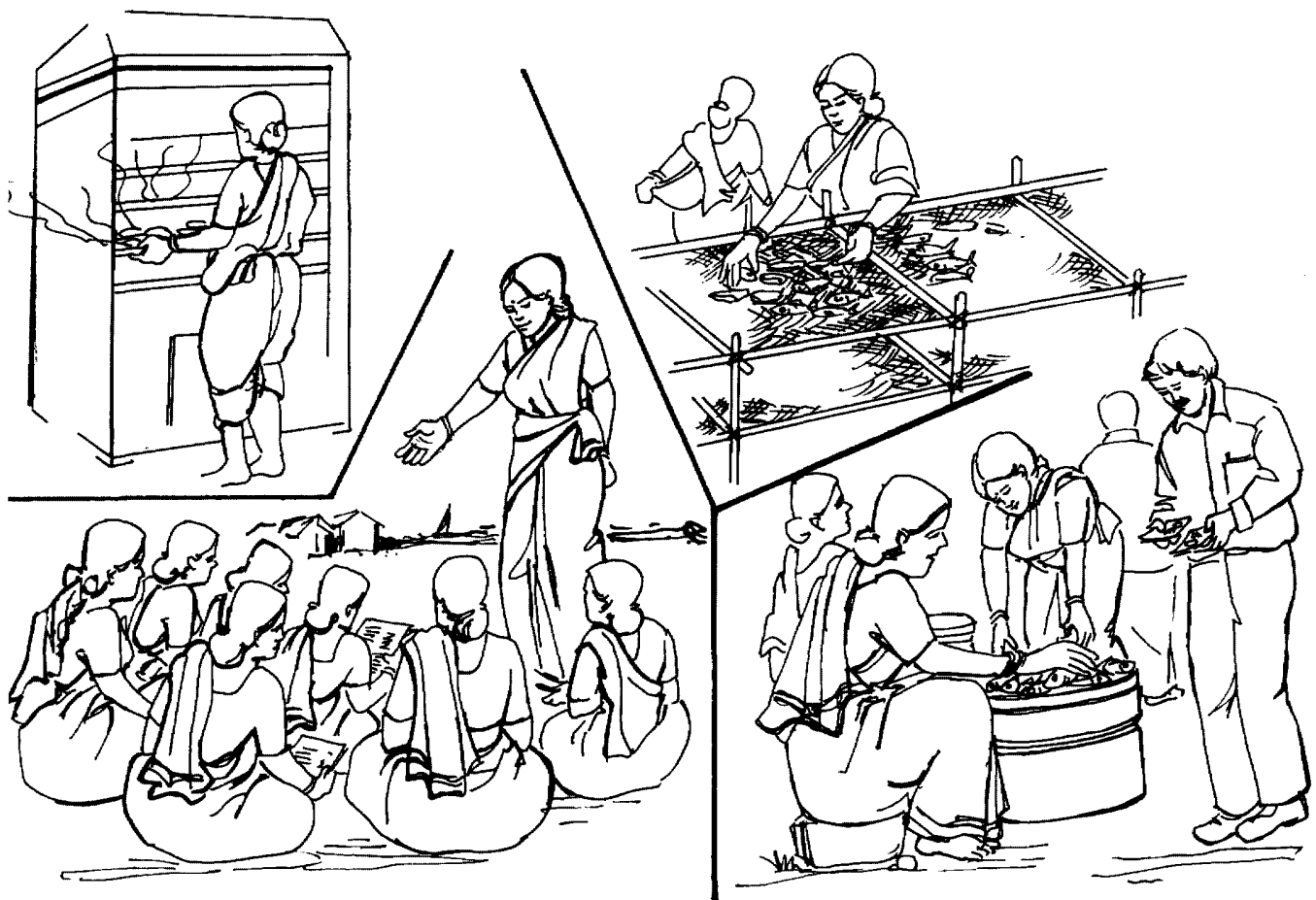
In sum, the tricycle experiment at Periakuppam has not succeeded yet; women still control the vehicle, but their problems are formidable.

In Nagapattinam, Tamil Nadu, however, three tricycles made available to ROSA for transport of fish by petty fish vendors are functioning well. The tricycles, which were provided under the British Partnership Scheme of the British High Commission, cater to six villages – Pudupettai, Perumalpettai, Vellakovil, Kuttiyandiyur, Tharangambadi and Chandrapadi. They operate regularly,

taking the women fish vendors to to the market or bus stop, and helping people at other times by carrying and helping cargo or shoppers or schoolchildren. The drivers, recruited from the area, are punctual and reliable. Repairs are attended to promptly.

One reason for the success of the scheme at Nagapattinam is that the panchayats of the six villages were involved from the beginning. They hired the drivers, worked out the economics and the rules (e.g. who should be transported, on what rates, how many passengers, whom the money should be paid to, how the driver should be compensated, what should be done if there is engine trouble, how to monitor the operation of the tricycle).

The Project’s experience shows that a tricycle donation cannot by itself help fisherwomen. A system for working out the economics, the logistics, the maintenance and monitoring of the vehicle is essential. Women cannot institute such a system on their own. They must be helped to do so, or the village panchayat must administer the system and be involved in the activity from the beginning.



Some Project activities concerning women —fish smoking, drying racks, women’s self-help groups, fish containers.

Guidelines for Planning Interventions with Women

Steps to be followed: Interventions for women

The Project's approach consists of a number of steps. If any of these is omitted or not properly carried out, the intervention is likely to be ineffective:

- Organise women into groups (sangam/sangha/samity) for regular savings.
- Identify needs and priorities (a set of typical questions are provided in the checklist).
- Provide basic facilitatiOn (such as functional literacy, good health and hygiene practices).
- Raise awareness among women on legal and social rights.
- Ensure access to information on technical subjects, production, credit, markets and development service facilities.
- Prepare action plans with the group members based on the ranking of priorities.
- Enhance the capacity (attitude, skill, and knowledge) of the members with respect to the implementation and management of the action plan.
- Facilitate the implementation of the action plan (credit access, appropriate technology, income-generating options, building linkages with development services).
- Help keep records and monitor progress.
- Help strengthen the groups through inter-group assoðiations, and ensure equal participation in decision making.
- Withdraw intervention as group capacity is built to plan action, mobilise resources, manage implementation of the action plan, ensure equitable distribution of benefits, and evaluate results.

Once women's specific roles and activities in a community are identified, a profile on women's control over resources and assets should be determined. How much of the benefits from the project – or its development interventions – will go to women, should be assessed. The following format will assist in undertaking the exercise.



Checklist of questions before planning intervention strategy for women

- What are the specific roles and constraints facing women?
- Do women have access to basic needs and amenities?
- Do women have access to information, technology, finance and markets?
- Do women have access to existing resources?
- Are women consulted in decision-making, at home and in the community?
- Are credit facilities itvailable for women through formal sources?
- Do women have access to education, health and other facilities?
- Will the planned interventions have any adverse effects on women?
- Are men in the community willing to support the intervention?

CASE STUDY – BANGLADESH

Minara's Saga

Thrice abandoned by an exploitative husband, Minara was reduced to beggary – but today she stands on her own feet, thanks to a women's self-help group.

Minara, 25, is a member of the Surma Bittohin Mohila Samity of the Rehania community in Hatiya island. She joined the group on 8th August 1995. This young woman tells a harrowing tale of struggle and hardship.

Minara got married when she was 15. Her father, a day labourer, had to pay her husband Jabiul Hossain Tk.3000 as dowry. After marriage she learnt that Jabiul was already married and that the first wife with her children lived in the Noakhali mainland. She also discovered that he was a gambler, an alcoholic and a wastrel.

Minara's first baby, a girl, was born when she was only 17. Just after the child's birth Jabiul left Minara and went back to his first wife. Minara lost her house and all her belongings in the 1991 cyclone. She struggled to rebuild her house, with the meagre money provided by a disaster rehabilitation programme.

In 1994, husband Jabiul came back to her. */was happy and wanted to start a new life* said Minara. But he stayed only a few months – till she got pregnant – and left her again. Her burden increased with the new-born, a boy. As her father was very poor too, he could give her no help. Minara looked for work but in vain. A woman from the neighbourhood advised her to take up petty fish trading. She could not because she had no capital. Finding no alternative she started begging in nearby villages and bazars.

Minara's hut is close to the meeting centre of the Surmo Bittohin Mohila Samity. She saw the women there engaged in group activities. She became interested and wanted to join, but was turned down. The group members felt that a beggar woman might not be able to deposit weekly savings regularly. But Minara persisted, and she was finally accepted as a member.

She took a loan of Tk.2000 from the Samity and started selling bangles, cosmetics, imitation ornaments and utensils from door to door in villages nearby on headload. She procured all the items by herself from the Thana headquarters market, 13-14 km from her village, usually twice a month. Minara now earns Tk. 700-800 per month which she spends on food and clothing, on her weekly savings and on loan repayments. During the peak fishing season she is able to earn more as the demand for luxury items increases.



Minara's husband, an alcoholic, deserted her...



She was driven to begging...



But today, thanks to a self-help group, she stands on her own feet.

Early in 1997, Jabiul came back to her yet again. This time he was very ill and could not move. Minara had to spend Tk. 1000 for his treatment. *After all he is my husband, how could I turn him from my door? Moreover he may repent and reform.*

This was just a pipe-dream. Jabiul left her again when she was four months pregnant. Minara suffered a miscarriage in July. *Thank God, otherwise I would have had yet another mouth to feed.*

Even poor women can be credit-worthy. With a little support they can overcome the worst of travails.

Fellow group members advised Minara not to take back her husband. They assured her of support if he created any problem. Minara is grateful to the Samity for their acceptance and support. She is now self-confident, does not feel helpless as she used to. *Now I am happy. I send my daughter to school. When my son grows up, I want him to be educated too. I have*

struggled a great deal. But now I have ground under my feet.

Assessment

Minara is the archetype of the silent, suffering Bengali rural woman. Tradition binds her to a selfish, unfeeling good-for-nothing husband, who sponges on her and lives off her. Minara now has a source of livelihood and benefits from group activities.

Lessons learnt

- It is difficult for women to escape the tyranny of tradition. But with a little support they can do so.
- Women are credit-worthy even when they have very little money.
- Group cohesiveness and solidarity can help them stand on their own feet.
- It's essential to build awareness among women on gender issues and on their legal rights as daughters, wives, mothers or citizens. This will help build self-reliance among women.



“Group cohesiveness and solidarity can help women stand on their own feet.

CASE STUDY

Women from Rakhainpara, Bangladesh: Weaving their way to a better future

Women from the fisherfolk community at Rakhainpara managed to cash their weaving skills – thanks to additional skill training and exposure to marketing.

Rakhainpara is a fishing village in Khurushkul, Cox's Bazar, belonging to the Rakhain community who migrated from Myanmar (formerly Burma), a century ago. Before settling in Rakhainpara, the community wandered from place to place. The land in Khurushkul was given to the community about three decades ago. Sea erosion has uprooted them at least four times. They live on the shoreline, just 50m inside an embankment.

The community lives in social, cultural and religious isolation. Males hold the levers of power both at the community and the family levels. Women are basically confined within their own community. Very few of them go outside their village. They speak Rakhain, which non-Rakhain people do not understand. Very few Rakhain women can speak Bengali; some of them understand it but cannot speak it fluently. This language barrier and the resulting cultural isolation make them feel vulnerable and insecure about stepping outside the community.

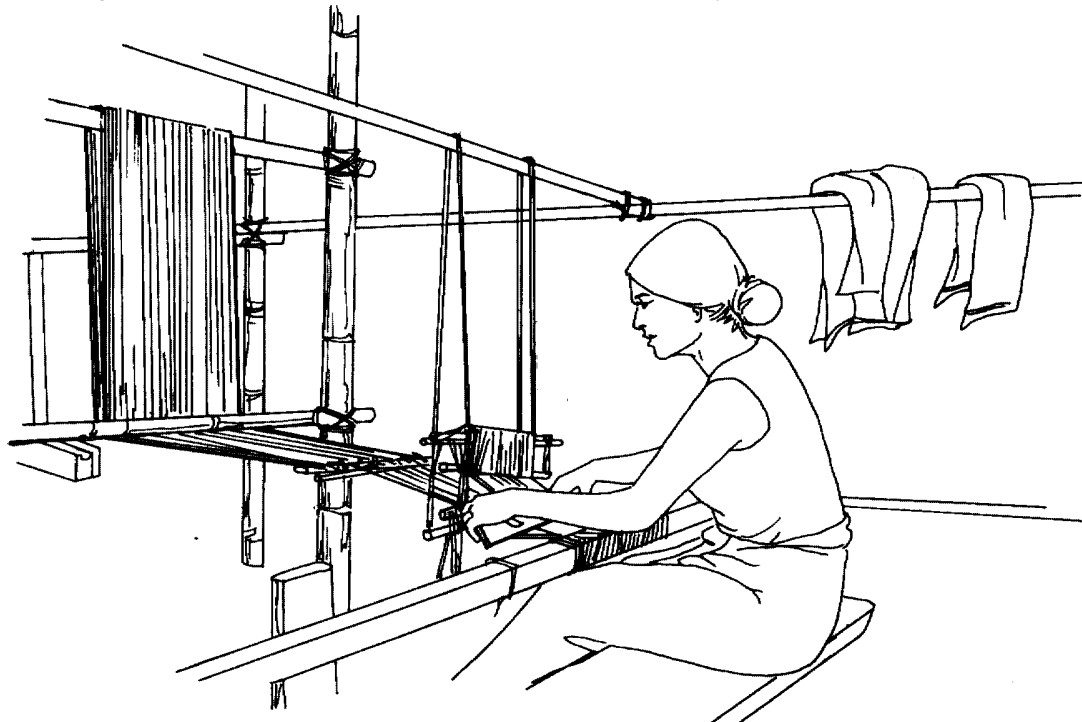
Rakhain women usually do not participate in fishing activities, but they have inherited weaving skills. Weaving at home to meet subsistence needs has been a tradition among Rakhain women. But this traditional

skill is converted to cash only when some contractors offer them piecemeal jobs.

Most Rakhain women own looms. But many of the looms were swept away by the 1991 cyclone, unfit for use. The Rakhain women have thus not been able to produce and sell material on a regular basis during the last few years.

In 1994, the Project mobilised Rakhain women and formed two women groups. The following year, they were given loans but without any training or marketing support. As they lacked confidence and depended on outside contractors, they could not make much of a profit. Moreover, some of them were unable to invest the money wisely and frittered it away. At their request, the Project provided them with training on yam dyeing, fabric design and modified weaving operations. Twenty four handlooms were repaired and modified, and marketing assistance was provided through UBINIG, a private organisation.

Seventeen Rakhain women went to Tangail, which is about 600 km away from Khurushkul, for training as weavers. They also visited some traditional Bengali



"Weaving has been a tradition among Rakhain women."

weavers' villages. This exposure and training was a great experience for them, as even men from the Rakhain community had never gone that far. Members of the Rakhainpara Mohila Samities were the first women to manage this feat. On returning home they

Alternative Income-Generating Activities can be profitable and successful only if marketing channels exist and proper attention is paid to marketing.

shared their experiences with other members of the community. This created a positive impact and raised the confidence level of the Rakhain women.

After training, the group members began producing higher quality fabrics than before and took them straight to the market in Dhaka. They had become much more knowledgeable about production and marketing channels. The groups are now trying to discover new marketing outlets; they have taken over the production process from UBINIG. They are learning to maintain records related to production and marketing, so that they will be able to run their activities without any external support.

UBINIG started a pilot venture to produce handloom materials with only 14 members. Encouraged by its initial success, the group swelled quickly to 24. These 24 members were paid wages, but profit was shared among 52 members of two groups. In the beginning this created some problems, everyone wanted to be involved in production as it provided an opportunity for regular income even without skills. Ultimately the question was resolved through discussions. Members were persuaded that production had been initiated only on a pilot basis; they could join in later.

Leadership training was also provided to UBINIG in Chittagong. It created awareness, group cohesiveness and understanding and helped strengthen the organisation and improve their communication skills. A Bengali adult literacy programme for female groups was introduced. Four facilitators (2 male and 2 female) from the community were trained.

Assessment

The weaving capacity of Rakhain women has doubled through Project intervention. This has expanded their livelihood options and strengthened their security. However, new market outlets need to be discovered. Rakhain women can visualise a bright future. They are gradually raising their social status and improving their living standards.



Handloom weaver at Rakhainpara

Lessons learnt

- Group cohesiveness and solidarity are pre-conditions to any group activity.
- Proper monitoring is needed if credit is to help stimulate income-generating activities.
- Alternative Income-Generating Activities can be profitable and successful only if marketing channels exist and proper attention is paid to marketing.
- Training to enhance skills can be valuable. Besides, training on costing, accounting and record-keeping is necessary to make income-generating activities sustainable.
- The Rakhain weavers are all women. Basic support from men is necessary – to accompany the women when they visit Dhaka to buy raw materials or dye threads, for example. Male support is also needed to secure orders.
- Any disharmony or internal conflicts among members should be addressed quickly and the issues resolved.
- An adequate timeframe is required for any positive results.

CASE STUDY

What enterprising women can achieve: An example from Sahana-Astaranga in Orissa

Thanks to united effort in tapping apost-harvest opportunity, women from a remote fishing village of Orissa are earning money and social recognition as well...

Sahana-Astaranga is a remote fishing village in Orissa. To go there, fisherwomen walk 12 km from the nearest road. If it's raining, they hire a motorised boat, which takes an hour to reach the village.

In 1995, the women of Sahana-Astaranga village in Orissa approached the Project, and requested assistance in fish marketing. Their problem was that by the time they took fish from the landing centre to the market, it often got spoiled. They wanted ice boxes for storing fish overnight and keeping it in good condition.

The women's individual ice requirements were small (they bought on average less than 15 kg of fish), so they wanted ice boxes for groups of fisherwomen. The Project agreed to give them four ice boxes, each of 250-litre capacity, provided these would be managed by groups. The women got the boxes in October 1995, on the understanding that if found useful, they would buy the boxes in six months.

A group of 26 women came together and registered themselves as a group. They started a common bank account in the group's name. As they started managing the boxes, they saw that the boxes could be put to other uses as well.

In quick time, the women started using the boxes for three purposes:

- To keep their fish overnight.
- To sell ice to petty fish traders (women in the village who were not members of the group), cycle traders, and fishermen who carried small quantities of ice to the sea for keeping high-value varieties like shrimp.
- To allow fishermen to retain their unsold catches in the boxes, until they could be sold profitably, or until traders came to collect the catches.

The women entered into an arrangement with traders who brought ice into the village and took back catches. The traders should give the women ice free of cost; in return, the women would ensure supply of fish in good condition.



Woman with ice box.

The women charged fees for use of the boxes to store catch. Group members paid less than non-members. When only high-value fish were landed – which the women do not deal in – the boxes were rented out to fish traders in the village.

Earlier, the women did not trade in high-value fish and shrimp. Today, they are prominent players in the trade, because the ice boxes have given them a much-valued tool which can reduce spoilage and increase fishermen's incomes substantially. Also, they can make ice available to petty fish traders and small-scale fishermen (who cannot afford to buy ice from elsewhere, their requirements being small).

Results

After using the boxes for one year, the women's group bought one of the boxes at full price with the money they had generated. They also erected a makeshift shed to keep the boxes. More importantly, the group started meeting regularly, and became a more cohesive unit overtime. The fact that a group exists there has spurred local agencies like banks to look more sympathetically at their needs, and process their requests for assistance more favourably.

Appraisal of the activity and learnings

This activity started off mainly as a pilot study to demonstrate the use of ice to women. But it was able to explore the full potential of ice as an income-generating venture for women's groups. The fact that the exercise responded to the women's felt needs, helped make it a successful community-level women's venture.

The main learning is how a technological intervention can sometimes help solve problems on other fronts.

Lessons learnt: women's activities

- Members of a women's group should develop a sense of belonging and learn to trust one another before a group ventures out into any activity.

- The key to successful women's activities is a strong sangam/samity.
- The group leader should encourage active participation by all members and should not be autocratic or domineering.
- The sangam should delegate work and responsibilities to all members so that they take part in all of its activities.
- Sangam members must be taught to maintain accounts and records of activities in an organised way, so that there is communication and transparency about what it is doing.
- Women should be encouraged to open up and talk freely during sangam/samity meetings.
- Ensure the co-operation of men in carrying out women's development activities.
- Make a conscious effort to sensitise men on women's activities.
- Training or assistance with the economics of an intervention, the administration and the monitoring is essential to make the intervention work. This is illustrated by the project's experience with tricycles in Tamil Nadu.

Fish trader collects fee for use of ice box to store catch.



Section 3
Facets of Enterprise Development:
Technical Issues, Marketing Issues,
Credit & Finance, Monitoring & Evaluation

Enterprise Development



The word “Enterprise” means different things to different people.

In this section, the term “Enterprise” refers to a commercial intervention by institutions concerned with artisanal fisherfolk. The intervention we have in mind is turning a small-scale production unit into a profitable commercial venture. This section identifies those factors that most need to be examined by development agencies when they encourage commercial interventions.

Enterprise development involves:

- Technical issues
- Marketing
- Credit
- Monitoring and evaluation

Each of these areas is discussed in detail in this section. “Problems and constraints in enterprise development” are discussed on p. 66 and a “Checklist for enterprise development” on p. 68.

Technical issues: Lack of knowledge on technical aspects of post-harvest fisheries handicaps many intervenors. This is usually because NGOs engaged in community development employ specialists in social sciences rather than fisheries. The Project has had considerable experience in transfer of technology to such organisations. The problems faced and the issues that need to be

examined from a technical standpoint are dealt with in this chapter. Case studies of some Project interventions provide insights and possible solutions.

Marketing: Another important problem faced is gaining access to markets and holding on to them. Most often, the agencies that intervene do not have the expertise and experience necessary to market fish and fish products – their administrative systems are unsuitable. They lack the flexibility and the ability for quick decision-making that are required to capitalise on the market opportunities as they open up in small-scale fisheries. Case-studies discuss some of these opportunities.

Credit: Problems are faced in securing capital for setting up a post-harvest enterprise. The Project finds that very often, lack of access to credit is a major stumbling block for individuals who wish to enter the sector. This chapter discusses the access of credit to small-scale fisherfolk communities and institutions, the problems they face, the criteria used for credit and how credit is disbursed. A few indigenous systems of credit are outlined. Several case-studies illustrate some of the problems faced.

Monitoring and Evaluation: What is monitoring and evaluation? Why is it essential? This chapter deals with the basics of M & E, how it is undertaken, and the insights it can provide into a project’s performance, its structure and its efficiency. Having a dedicated unit (described as the Social and Economic Unit) to undertake monitoring and evaluation, has provided the Project with considerable experience. The Project’s M & E experiences are also described in this chapter.

Expertise in fish marketing is difficult to come by.



Enterprise Development: Problems and constraints

The kinds of problems and constraints faced in setting up an enterprise in post-harvest fisheries vary with the scale of the operation. Listed below are some of the problems faced at different enterprise levels. The list is indicative and not exhaustive.

The Petty Fish Trader/Processor:

- Lack of access to working capital at rates of interest prevailing in the formal sector.
- Lack of access to fish at the landing centre during the lean season, and when large traders enter the market.
- Poor access to public transport.
- Securing entry and finding a suitable location in the marketplace.
- Religious taboos and practices that constrain demand.
- Increased use of ice, leading to fall in availability of fish for processing.
- Increase in the price of high-volume/low-value pelagic species (mackerel and sardine) because of the opening up of markets.
- Delays in repayment on credit sales.



The Big Trader/Transporter

- Insufficient landings of fish to make the operation economical.
- Lack of access to ice at the place of procurement and *en route* to markets.
- Poor condition of roads from landing centres to markets.
- Breakdown in communication, leading to losses because of lack of proper information.
- Increase in the price of energy, i.e., diesel and power.
- Delays in payments from retailers and semi-wholesalers.

The Marketing Institution

- Delegation of powers. Field staff need the authority to make on-the-spot decisions on purchase of fish.
- The legal status of the institution – societies may not be allowed to undertake a commercial venture.
- Qualifications, experience and motivation of management and staff.
- The degree of cost-consciousness.
- The public image of the organisation, which affects sales.
- The small scale and seasonality of production, which makes it difficult to maintain the stream of orders needed to keep the system going.
- Lack of quality control systems, because the personnel who can introduce such systems are expensive.
- The availability of specific species.
- Balancing commercial goals with social commitments.
- Securing access to operating and investment capital.

The Exporter

- Meeting international standards, such as ISO 2000 or ISO 14000.
- Availability of exportable species of suitable quality.
- Changes in demand for specific species / products.
- Trade and tariff barriers.
- Volatility of international credit and currency markets.
- Lack of proper infrastructure (water and power bottlenecks).

Betel nut processing: A unique income-generating activity in a fishing village

What does a fisherfolk community have to do with betel nuts? Processing betel nuts can be rewarding, as this couple from Chittagong discovered.

Monowara Begum (28) and Fasiul Alam (35) are a couple from a fishing village of Uttar Paschium Syedpur, Bakkhali, Chittagong. Monowara Begum is a housewife. Fasiul Alam is a cosmetics/utensils vendor. He also owns a small grocery shop. They have a two-year old daughter. Both of them have joined samities run by CODEC (an NGO) in order to improve their living standards.

Monowara and Fasiul have discovered a unique income-generating activity: betel nut processing. The idea first occurred to Fasiul while he was on a sales round. He shared the findings with his wife. Both of them assessed its feasibility and agreed that they would try it.

Monowara took Tk. 10,000 as a loan from CODEC in the beginning of 1997. A tank of dimensions 54" x 72" x 54' was made to process betel nuts in their house. It cost them Tk. 2,500.

Fasiul bought the nuts from Noakhali though it is far from Chittagong, as he knew that the nuts are cheaper there. The nuts cost Tk. 5,760. Travel to Noakhali cost him Tk. 740.

The betel nuts were put in the tank in layers and topped with water, leaving only three inches of space on top. The nuts were pulled out of the water after four months to be sun-dried and air-dried. Monowara then peeled the nuts to make them ready for the market. The whole operation took him about six months, and cost him **1k. 9000.**

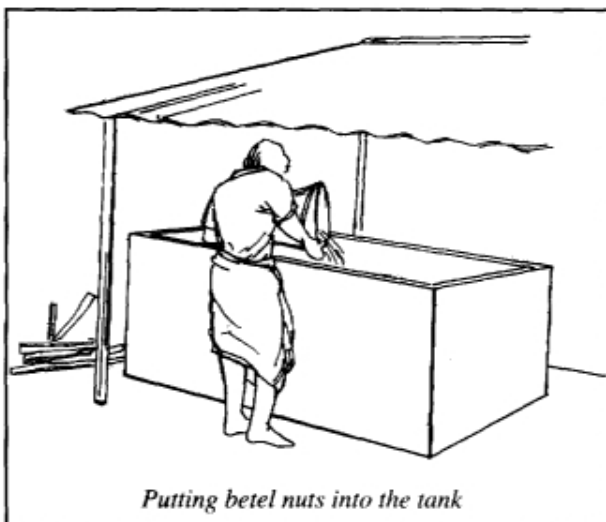
Fasiul sold the nuts soon after the Eid festival at Tk. 9000 per 500/Kahan. Fasiul expected a net profit of Tk. 2,500—3,000 but the purchaser refused to pay the expected price as the nuts were smaller than what he wanted. Fasiul was undaunted. He made a profit of Tk. 1317 after the depreciated value of tank and labour was taken into account. He hopes for even better returns during the next season by obtaining larger-sized betel nuts.

Assessment

Fasiul is not a fisherman, and Monowara does not take part in fish-related activities. But they live in a set bagnet community and are accepted as group members. They have shown that they can successfully take up new income-generating activities. There could be other non-traditional options in their locality.

Lessons learnt

- Innovative ideas on new IGAs could come from group members and villagers.
- Ideas should be assessed in detail before they are turned down.
- Close co-operation between husband and wife can ensure success.
- Market information is essential before getting into an IGA.



CHECKLIST FOR ENTERPRISE DEVELOPMENT

- Have you defined the objectives of your intervention?
- Have you identified product(s) to market?
- Have you assessed pre-feasibility of the proposed venture?
 - market potential – volumes, prices, market segments.
 - production processes
 - institutional capacity
 - government policies & priorities
 - risks
- Have you completed your market research?
 - defining research problems & objectives
 - development of research plan
 - collection of information
 - analysing information
 - presenting & documenting findings
- Have you conducted a technical appraisal?
 - production process flow charting processes & materials
 - process technologies
 - location
 - equipment, civil works power/utilities
 - availability of raw materials & other inputs
 - quality control & assurance
 - transport
 - preservation & storage
 - organisation & staffing, skills & human resources
- Have you completed your financial appraisal?
 - market estimates
 - capital estimates
 - sources of finance
 - financial projections (break even volumes, returns on investments, cash flows, profit & loss account & balance sheet)
 - distribution of profits & gains
- Have you looked at organisational issues?
 - legal standing
 - staff experience, skills
 - systems & structure
 - interface/ relationship with environment & other organisations
 - organogram
- Have you looked at social & environmental issues?
- Have you examined all legal & statutory issues?

Post-Harvest Fisheries: The Technical Issues

INTRODUCTION

Post-harvest fisheries aims to reduce fish spoilage and add value in order to maximise returns. Anyone considering activities in post-harvest fisheries needs to address technical constraints to make the processes easier, faster and more cost-effective. Often, simple practices, like improving cleanliness and hygiene, are far more effective in adding value to products than introducing any new technology.

Many enterprises in artisanal fisheries, both development-oriented and profit-motivated, have failed because new methods/tools, while technically sound, have not been acceptable to fisherfolk. Involving and trusting the fisherfolk to decide the most suitable options for their needs has been found to be very effective. The Project evolved from a basically technology-driven project to one whose activities have become more need-based, community-oriented, integrated and holistic. Over time, it has become increasingly clear that it is often the socio-economic and cultural conditions which decide the kind of intervention that is required in an area.

Often technical innovations are necessary to improve existing products or develop new products. Improving market linkages or modifying existing practices could be a better option than developing novel ways of preservation or processing. When innovations become necessary, they

It has become increasingly clear that it is often the socio-economic and cultural conditions which decide the kind of intervention that is required in an area.

have to be assessed in terms of the infrastructure that is locally available, the appropriateness of the technology (not being too exotic or expensive for small processors to take up), the time taken for processing being properly accounted for in economic terms, and easy access to markets. Why a particular species was unutilised could be due to a number of socio-cultural factors, and these have to be studied carefully. A technological intervention can never succeed in a vacuum, as has been seen time and again.

This chapter describes these issues briefly, drawing on the experiences of the Project. It discusses spoilage and general preservation and processing methods, and provides a simple way to identify suitable preservation and processing methods for fish landed in an area. It identifies issues that agencies undertaking post-harvest



fisheries interventions should consider, including the infrastructural and informational needs, statutory and regulatory considerations, financial and socio-technical factors, good management practices, equipment and maintenance. It highlights the points that must be carefully considered when starting a post-harvest related enterprise. Understanding these issues will help in identifying critical points, and making the existing processing techniques more effective at relatively small cost.

GENERAL PRINCIPLES OF POST-HARVEST FISHERIES

Spoilage

Fresh fish are extremely perishable. Spoilage results from a series of complicated changes brought about in the dead fish, mainly by enzymes and bacteria. The process of autolysis — 'self-digestion'— caused by enzymes present in the gut which continue to operate after death, is accompanied by putrefaction brought about by invasion of the flesh by bacteria. Finally, fat is attacked by oxygen and can give rise to rancidity. This breakdown of tissues affects the flavour, texture and the appearance of the fish.

General Preservation & Processing Methods

There are two main ways to slow down or stop spoilage: preservation and processing. Preservation methods keep the fish in a fresh state so that the changes in texture, taste, appearance, are minimised. Processing methods usually change these properties so that the deterioration is slowed or halted, but the characteristics of the fish also change.

A. Preservation Methods

Bacterial and autolytic spoilage are biological processes that operate only under certain optimum conditions. Change these, and spoilage can be prevented or reduced. As bacteria require water and are sensitive to heat, salt concentration and pH, a number of approaches can be used.

Most preservation methods involve lowering the temperature, so that the fish is held at, or just above, its freezing point. Ice is an ideal medium for chilling. Freezing is used for long-term storage, where fish are held at temperatures below 0°C.

B. Processing Methods

Raising the temperature: Involves cooking the fish by boiling, smoking or canning, for example.

Removing moisture: If the moisture content of the fish is reduced to about 25%, bacteria cannot survive and autolytic activity is greatly reduced. Natural or mechanical drying, is often carried out in combination with salting or smoking. Smoking and salting are some of the popular methods for reducing moisture.

Other methods of processing: In addition, production of fish sauces, pastes and marinades is also undertaken to reduce spoilage through low pH, high salt content and heat.

C. Considerations in Choice of Processing Methods.

- * the consumer's requirement
- * the suitability of the fish species for the different processing methods
- * the climate
- * the cost of the product
- * the available facilities
- * the available raw materials

The suitability of a fish species for different processing methods also depends on size, oil content and flesh texture

D. Selecting a Processing Method for Fish According to Size and Habitat

For identifying a suitable processing method for the fish, a broad classification can be employed:

VARIETY	SIZE RANGE	VARIETIES OF FISH	GROUP CHARACTERISTICS	PROCESSING METHODS EMPLOYED
Small Pelagics	<25cm	sardines, anchovies, small mackerels	-Live in shoals -Slender fish -Relatively small scales -Delicate flesh <i>High oil content</i>	Dried whole, with or without salting. Smoked & dried in Africa. Fermented in S E Asia. Good for canning and production of fishmeal
Large Pelagics	>25cm.	tuna, large mackerels, horse mackerels	-Flesh generally very firm, with moderate amounts of oil. -In some species, flesh is very dark, and they bleed heavily when cut. Skin is thin	Sold fresh, Canned. Tuna is processed into Maldiv Fish and Katsubishi. Mackerels are sold fresh; salted dried or smoked
Small Demersals	<25cm	mulletts, breams, croakers goatfish, silver bellies ribbon fish jew fish, cat fish	-Very diverse group of fish, of different shapes -Have large hard scales, and moderately firm flesh Oil content variable but is less than 5%. Most abundantly available as trawl by-catch.	Most under-utilised varieties offering good scope for value-addition. Salted and dried Fishmeal is made from these fish.
Large Demersals	>25cm	seer, pomfret, shark, ray, snapper, grouper, mullets, threadfins	-Large hard scales -Flesh is moderately firm, -Fat content relatively low.	Command very good market when sold fresh. Very good dry-salted, and wet-salted products can be made from shark Shark liver oil is used for medicinal purposes

Checklist of information required to identify a suitable processing option for an area:

- * Craft & gear, and their methods of operation.
- * Varieties of fish caught in the area (to be classified according to the table above), and their seasonality.

- * Quantities landed & prices at landing.
- * Existing marketing channels for different varieties of fish.
- * Traditional processing methods existing in the area.

Experiences of the Project in Introducing New Technologies in Artisanal Fisheries

The Project has identified post-harvest problems, sought solutions at a local level, then disseminated the results at the regional level. The PPC has evolved gradually in the Project as it has learned from its own experiences in introducing technologies. In Bangladesh, the Project

realised that dealing with post-harvest fisheries issues alone was not sufficient to improve the livelihood of fisherfolk. Alternate income-generation options were explored with communities and taken up for pilot studies.

Use of an inshore ice box to store fish.



CASE STUDY

Use of ice and ice boxes in Andhra Pradesh

Use of ice is a basic technology to improve fisherfolk incomes. The Post-Harvest Project has successfully promoted ice and ice boxes in India and Sri Lanka.

Introduction

Use of ice in traditional fisheries has been increasing on the east coast of India, as more and more varieties of fish find profitable markets within and outside the country. Ice has brought about a number of changes overall. Until recently, fish was consumed within the area of its landing. When not sold fresh, it was generally dried or salt-dried. Now, with enhanced shelf life, it has become possible to send fish to distant markets at high prices, improving returns manifold. Distress sales have been kept to a minimum.

The relationship between traders and fisherfolk is slowly being readjusted, with ice and accessibility to ice tilting the balance one way or the other. This in turn has had an impact on the socio-economic conditions of fisherfolk, and on traditional relationships within the community. Bringing ice to the artisanal sector, enabling fisherfolk to maximise their returns through use of improved containers, and retaining the benefits from use of ice within artisanal communities, have been the concerns of the PHFP since 1987.

Any intervention succeeds or fails on its own merit; no amount of subsidy or credit can support an inherently weak activity.

The Uppalanka example

The promotion of ice boxes began in 1988. Participatory pilot studies identified suitable ice containers for use aboard various traditional fishing craft on the east coast of India. Extension programmes were taken up to demonstrate the viability of the concept to fisherfolk. State government agencies in Andhra Pradesh included ice boxes in their action plans under various programmes in the year 1990-91. A subsidy was made available to fisherfolk for purchase of ice boxes.

However, during the period 1991-93, the response from fishermen was low-keyed. They felt that credit is more important than subsidies. In 1994, after months of pursuing banks in vain for credit assistance,

the Project and the fisherfolk of one village, Uppalanka, approached the distributors of a particular brand of ice boxes, asking for them on easy instalments. The distributor agreed to the proposal and provided 20 ice boxes. The fishermen started using the boxes aboard their craft, and made periodic repayments. In the end, they managed to repay the loan well before the stipulated period.

Using the Uppalanka example, the Project approached other agencies, such as the District Rural Development Agency (DRDA) and the Backward Classes Development Society, to provide credit to fisherfolk to purchase ice boxes. Credit was provided to fisherfolk during 1995-96, and more than half the ice boxes provided under the scheme were bought by fisherfolk from Uppalanka.

The use of ice boxes by the Uppalanka village had a powerful impact on fisherfolk of other villages. Finding that no government schemes were available, they asked the distributor for a discounted price. When a discount was offered for a limited period, a number of boxes were purchased off the shelf. Even after the discount was withdrawn, fishermen continued to buy the boxes directly, without subsidy or credit. Banks too, in many areas, started coming forward to provide loans to buy ice boxes, as input costs are low and returns are substantial.

Assessment of the activity

During the period 1991-93, when the Project tried very hard to help fishermen buy the boxes, some wondered: shouldn't the Project have just bought the boxes and distributed them instead of running after various agencies and spending a great deal of time, effort and money? Now, it appears to have been a right move on the part of the Project to forego the easy option. It would not have made ice boxes sustainable. The "difficult option" has shown the way to sustainability.

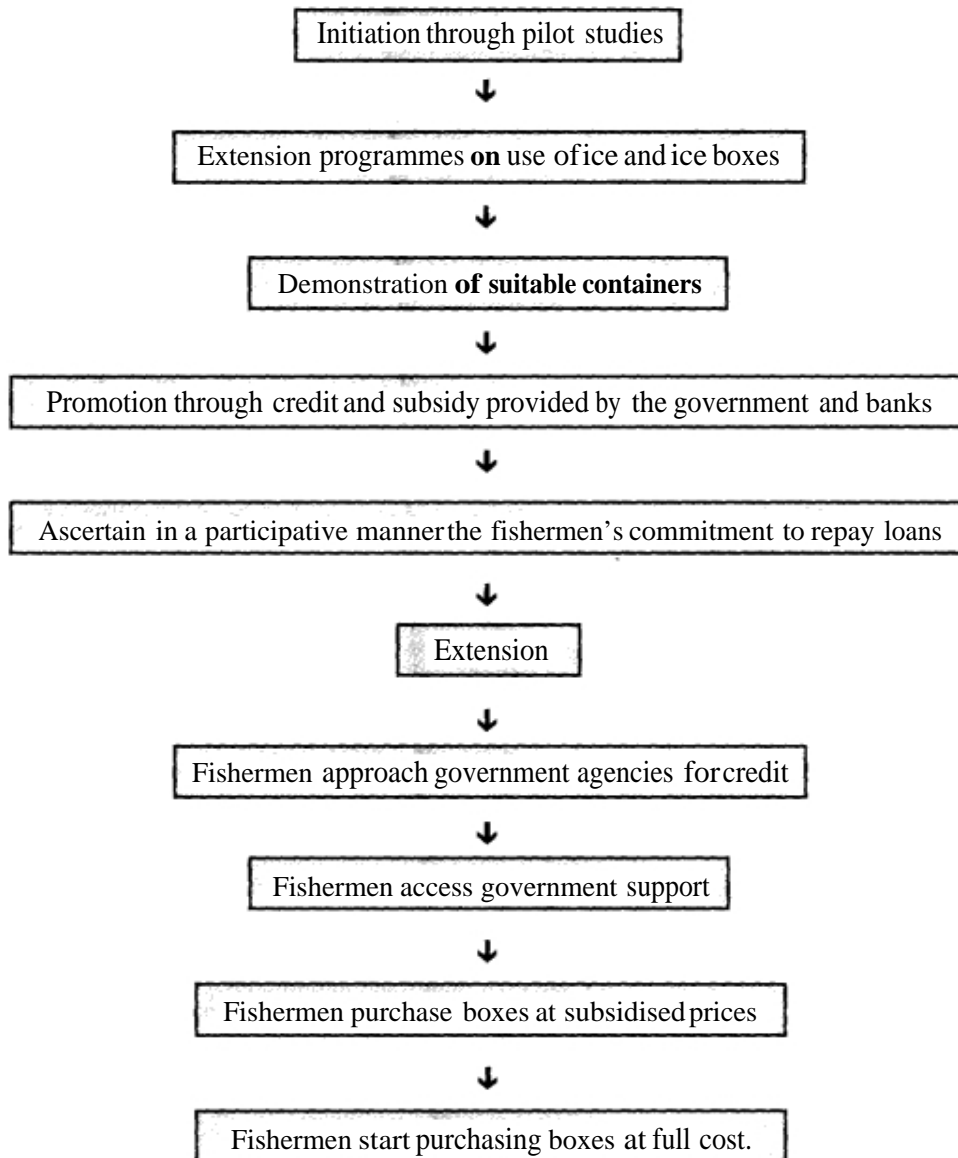
After trying to cover the entire coast of Andhra Pradesh, the Project learned quickly that it was best to start in a few villages. The success of ice boxes in Uppalanka has led to at least two dozen villages using the boxes.

Lessons learnt

Fishermen are conservative about adopting any new technology because their scale of operation is small and the diversity of fisheries on the east coast of India do not leave much scope for experimentation. Even when the value of an input such as the ice box is clear, they do not rush to buy it primarily because an ice box assumes the availability of a good quantity of commercially important varieties of fish. With catches unstable, fishermen are unwilling to invest in a post-harvest input such as an ice box as readily as they would on say, a craft or an engine. Their requirement

for credit basically reflects this dilemma. Thus, making credit available is absolutely essential before they can be expected to adopt the ice boxes. The rejection of subsidy in favour of credit in this instance is an important pointer to the mindset of the fisherfolk. Once the fishermen saw for themselves the usefulness of ice boxes, they started buying them at full price. Ultimately, any intervention succeeds or fails on its own merit; no amount of subsidy or credit can support an inherently weak activity and *vice versa*. Credit or any other assistance creates the environment for uptake of the activity. Credit alone cannot make an activity succeed.

Introduction of ice boxes in Andhra Pradesh: A flow-chart



Equipment and maintenance of ice boxes

Inputs for artisanal fisherfolk should involve low technology and manufacture by local artisans, using locally available materials. They should be easy to manage, maintain and repair.

In community-managed technologies, such as permanent ice boxes and drying racks, the need to pin down responsibility for maintenance and management is absolutely essential. The intervenors should be able to foresee likely problem areas and organise safeguards to overcome them.

Problems in equipment maintenance

During 1991-92, trials were conducted in Andhra Pradesh with ice boxes of different makes for use onboard 30' fishing craft. Fishermen chose a high-density polyethylene box made by a private manufacturer as the most suitable.

The district administration placed orders for the boxes with a company from Gujarat. While the boxes worked well, there was a maintenance problem. Because of the distance, the company's technicians would not come from Gujarat to repair small defects. The small defects gradually

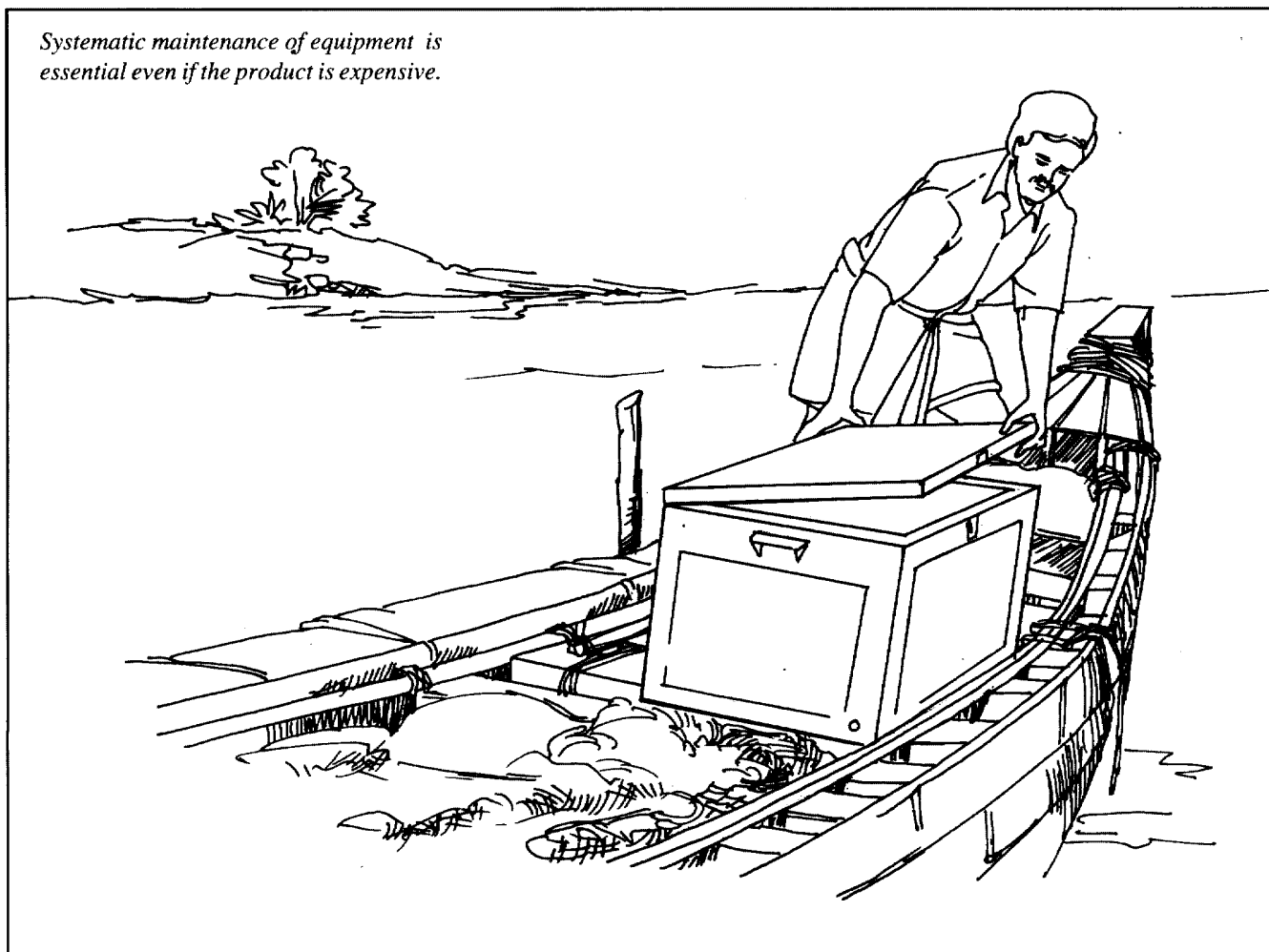
became serious problems; by the time the technicians did visit, at least 10 boxes were damaged irreparably. This affected the uptake of ice boxes in the area for some time. Fishermen started using these boxes again only after the company promised to send their technicians to the area every 15 days, or sooner if needed.

Some interesting findings came out when examining the damage to the boxes. While some problems resulted from manufacturing oversights, many others were mainly due to lack of proper care of the ice boxes by the fishermen. They crushed block ice in the box while at sea; they failed to protect the boxes from sunlight; they failed to clean the boxes regularly. Fishermen assumed that since the insulated boxes were more expensive than locally made boxes, they would be sturdier and would not require any maintenance. It took some time before they realised that all boxes, irrespective of cost, must be properly maintained to get the best out of them.

Assessment

The more expensive an input, the greater the care that must be exercised over it. Fishermen must be educated about all aspects of construction, maintenance and repair.

Systematic maintenance of equipment is essential even if the product is expensive.



How to select an appropriate technical intervention

Fisheries are characterised by the following key economic factors: seasonality (which results in highly variable income); high perishability of fish (which necessitates rapid marketing and processing); variable investment required for production (resulting in debt/credit relationships). Fishing societies often have complex social structures, and it is important to understand the roles of different groups, (boat owners, crew members, processors, market intermediaries) before undertaking any development intervention.

Information on fish supply and demand is one of the issues to be considered before deciding on an intervention.

Issues for consideration

A few of the important considerations in undertaking a technical intervention are:

1. Existence of viable markets.
2. Availability of infrastructure for undertaking an intervention.
3. Information on aspects related to supply, demand and transformation.
4. Statutory & regulatory procedures.
5. Financial analysis of the proposed intervention.
6. Socio-technical issues related to the intervention.



Post-Harvest Project's approach to development interventions

the Project has adopted a flexible, catalytic and reactive outlook to post-harvest fisheries development,

Flexible, in following a process approach to the design, planning and implementation of activities;

Reactive, in responding to the needs and issues of fishing communities in the post-harvest subsector;

catalytic, in working participatively with fishing communities and organisations in determining solutions to post-harvest problems and developing methodologies to resolve these.

As the project developed links with government and NGOs, two clearly distinctive approaches to intervention activities emerged.

Broad-Spectrum Approach: This approach seeks to address a relatively wide range of issues that concern artisanal fisherfolk. These include credit, social

awareness and alternative income-generating activities. A key factor is that community-based organisations are the institutional base through which the project operates, usually through a local NGO.

Technology-Focus Approach: This approach seeks to extend and establish improved post-harvest technologies and practices for artisanal fisherfolk.

However, social, institutional and economic issues must be considered before introducing them.

The project usually works through other agencies in developing and field-testing technologies, in

disseminating information, providing finance and credit, establishing marketing links and in creating awareness of the potential of using technologies or improved post-harvest practices. The key agencies are government fisheries departments, fisheries training and research institutes, rural development agencies and banks.

Infrastructure needs for undertaking a technical intervention

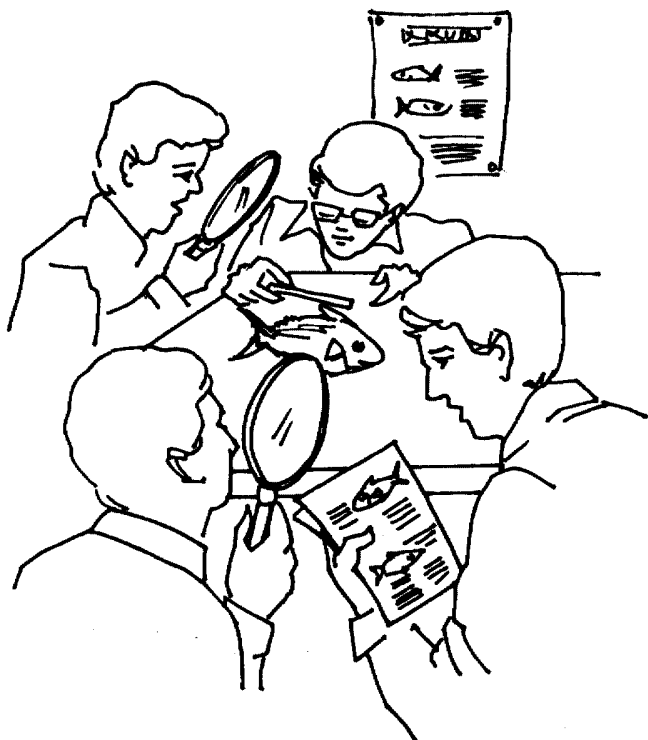
Basic facilities are required not just to launch an intervention, but also sustain it. Infrastructure should make it possible to supply the required inputs in a timely way and to promptly distribute outputs to consumers.

Checklist of infrastructural needs for introducing a new technology in post-harvest fisheries:

- Approach roads to bring in ice and take away the catches;
- Availability of ice plants in the area;
- Fishing harbours, jetties, anchorages and proper landing centres and storage facilities on shore;
- Auction and packing halls, fish drying yards;
- Availability of basic amenities to ensure hygiene, such as fresh water, toilets and electricity.

Information on aspects related to demand, supply and transformation

Any agency interested in undertaking a post-harvest intervention needs information on supply and demand and on existing and potential technologies. Such information is often not available and requires time, effort, expertise, manpower and money to collect. Here is a checklist.



Data collection requires effort, expertise and money.

Checklist of action and information required in demand, supply and transformation (preservation and processing) areas:

Demand

- Improved information on markets for various fish/fish products.
- Better monitoring of quality needs of internal and external (export) markets.
- Assessment of consumer acceptance of new products.

Supply

improvements needed to

- Supply-side information.
- Market information for producers.
- Business management skills for small-scale producers.
- Credit availability for small-scale producers.
- Understanding of environmental factors affecting supply.
- Alternate income-generation opportunities.
- Policy coordination.

Potential technologies

- Onboani and onshore handling of fish.
- Landing facilities.
- **Market information for preservation and processing.**
- Market handling facilities.
- Utilisation of low-value fish.
- Improved understanding of the needs and aspirations of poorer participants in the transformation process.
- Training of NGO and government staff in post-harvest issues.
- Information dissemination.
- Policy and planning in post-harvest fisheries.

Statutory & regulatory considerations

Food laws are mainly concerned with safety, quality, labelling and advertising of foods. and aim both to inform and protect the consumer and to sustain a fair basis for honest trading.

In addition to the statutory food laws, which are legally binding in the countries in which they were passed, there are various national and international standards and codes of practice which may be voluntary or mandatory.

International standards

The Codex Alimentarius Commission

Codex was set up in 1962 under the joint auspices of the FAO (Food and Agriculture Organisation of the United Nations) and the WHO (World Health Organisation). It aims to develop international food standards which can be adopted worldwide, regionally or sub-regionally. The Commission assists in the harmonisation of food standards between countries.

Codex provides standards for main foods, whether processed, semi-processed or raw. Codex documents also include provisions for food hygiene, food additives, pesticide residues, contaminants, labelling and presentation, and methods of analysis and sampling.

FAO Codes of Practice

Compiled by the Fisheries Products and Marketing Branch of the FAO Department of Fisheries, these voluntary codes are intended to provide technical guidance to manufacturers.

The HACCP Process

The Hazard Analysis Critical Control Point (HACCP) process is a preventive strategy based on thorough analysis of the prevailing conditions in a processing unit. The system is a rational and logical approach to control food hazards. All producers/processors exporting fish and fish products to the European Union, USA, Canada or Japan must implement this programme to the satisfaction of the regulatory agencies, before their products are allowed into the countries.

The seven steps in the HACCP concept:

1. Identify all possible food safety and non-safety hazard areas in processing operations.
2. Establish critical points in the process, at which any sort of failure could make food unsafe, if proper control is not exercised. Each point is called the Critical Control Point (CCP).
3. Establish critical limits/parameters for every CCP.
4. Set up monitoring procedures to keep **track of** performance of all required tasks at every CCP.
5. **Keep** contingency plans ready to ensure quick corrective action, whenever there is a problem **at a CUP**.
6. **Set up verification and review procedures to ensure that the monitoring system works** effectively.
7. Establish effective systems for keeping records to document the progress of the system.



National Standards

The Bureau of Indian Standards (BIS) produces standards, codes of practice and recommendations for many different commodities. Standards for producing sun-dried fish, making shark fins, maintaining cleanliness in the fish industry, and the basic requirements for a fish market, are some of the publications brought out by the BIS. Companies can apply to have their products certified by the BIS. This entitles them to display the Standard Mark which indicates to the buyer that the product has been produced to a certain standard and that the quality is therefore assured.

In addition, a thorough knowledge of the Food and Drug Adulteration Act of India is essential to ensure that the products do not violate food laws.

Bangladesh has an effective system to ensure quality of fish and fishery products. The Fish Inspection and Quality Control (FIQC) of the Department of Fisheries regulates the quality of fish and shrimp meant for export.

Sri Lanka has also laid down quality standards for handling and processing fish. The Sri Lanka Standards Institute and the National Aquatic Resources Agency (NARA) are two state organisations that have responsibility for maintaining quality standards for the export of fish and fish products.

Financial analysis

Financial Analysis (FA) is one of the most important steps in the decision-making process. For a detailed description of the components of FA, see the chapter on marketing later in this section.

FA is used to assess the likely profitability of an enterprise. Essentially, it consists of an examination of costs of inputs, processes, marketing, human resources, administration, capital employed in various scenarios, fluctuations and risks entailed, and a comparison of this information with incomes generated by the project. Such an analysis throws up a number of issues and problems, which must then be addressed and resolved.

Socio-technical issues

Any assistance to the small-scale fishing sector should take socio-economic factors into account. Key stakeholders include fisherfolk, small-scale processors, traders, trader-financiers, suppliers of various inputs and equipment and local consumers. There are many examples of well-meant assistance which aggravated rather than improved the living conditions of fishing communities. The impact of a new technology on the target group of small-scale fisherfolk, and on other stakeholders, must be assessed before the technology is extended.

A few examples of socio-technical issues in the Project's experience:

Impact of introduction of ice boxes on traditional processors: While the economic returns to fisherfolk from use of ice are good, it was found that unless care is taken, introducing ice can hurt the interests of small fish processors who have traditionally depended on drying and smoking for their livelihood.

Improved technologies attracting outsiders into the field: Introduction of drying racks in Orissa proved to be so profitable that many outsiders took to the activity, depriving traditional processors of their fish.

Value-added products adversely affecting low-income consumers: Efforts to improve the quality and value of trawl by-catch through value-addition could affect the availability of fish as food to poorer segments of society.

Adverse impact of breaking trader linkages to the community, without understanding their role: Fisherfolk's occupation is seasonal, their livelihood uncertain. The wholesale trader (who also functions

sometimes as money-lender) plays an important role in the fishing community. NGOs and development

agencies who have tried to exclude traders from their project have found that fishermen have still had to turn to the trader some time or the other. A possible approach to consider: co-opt the trader, do not exclude him.

Adverse impact of newer areas of growth, such as aquaculture, on traditional practices like smoking: Growth of activities such as shrimp aquaculture has hurt sustainability of traditional fish processing methods such as smoking. While useful in the larger context of generating foreign exchange for the country, shrimp culture has had a negative impact on the livelihood of small-scale processors.



Good management practices to maintain hygiene and sanitation: A checklist

- Keep fish as clean as possible. Washing with clean water will remove any bacteria present on fish skin, especially in the presence of mud. (Sea water can be used if fresh water is not available).
- Keep fish cool, chilled in ice or chilled water – if possible, at all stages before processing starts.
- Avoid damage from careless handling.
- Keep all tools, fish boxes, boat holds and cutting tables clean by washing with clean water.
- Prevent fish offal from coming into contact with cleaned fish. The fish working area should be cleaned regularly, at least once a day, by removing all offal and dirt which might contain bacteria or attract insect pests.
- Ensure that high standards of personal hygiene are maintained.
- Ensure speed during processing.
- Protect the fish against insect infestation during processing.
- Ensure that the processing is complete before packing.
- Use appropriate packaging, and store packaged goods in cool storage areas protected from dust, insects, etc.



LESSONS LEARNT: Technical Issues

1. A technological intervention cannot succeed in a vacuum: it needs to be viewed holistically, with socio-economic issues integrated into the design
2. Maintaining hygiene and sanitation, and adopting good management practices, can be more effective than developing new technologies.
3. While new technologies are being developed for the artisanal sector, a realistic estimate of ground realities must be made and flexibility must be built into the design for existing conditions.
4. While promoting technology, the intervenor must make sure to differentiate between the concept and the actual input. Concepts remain standard, while the actual inputs might be modified, changed or scrapped.
5. Any technology can succeed only if it has an established market linkage.
6. In need-based, community-oriented approaches, it is often unrealistic to confine the intervention to one particular aspect or technology.

Post-Harvest Fisheries: Marketing Issues

Introduction

Marketing entails an integrated approach to:

- identifying and understanding the consumer's needs and the nature of demand for a product (or service);
- advising and co-ordinating with production (right quality and quantity, with variations as required by different segments of the consumer);
- making it conveniently available to the consumer;
- balancing the price of the product competitively, addressing the needs and concerns of the consumer, the producer, and society;
- maintaining feedback and communication through the entire process, recommending changes as necessary.

Why Marketing?

Marketing is a key function in linking producers and consumers. It is particularly important when the two are separated by distance, or other barriers. A good product may fail if the pricing is unrealistic, if it is not easily and conveniently available to the consumer, or if its quality is not appreciated.

Better handling/preservation of fresh fish does reduce post-harvest losses, but does not automatically lead to higher incomes for fisherfolk in the absence of higher prices for better products.

For example, Project experience shows that technology alone cannot improve the incomes of artisanal fisherfolk and petty fish traders. This is because:

- Better handling/preservation of fresh fish does reduce post-harvest losses, but does not automatically lead to higher incomes for fisherfolk if the market will not pay higher prices for better products.
- Dependence of fishermen and petty fish traders on non-institutional credit sources for urgent consumption needs, fishing gear and craft. These sources are controlled by a network of traders between producer and consumer. The traders depress prices and net incomes of artisanal fisherfolk.
- The market very often perceives fish preserved in ice as 'not fresh', as inferior in quality. But



Marketing – linking producers with consumers.

this perception is changing, particularly in India and Sri Lanka.

- Processed fish (dried, smoked, salted, and wet-salted fish) are regarded as low-value food consumed only by the poorest in India. There is also the perception, largely true, that it is only fish that is no longer fit for consumption, or is close to that state, that is dried, or smoked, or preserved. The conditions under which this is done are unhygienic. Mere improvement of quality of processed fish does not overcome these deep-rooted perceptions of the consumer. An improved product does not therefore necessarily yield better returns – at least not in proportion to the additional costs and effort involved.

In order to improve the incomes of artisanal fisherfolk and petty fish traders, improved products through PHF technologies need to be marketed more effectively. Moreover, competitive advantages need to be identified and developed through better market information, linkages (with various institutions at different locations), cost management and pricing techniques, economies of scale.

Fish Marketing Channels

(See charts on pages 82-87)

The producer-consumer marketing chain involves several middlemen.

In Bangladesh most fishermen are bonded to the *dadondar* (money-lender) who lends money in return for a share of the catch. Other fishermen not bonded to the *dadondar* can sell fish to wholesalers, brokers or small traders.

In India too, fishermen depend on middlemen for credit and marketing. Fish reach the consumer through petty fish traders (headloaders), cycle traders, motor cycle traders or local agents who deal with wholesale agents outside the state.

In Sri Lanka, most fishermen depended on middlemen for credit and marketing till recently. But this is changing fast with the establishment of over 700 fishermen's co-operatives which support them financially when need arises.

Problems in Existing Fish Marketing System Supply

- Landings of fish from year to year or season to season, are not predictable. There is no reliable information. The varieties and quantities vary widely each season at a given landing centre. A number of factors are responsible.
- Fishermen are "locked into" the existing credit and marketing system. Credit is usually in the form of advances to fishermen for economically valuable varieties like seer and pomfret. The credit is mainly used by fishermen to buy and maintain fishing gear and craft. Advances are usually for a year, but this period is extendable. No interest is charged, but the creditor has the right and the obligation to buy the entire catch of specified varieties immediately on landing. (There are many variations to this basic system.) The creditor often manages to depress the price at which he buys the catch, below prevailing market rates, adding to his margins.
- The mode of purchase at the landing centre is mainly through auction. The fish is mostly sold in 'lots' or 'heaps'. The time available for concluding transactions is rarely more than a minute. An estimate of the quantity in a heap, size, water content, variety of fish and the price has to be made and purchase decisions taken within this short period at the landing centre.

Take marketing seriously

"Marketing is a full-time commitment. Organisations that undertake fish marketing must have sound business skills; access to information on markets; and marketing systems and structures in place. Local organisations have to critically assess the financial risks involved in undertaking fish marketing ventures. Credit for use as working capital is difficult to obtain, while banks and other organisations are understandably reluctant to lend capital to small-scale enterprises with no proven track record, particularly as fishing is such an erratic occupation. In view of these problems, the Post-Harvest Fisheries Project has always stressed the need for artisanal communities and NGO bodies to set up organisations to manage marketing initiatives".

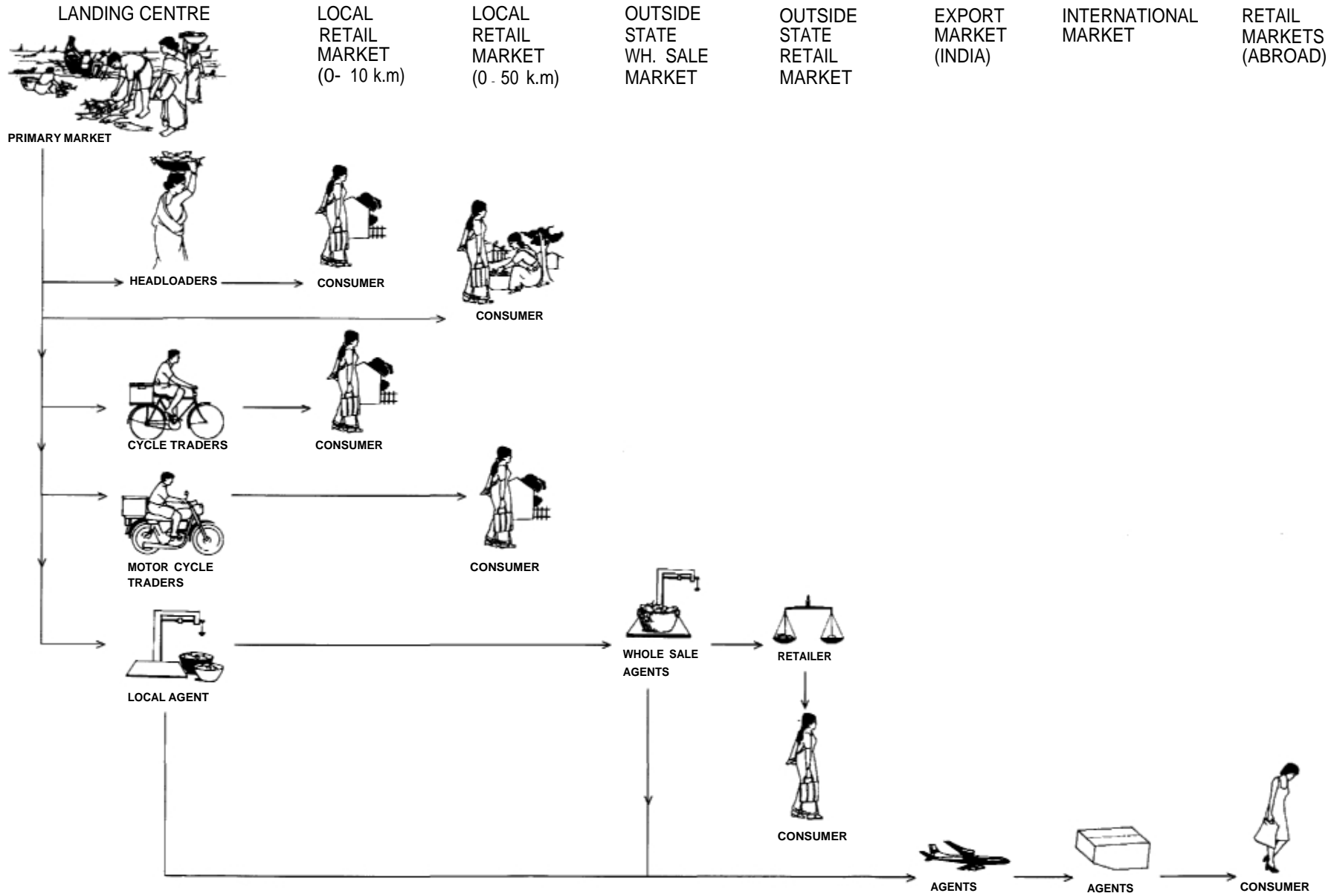
– *Fmm editorial in PHF News, No. 12*

- Existing credit and marketing systems are viewed positively by fisherfolk, who regard the arrangements as a convenient division of labour, with each participant getting his (or her) due. Intervenors who question this assumption could face hostility.
- The primary urge of the average fisherman on landing ashore is to dispose of his catch as soon he can, maintain/repair his craft and gear, get a good drink and a good rest, and get ready for the next day's fishing. Fish, particularly in hot weather, is highly perishable. There is great urgency to sell his catch as soon as possible, preferably within minutes of landing.
- Traders flock to the landing site to quickly buy the produce. All purchase, quality judgment and other decisions have to be made within minutes.

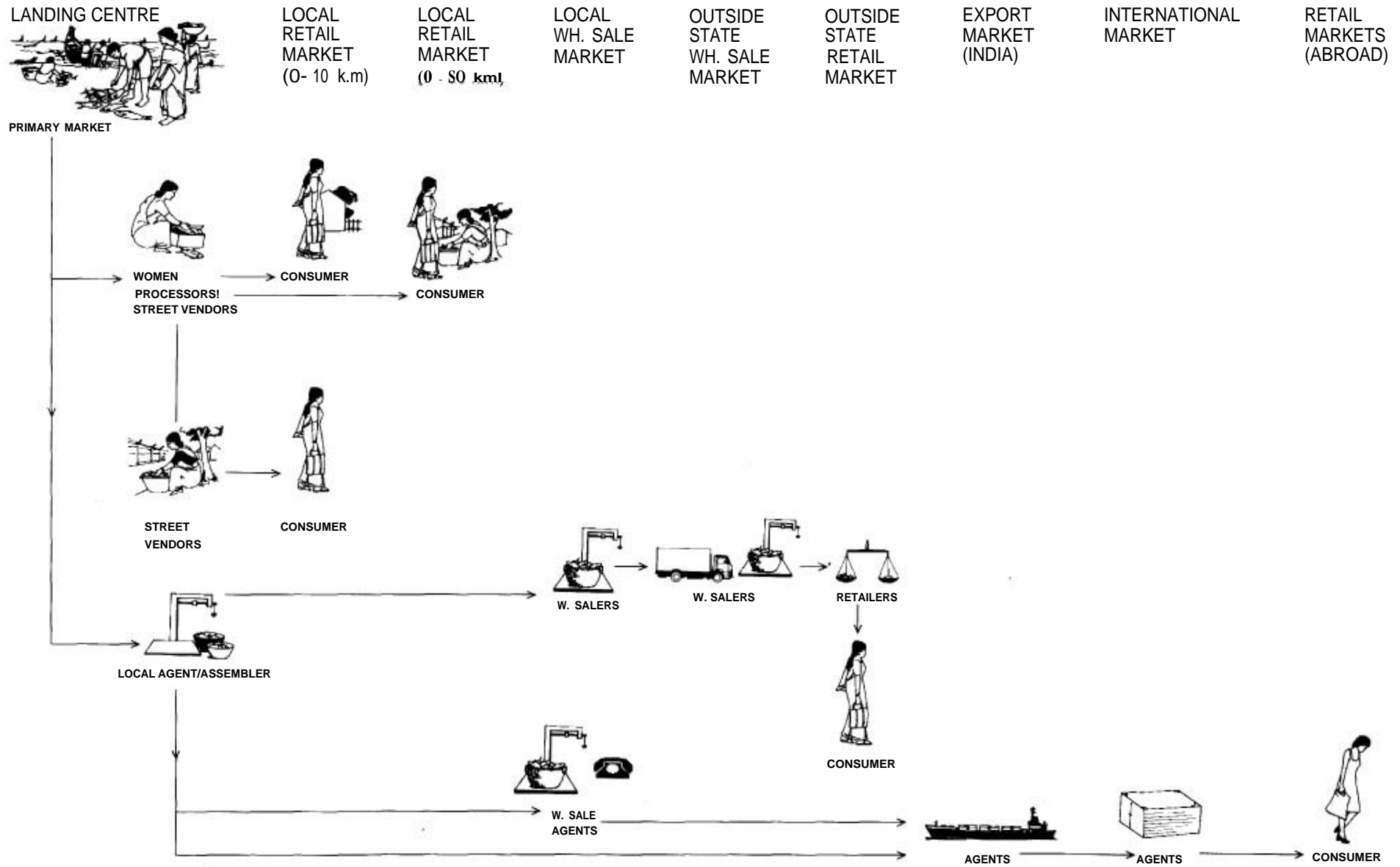
Processing and value-addition

- Economically valuable varieties like pomfret and seer go for processing only when they cannot be sold in the fresh or iced condition. Cheaper varieties like small pelagics are usually processed to preserve them. Processing is therefore for inferior varieties.
- Processing/preservation methods are highly unhygienic. There is very little space available for processing near the shore.

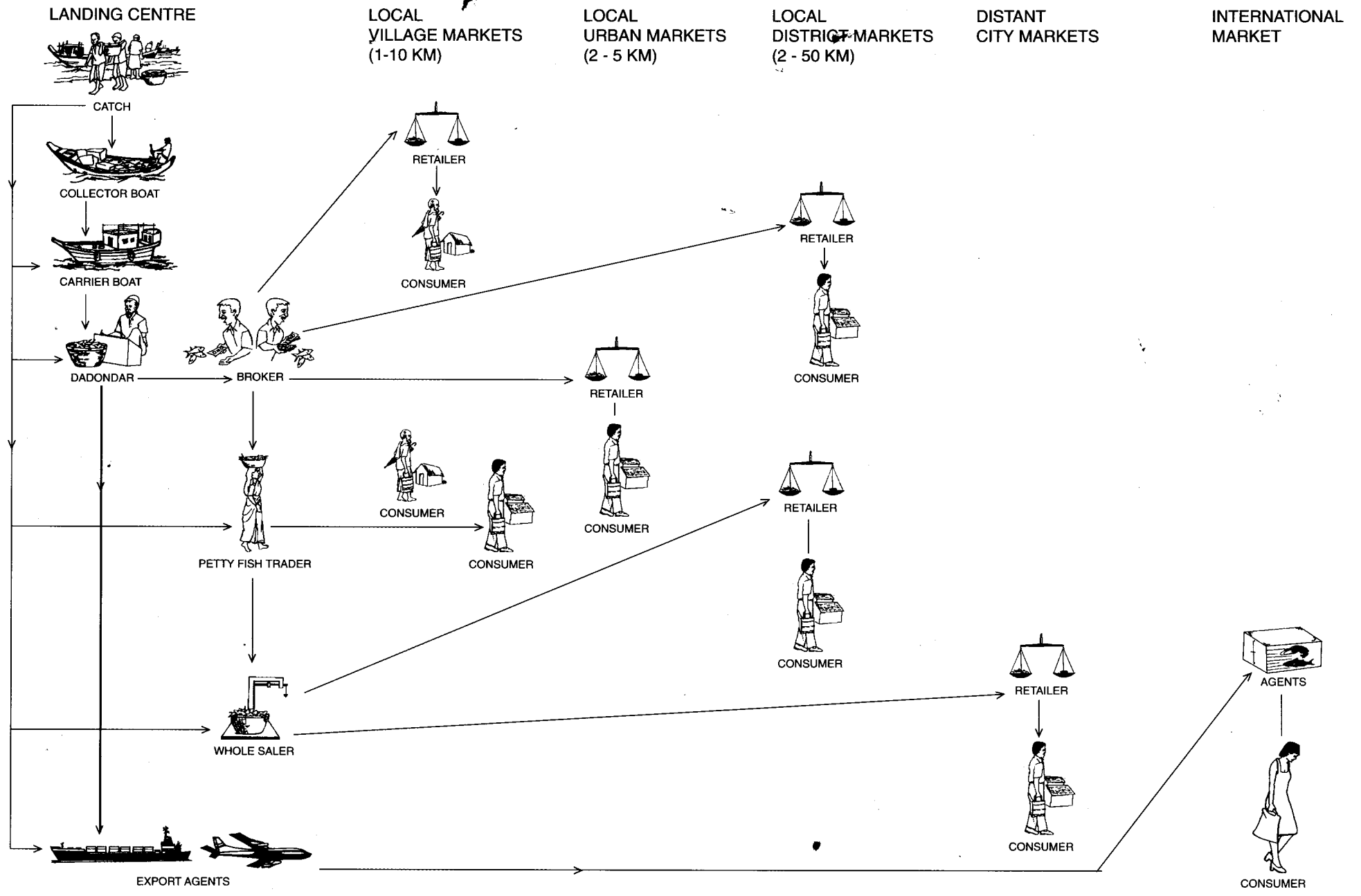
MOVEMENT OF FRESH FISH IN THE BAY OF BENGAL: FLOW-CHART OF MARKETING CHANNELS – INDIA



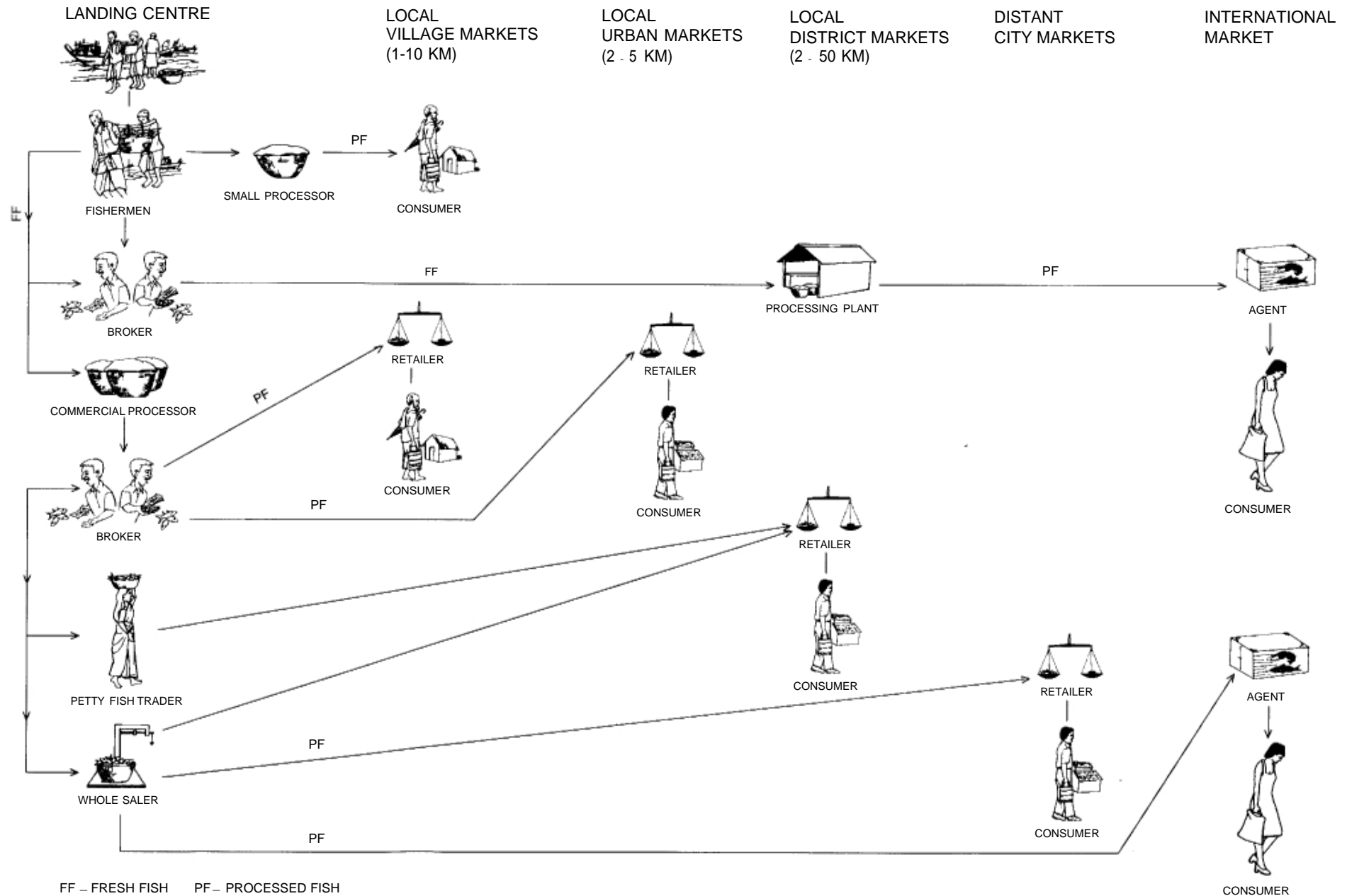
MOVEMENT OF PROCESSED FISH IN THE BAY OF BENGAL: FLOW-CHART OF MARKETING CHANNELS – INDIA



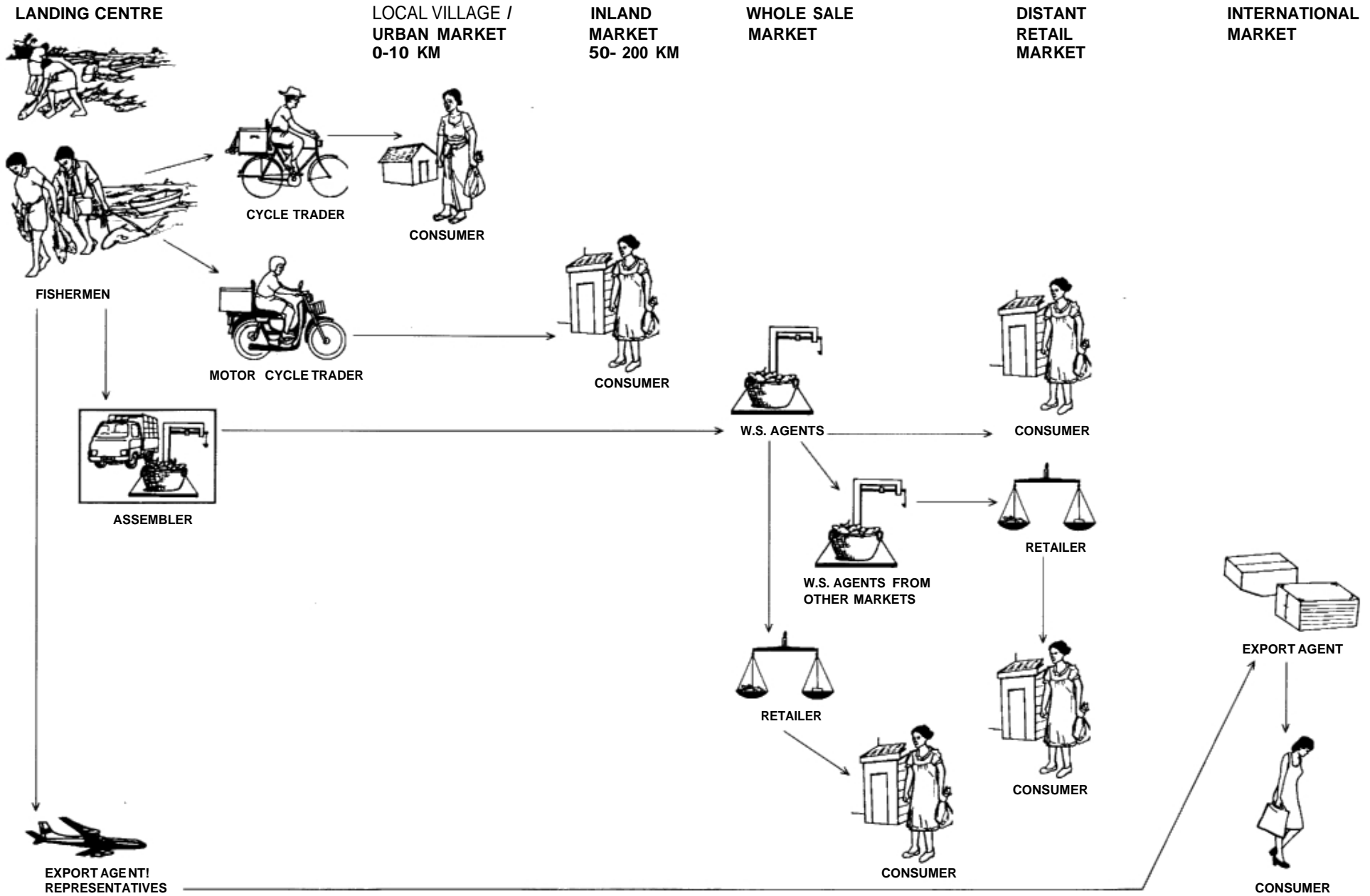
FLOW-CHART OF MARKETING CHANNELS - FRESH FISH - BANGLADESH



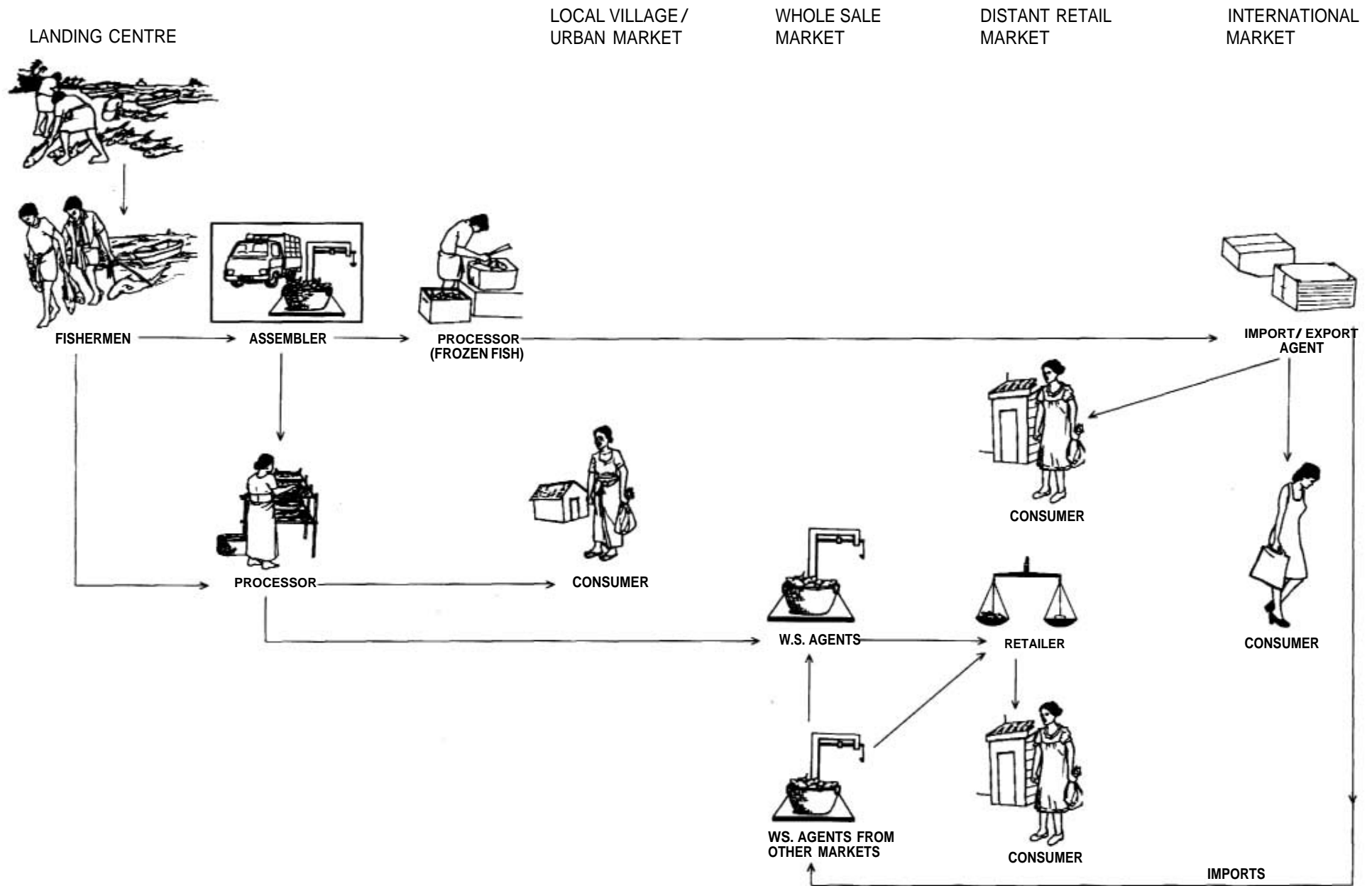
FLOW-CHART OF MARKETING CHANNELS . PROCESSED FISH . BANGLADESH



MARKETING CHANNELS - FRESH FISH - SRI LANKA



MARKETING CHANNELS - PROCESSED FISH - SRI LANKA



Storage, Packing and Transport

- The quality of processed fish deteriorates because it is infested with insects.
- Packaging is done mainly for distribution, not for consumers.
- Lack of transport infrastructure at landing points, pilferage and delays in transport, particularly rail and lorry transport, are serious constraints.

Marketing

- Fresh fish is preferred most by consumers. The perception in the market about processed products is that it consists of spoiled, unsold fish; and that only the poorest people buy such fish.
- Quality is not very material in the trade, particularly in case of processed fish, since better quality does not necessarily command a premium.
- Traders obtain information on a day-to-day basis through their agents and other contacts about prevailing prices at various landing centres and markets in which they are interested. They fix their purchase rates accordingly. They concentrate on economically valuable varieties. Processors of fish and fishermen have no access to such information.
- Local market rates (both wholesale and retail) are totally dependent on the catch in a particular week, in and around the market. Processors do not have information on catches in other landing centres. It is only when the produce is brought to the market, that they come to know whether the quantity of a particular variety landed is large or small. The risks run by processors are large.
- There is no reliable information on quantities handled by the fish marketing channels. Government departments and corporations presently involved in fish marketing do not have reliable data on quantities traded in various markets.
- The trade is highly unorganised; there are no standard weights and measures, transactions are not regulated, and the market is full of unethical practices. In Nakkapalli market, fish is sold in heaps, lots and in baskets. Traders make a guess estimate of the quantity and size of the fish and decide on a purchase price. Traders also lose some quantities due to theft in the marketplace. Wholesale buyers sometimes do not pay the full amount to traders, and renege on commitments. Traders are secretive about information; it has to be obtained indirectly.

Quality

- Traders assume that dried fish is of poor quality, if not actually spoilt. Thus, even if good fish is dried and offered in the market for sale, it is perceived as sub-standard, stale, and low-grade.
- Traders do not regard quality as important. Better quality products do not necessarily command a premium.

Lack of transport infrastructure at landing points.



Barriers to new entrants

Barriers to new entrants are as follows:

- Withholding of information or distortion of facts, designed to mislead or divert. An outsider encounters suspicion, even hostility.
- Propaganda aimed at generating suspicion about the motives of intervenors. A number of NGOs and other who have sought to initiate change have consequently suffered damage.
- Fears of fisherfolk about the ability of intervenors to deal with opposition from existing stakeholders in the marketing channel. Intervenors have abandoned their efforts in the past in the face of losses, hostility, and non-cooperation, rendering the work of future intervenors all the more difficult.
- Boycott, obstruction and intimidation, sometimes in violation of the law.
- General inertia of the existing system to change, including traditional linkages based on patronage, communal solidarity and trans-economic linkages.
- History of previous failures suffered by intervenors.

NGOs and government-sponsored commercial organisations are not structured to deal effectively with

marketing or commercial and legal issues because of their culture, deficiencies in information, knowledge base and skills, decision-making and control systems, costing & pricing practices.

In August 1995, the Project held a seminar on marketing for NGOs. The following problem areas where NGOs are weak and require support were identified:

- Lack of market information, awareness and intelligence.
- Managing very small volumes of fish.
- Coping with the linkages between credit and marketing, harvesting, post-harvest handling, processing practices.
- Value addition does not necessarily generate higher price.
- Limited reach of local fisherwomen's/men's groups.
- Unpredictability of landings.
- Insect infestation.
- Improper handling.
- Lack of infrastructure.
- Packaging.
- Legal and statutory rules.
- Costing and pricing.
- Technical guidance.
- Quality management.

Other needs of NGOs for outside help:

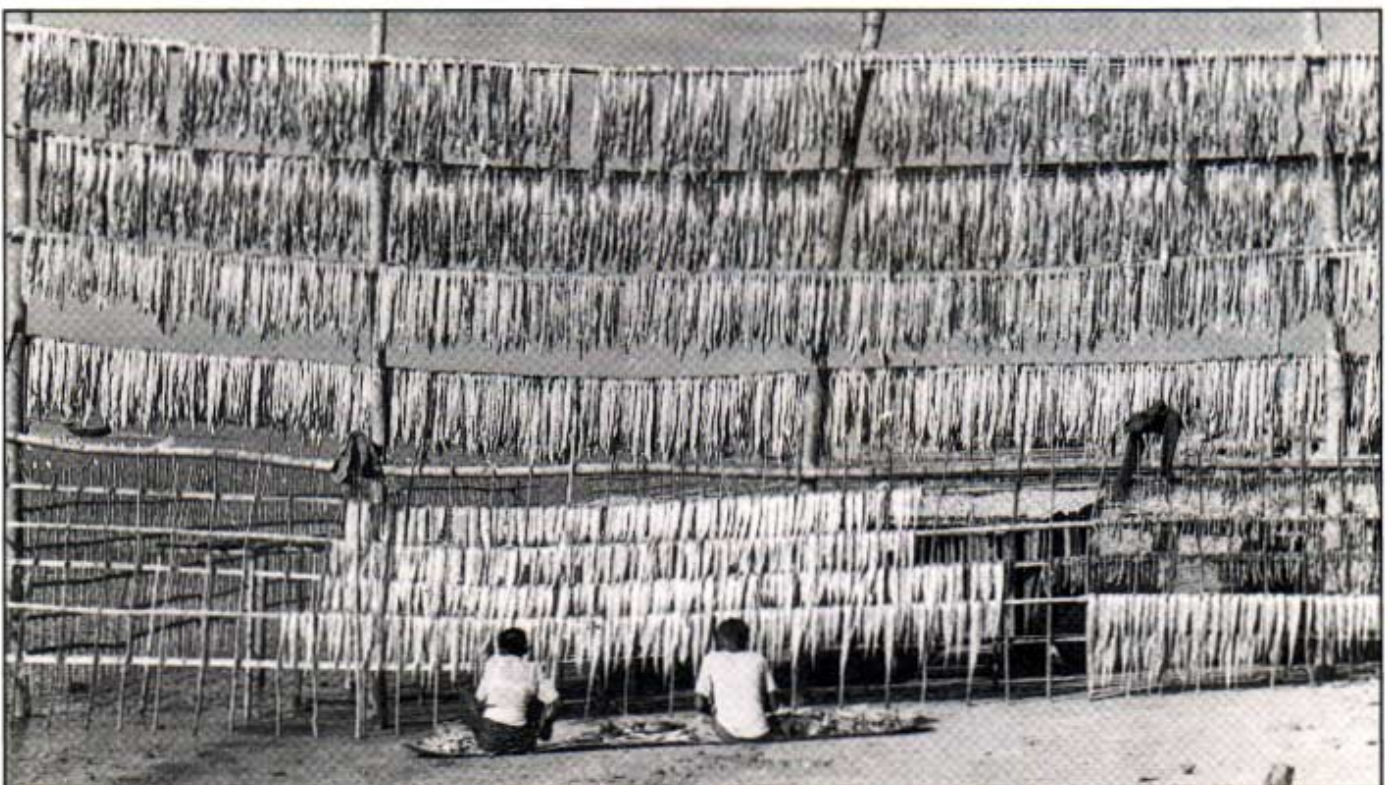
- Marketing organisation building & structure.
- Consumer perception and tastes.
- Market information/intelligence.
- Product development.
- Basic strategies and concepts in marketing.
- Legal and statutory requirements in marketing.
- Quality control.

Some Marketing Experiences

What follows is an analysis of fresh fish marketing in India, and case studies about

- A success story on fish marketing from Manapad, Tamil Nadu.
- PHFP's experience with marketing dried anchovies in Nagercoil, Tamil Nadu.
- Development of a market network in the east coast of India.
- Experience of an Orissa firm, Oriental Dry Fish Industries, in marketing dried fish.
- Marketing of fish pickles by ROSA & Santhidan, Tamil Nadu.
- Marketing of handloom products in Bangladesh.
- Link up of fishermen co-operatives with multipurpose cooperatives in Sri Lanka.

Technical guidance and quality management are two areas where NGOs are weak and need support.



Lessons learnt: Marketing

The interventions of the Project mainly focus on promoting simple, cost effective technologies for preserving and processing fish, after catching and landing. The underlying assumption: if such technologies are disseminated and adopted, the incomes of artisanal fisherfolk incomes will increase.

But experience shows that this assumption is not necessarily true. Here's a summary of lessons and issues:

The Marketplace

- Better handling or preservation of fresh fish does reduce post-harvest losses, but these are not automatic. There is often little or no improvement in prices realised by fisherfolk (except in Sri Lanka). Other interventions may therefore be necessary.
- Fisherfolk depend on fish traders for credit. These same traders control market channels and depress prices.

In India, processed fish (dried, smoked, salted, and wet-salted fish) is often regarded as low-value food, meant only for the poorest.

- **The market** very often perceives ice-preserved fish to be stale and inferior, but this perception is gradually changing, particularly in Sri Lanka & Bangladesh.
- In India, processed fish (dried, smoked, salted, and wet-salted fish) is often regarded as low-value food, meant only for the poorest. Another perception (except in Bangladesh) is that only fish gone bad is dried or smoked. Processing/handling is also notoriously unhygienic (except Sri Lanka).
- The anchovy drying project (see case study) shows the existence of demand for processed fish in the high-end consumer segment, and good prices, but the size of this segment is small. Sri Lanka is potentially a big market.

- NGO's attempts (see case study) to market pickled fish remained on a small scale, with limited success. Questions arose about organisational capacity, coping with the competition and legal requirements.

Operational Issues

The need to

- test out and validate assumptions concerning the availability of raw material, market prices, margins, volumes, segments, perceptions, quality requirements;
- The case also highlights risks of over-reliance on one kind of fish as raw material. The glut of anchovy landings was soon followed by severe shortage of anchovies.
- carry out methodical, structured, well-documented feasibility studies with the aid of professionals;
- do pilot-testing before scaling up;
- be flexible and respond quickly to changing situations in the market, raw material supply, and production; close contact with the market and ensure feedback; willingness and ability to learn fast;
- be realistic about time-frames, budgets, and expectations;
- formulate clear objectives – commercial or any other – and constantly monitor them;
- avoid dependence on grants and subsidies, except perhaps for start-up; commercial viability crucial;
- maintain a cost-effective organisational size and structure;
- develop technical, financial, and management skills and resources.

Fresh Fish Marketing by Artisanal Groups in India

by Ann Gordon

A long-time observer of the post-harvest fisheries scene in India discusses some of the issues fishermen's groups must tackle if they are to successfully market their own catch.

The marketing of India's marine fish has changed dramatically over the last 10-20 years. Lucrative export opportunities for shrimp, fresh or frozen table fish and even some dried species have led to a rapid expansion in the size of the harvest fleet and in processing facilities. India's growing cities have also generated strong demand for table fish. Improvements in road, rail and telecommunications and the availability of ice have facilitated the rapid development of both export and domestic markets.

Big merchants prosper, local fresh fish trade suffers

Increased commercialisation and pressure on the resource base has resulted in greater emphasis on higher-value fresh fish marketing than on traditional processed products (which fishing communities produced earlier when marketing opportunities were fewer). The investment in fishing fleet and the increased number of buyers (particularly for export products) has led to a greater concentration of landings at large centres in some areas, and the decline of many smaller centres. Fish processing and the local fresh fish trade have suffered, being made to compete with the higher prices offered by big merchants supplying export markets and distant cities.

Fishermen often feel themselves to be exploited. Some of them are locked into price and sales agreements with merchants who have advanced them credit. Or their fishing village may be served by only one merchant (because of the remoteness of the village, small catch size, or because the merchant has restricted the activities of other merchants).

Although there has been considerable success in increasing fishing incomes derived from export varieties (particularly shrimp and cuttle fish), this appears to be a special case. For such products, information on prices and standards is transparent, accessible and understood and there is, in addition, considerable competition amongst merchants to obtain supply for the under-utilised processing plants. Moreover, the high value of such produce justifies expenditure on the use of ice, which by reducing perishability also reduces pressure to sell to the first buyer. As a consequence, well-organised and motivated fishermen groups in southern India have been very successful in obtaining a higher export price for their membership.

This contrasts sharply with fresh fish destined for domestic markets. For the fishermen, although the unit value is

less, the volume of catch and aggregate income derived from these fish is much more significant. Yet fishermen frequently feel that they receive unfair prices for their catch – particularly when there are few buyers, or when there are glut landings. Catches of course vary seasonally, but even within seasons, catch sizes and content may vary significantly from one day to the next, without warning.

Fishermen frequently feel that they receive unfair prices for their catch – particularly when there are few buyers, or when there are glut landings.

Marketing by Fishermen Groups

Some fishermen groups have reacted to this by attempting to market their own fish. Yet, few such initiatives have been successful. The discussion below explores some of the issues fishermen groups must confront if they are to successfully market their own catch.

Capital: The capital requirements of the fresh fish trade can be considerable. Working capital is needed to buy fish and ice, meet vehicle running costs and bear trading losses. If a truck is rented, it represents a further drain on resources; but to buy a truck, fishermen groups require access to loan finance and a steady cash flow to meet the repayment schedule. Yet an effective marketing initiative by fishermen will oblige local merchants to pay higher prices at the landings, thus reducing trading profits and the potential to generate revenues to cover inevitable periods of loss.

Information: Fishing communities often suffer from limited infrastructure. The problems posed by poor roads and remote, absent or intermittent telephone links, and shortages in ice supply should not be under-estimated. Market conditions change rapidly, and up-to-date information is the key to profitable marketing of a highly perishable product. Telephone links, flexible but reliable access to affordable ice, and the possibility of supplying to different markets are all important.

Reliable product: Fishermen groups may find it difficult initially to break into the wholesale trade – and any problems arising as they learn their trade may undermine their credibility with wholesale merchants. Access to information and mutually beneficial trading relationships will depend, in part at least, on the ability to supply a product of reliable quality (and quantity

– where prior arrangements have been made by phone).

Management skills: Fish marketing also calls for considerable management skills and the ability to make management decisions based on business principles. This is really the key since there will be pressure from group members to pay fishermen the highest possible price, or even a fixed minimum price, which will result in trading losses or difficulties in covering subsequent losses from accrued surpluses. During periods of low trading activity it may make financial sense to rent out a truck (purchased for the fish trade) to other people or activities – but this may also meet with resistance from the group, feeling that this is contrary to their purpose.

Accounting: Transparent accounting and auditing will also be important in assuring group members that resources are properly managed. Credible management will also assist in bank negotiations.

Cohesion: Finally, and perhaps most important of all, the need for strength of purpose and cohesion within the groups cannot be over-emphasised. Divisions and rivalries within groups often emerge – sometimes over the issues highlighted and differences of view on appropriate marketing strategies. For most groups the management of a fish marketing enterprise represents a greater challenge to their unity than any activities undertaken before. Experience shows that it is certainly not the route to easy profits others imagined it to be.

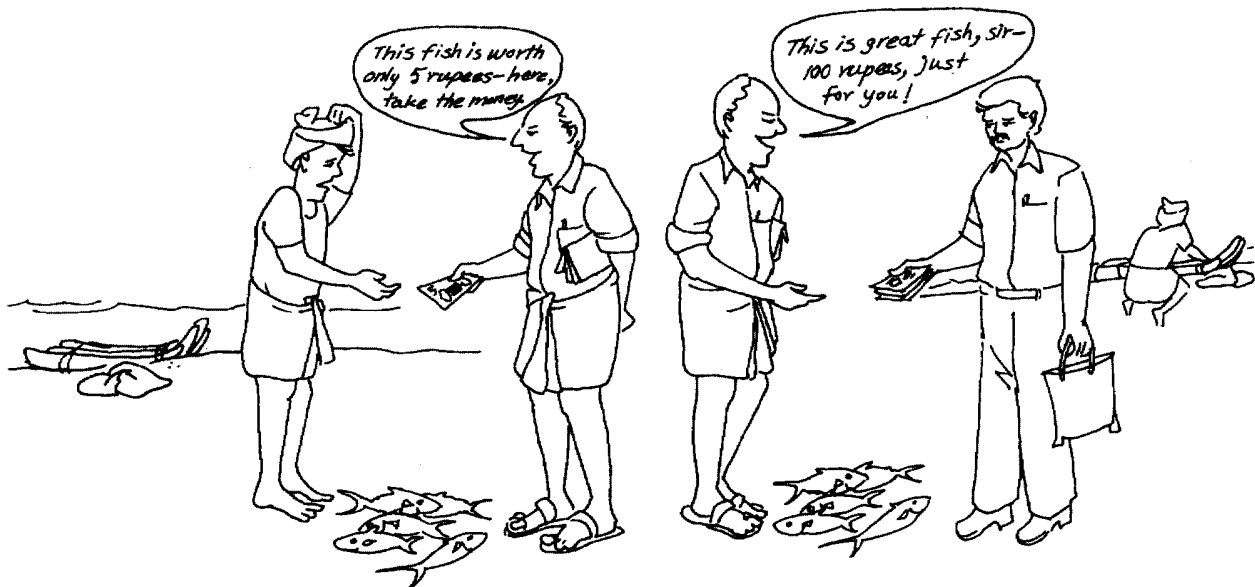
These observations are based in part on research undertaken by the Natural Resources Institute (UK) in collaboration with a number of Indian organisations including SIFFS (South Indian Federation of Fishermen Societies), CIFT (Central Institute of Fishing

Technology), CMS (Catalyst Management Services) and the Project. The research is funded by DFID and focusses on opportunities for traditional fishing communities to generate additional income from fish marketing and processing activities.

Strong, experienced groups; renting of a truck when beach prices are low; access to ice – such leverage points must be identified to improve the bargaining position and the incomes of fisherfolk.

A number of separate case studies were considered, covering dried fish marketing in India's north eastern states; access to ice by local fish traders in Kerala and successful experiences in fresh fish marketing. The results point up the dynamic nature of India's domestic fish markets and the risks faced by artisanal groups venturing into marketing activities. The need for strong, experienced groups is emphasised, and the importance of activities which create pressure for merchants to pay fisherfolk higher prices – as distinct from actual fish marketing by the communities themselves. Thus, in fish marketing, the threat of intervention through, for instance, occasional truck rental when beach prices are very low, may be more effective than the purchase of a truck which leaves a group potentially exposed if loan repayments cannot be met. Similarly, access to ice obviates the need to sell to the first buyer. The identification of such leverage points is the key to improving the bargaining position and hence the incomes of fisherfolk.

Note: The author is an Economist with the UK'S Natural Resource Institute (NRI). She has worked with a number of organisations in India over the past 10 years on fish marketing issues.



The middleman buys

The middleman sells

CASE STUDY

A success story in fish marketing: Manapad Tamil Nadu

This article is based on a case study presented by Ms Ann Gordon of the UK'S Natural Resources Institute (NRI) at a workshop in Chennai held in March 1997. To research the case study, she spent a week at Manapad in November 1996, observing fish marketing operations, and interviewing sangam members and others.

Successful examples of fresh fish marketing by small-scale enterprises and NGOs are rare. One of these rare successes is the 'sangams' (fish co-operative societies) of Manapad, just south of Tuticorin in Tamil Nadu, which have effectively marketed fresh fish in Tamil Nadu and Kerala.

Manapad has some 14 sangams with about 600 fishermen-members. They were formed in 1992, with 50 members. The initial impetus to establish sangams in Manapad sprang partly from the efforts of a charismatic and respected priest, director of the Diocesan Social Service Society. The sangams' objectives were threefold:

- to increase fish prices paid to fishermen;
- to break the cycle of indebtedness amongst fishermen; and
- establish a savings mechanism.

The sangams' initial venture into marketing concerned prawns for the export market. All that they did was make telephone calls to potential buyers to get quotes. This stimulated competition and resulted in better prices for the catch. Two years later, the sangams intervened whenever very good catches were landed, by ordering ice and renting a truck to take the fish to wholesale markets in Kerala and Tamil Nadu. Fishermen's names, along with varieties and quantities, would be logged. After the fish had been sold, revenues would be distributed to fishermen in the right proportion after deduction of marketing costs.

After one year, the sangams took a loan to buy a new truck.

Both tangible and intangible factors are behind the success of the Manapad sangams.

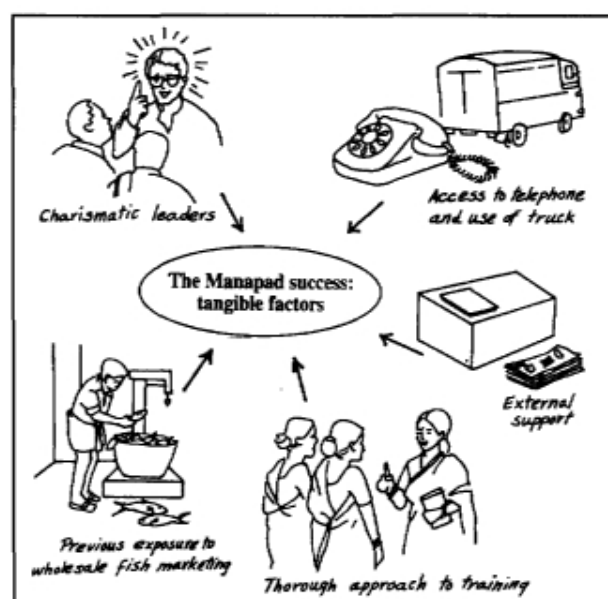
Tangible factors: strong charismatic leaders; a thorough approach to training; previous exposure to wholesale fish markets (one of the members of the Manapad sangams had earlier worked for a rival merchant; he knew the traders in the wholesale markets); access to telephone communication; outside support – initially from the Diocesan Social Service Society, later from SIFFS (South Indian Federation of Fishermen's Societies), which loaned two large ice boxes.

Intangible factors: the active participation of members in the sangams; the trust that exists among them and the spirit of unity; the degree of organisation and management among the sangams; the business acumen they have exhibited, which is rare among such organisations.

Lessons learnt

The reasons for the Manapad success hold out some lessons for other organisations interested in fish marketing.

- Strength of purpose and cohesion within the group, including strong leadership;
 - Sound business management – to protect the groups' income, and ensure that groups' investments give an adequate return;
 - Thorough training activities – covering management, accounting and administrative issues, as well as general awareness-raising;
 - Learning the marketing process before large investments have been made (in Manapad the sangams initially rented trucks);
 - When a large investment is made, planning the commencement of loan repayments to coincide with the season when their income is likely to be greatest;
 - Being able to benefit from the experience of a member who had already been involved in fish marketing;
- S** Access to telephone communications; and
- S** Contact with other organisations working with fishing communities, enabling access to ice boxes and other relevant information.



CASE STUDY

Marketing of rack-dried anchovies in Kanyakumari

Here is a true story that highlights the risks and vagaries in fish marketing. In 1992, the Project set out to market rack-dried anchovies in Kanyakumari. But a high purchase price and a fall in sale price cut profit margins. The project just managed to break even. The following year, the project fine-tuned its procurement and marketing strategy – but the anchovy fishery collapsed, and never recovered, forcing the project to withdraw from the scene.

Background

The saga of market intervention of the Project started mid-1992 when the project decided to undertake a pilot commercial operation for marketing rack-dried anchovies. The Kanyakumari District Fishermen's Sangams Federation (KDFSF) was the project's partner in this endeavour.

Nature of intervention

The project sought to promote drying racks for anchovies – the idea was to help Kanyakumari district fishermen, who suffered heavy losses through sand-drying of anchovies. The project appointed a marketing adviser based in Kanyakumari. He had four field assistants responsible for procuring rack-dried anchovies from fishermen. An officer based at the project headquarters in Chennai coordinated with the marketing adviser in Kanyakumari and with KDFSF.

Market studies in the metropolitan markets of Chennai and Hyderabad showed that demand existed there for good-quality dried anchovies. Surveys in Sri Lanka also indicated a fairly large market for the product if it was produced in sufficient quantities.

Buoyed by the prospect of an apparently large market, the project began encouraging fishermen from three villages (Kovalam, Kheel Manakudy and Pallam) to rack-dry anchovies during the 1993 season. As an incentive, the project fixed the price of rack-dried product "participatively" with the fishermen at Rs 22 / kg. This was about 10 times the price paid during the anchovy season of 1992 for the sand-dried product. The high price was justified on the ground that the effort that went into producing the product was high. However, this procurement price was to prove a problem as the season progressed.

Problems faced

The 1993 season began as usual in Kanyakumari in the second week of July. As always, initial landings of anchovies were low. Many fishermen who had promised to put up drying racks had not installed them.



Traditional sand-drying of anchovies.

Even those who had their racks up continued to sand-dry anchovies on the beach.

The situation changed in September when heavy landings began. The price of the sand-dried product fell by 50 per cent to Rs 3.50 to Rs 4.50 per kg. Result: fishermen suddenly started producing vast quantities of the rack-dried product. By the end of September, procurement had crossed 5 tonnes and was rising.

Rack-drying in Kanyakumari.



At this point, the activity ran into a cash crunch. What the project had envisaged was that the product would be sold to traders and the cash realised would be used to fund further procurement. However, with the glut landing, most traders were reluctant to buy and demanded a reduction in the project's sale price from Rs 30/kg to Rs 25/kg.

At this price, the project would be unable to meet its overhead costs. Suddenly there was a large stock on hand (nearly 14 tonnes) with no market for the product.

The problem was further compounded by a KDFS cash crisis, due to cost over-runs in the construction of its office building. In order to keep its promise to fishermen, the project continued to procure stock.

The social development orientation of KDFS militated against the intervention. It had neither the systems nor the expertise to manage a commercial operation.

A further problem arose when the anchovies, stored carefully in hessian sacks – indicating who had supplied what (so that every supplier could be held accountable for his product) – got mixed up. Further, the product was heaped up on the floor, making it susceptible to blow fly infestation. Result: the product suddenly lost its premium. The emphasis now shifted to disposing of the stock as quickly as possible to ensure that the entire stock was not lost.

There was a personnel problem too. The project's marketing adviser decided to quit at this crucial juncture. A new marketing adviser had to come to grips with the situation almost immediately.

Investment recovered

A concerted effort was made by the manager in charge of the project to dispose of the stock. The sale price was reduced to Rs 28/kg, leaving a margin of about Rs 3/kg. The arrivals of dried anchovies into the market had tapered off by then. The entire stock was disposed of by the end of February 1994; the entire investment made by the project and the KDFS was recovered.

The project thought that the experience gained would enable the project to fine-tune its strategy for the 1994 season decided to allow procurement prices to float with the market. The amount of stock to be procured would depend on the absorptive capacity of the market.

Systems were streamlined, with changes being made to the inventory control system.

With all systems in place, all that was needed was a record landing of anchovies. What actually happened was that the fishery collapsed. Landings fell to new lows, and never recovered. Experts have yet to figure out why or how the collapse occurred.

The project tried to diversify the product range to cover a wider range of species. But this proved difficult because of the very nature of the market. The project withdrew, with everyone concerned losing interest.

While the project failed in its effort to market the anchovy product on its own and replace the middleman, it did create a small niche market for the product. During the last three years, private traders – some of whom obtained supplies from the project – have entered into contracts directly with the fishermen who supplied the project with rack-dried anchovies. These traders sell rack-dried product in the Kerala market.

Consequently, two years after the project wound up the anchovy-drying activity, anchovies continue to be dried on racks in Kanyakumari.

Lessons learnt

- A key lesson learned by the project is about pricing. The middleman or trader makes high margins when the going is good. But this is a reward for the risk he takes when the going is bad.

The project, in its anxiety to offer the producer (KDFS) the highest prices, reduced its margins to just about cover cost. The price of the risk entailed in the transaction was overlooked.

- The social development orientation of KDFS did not help. It had neither the systems nor the expertise to manage a commercial operation. Result: It was unable to enforce the quality standards required to make a success of such an operation. Further, the lack of experience in storing dried fish products over a period of time resulted in high storage losses.

This experience ended the project's interventions in fish markets. It concentrated its efforts on facilitating linkages between producers and market institutions. A few such links have begun to bear fruit. But that's a case study by itself.

INFORMATION NOTE

Emerging trends in market networking

In August 1996, the Project conducted an awareness programme on fish and fishery products at Hyderabad. The awareness programme targeted the general public, who were unaware for the most part of products made using fish.

The programme brought together 12 producer groups. Besides displaying their products, these groups also got together to discuss problems and prospects, in production and marketing of value-added products. They identified three major problem areas:

- lack of awareness on the part of the consumers, because small producer groups could not undertake market promotion;
- the inability of any one agency in one area to create and sustain market demand once it is generated because of fluctuation in catches; and,
- lack of awareness of quality control criteria, and laxity in observing them.

The awareness programme was successful in achieving both its objectives — i.e., identifying market potential for value-added products in urban centres, and providing coherence and shape to efforts being made by various agencies individually in this sector.

Over the next few months, with the coordination of the Project, these agencies — there were NGOs, quasi-government bodies, co-op societies, fisherfolk youth groups and private entrepreneurs — started marketing activities, albeit in a tentative, hesitant way, establishing linkages among themselves, supplying and procuring from each other, and keeping up the debate as to the appropriate course of action. Meanwhile, eight more agencies joined the group, producing and marketing value-added products, with various levels of expertise, investment and reach.

Finally, it was agreed that the agencies should form a consortium, which will be registered as a marketing body. This allows the members to

- set and agree on quality control parameters for different products being made by all agencies, to ensure quality and consistency;
- interact with one another, sourcing products, generally supplementing each other in times of need, at the same time retaining freedom to engage in trading on their

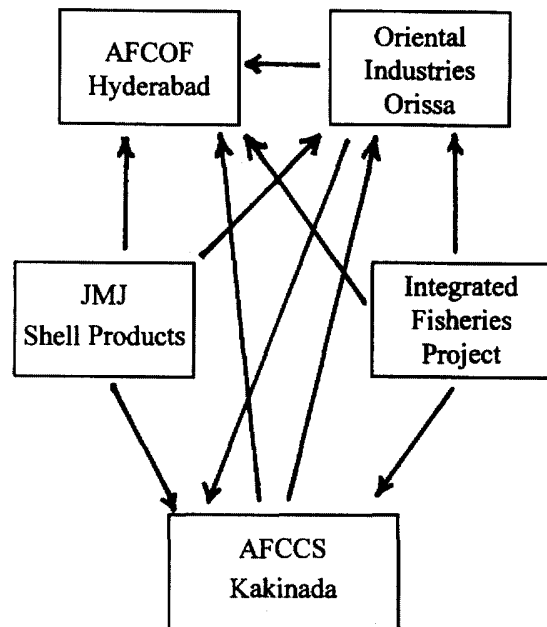
own, depending on the availability of products and demand; and,

- take up promotion of fish and fishery products jointly, preferably with the assistance of the government, for a concerted action plan to acquire a market profile under a common brand name.

It's early days yet. But discussions are under way to decide the form and content of the consortium, logistics of operation, sources of funding for the consortium itself to make it a self-sustaining unit, and the quality-control parameters for various products. About 20 products have been identified for production by these groups. It is planned to narrow the list to the more widely produced varieties initially, and based on the experience, to include other items also.

The products include improved-quality dried, salted, salt-dried and smoked fish and shrimp, dry shrimp pulp, pickles in oil and vinegar, fish wafers, fish crackers, fast food items like fish cutlets.

One must bear in mind that the idea of a market network fails if catches and landings are uniformly poor throughout the network area.



An indicative example of an emerging market network on the east coast of India.

AFCOF : Andhra Pradesh Fishermen Co-operatives' Federation

JMJ : Jesus Mary Joseph Shell Products

AFCCS : Andhra Fishermen's Central Co-operative Society

CASE STUDY

An Orissa firm's experience in marketing dried fish

An Orissa dry fish firm learns —the hard way—that it is essential to cater to local markets before dealing with distant markets that seem lucrative but are loaded with risks.

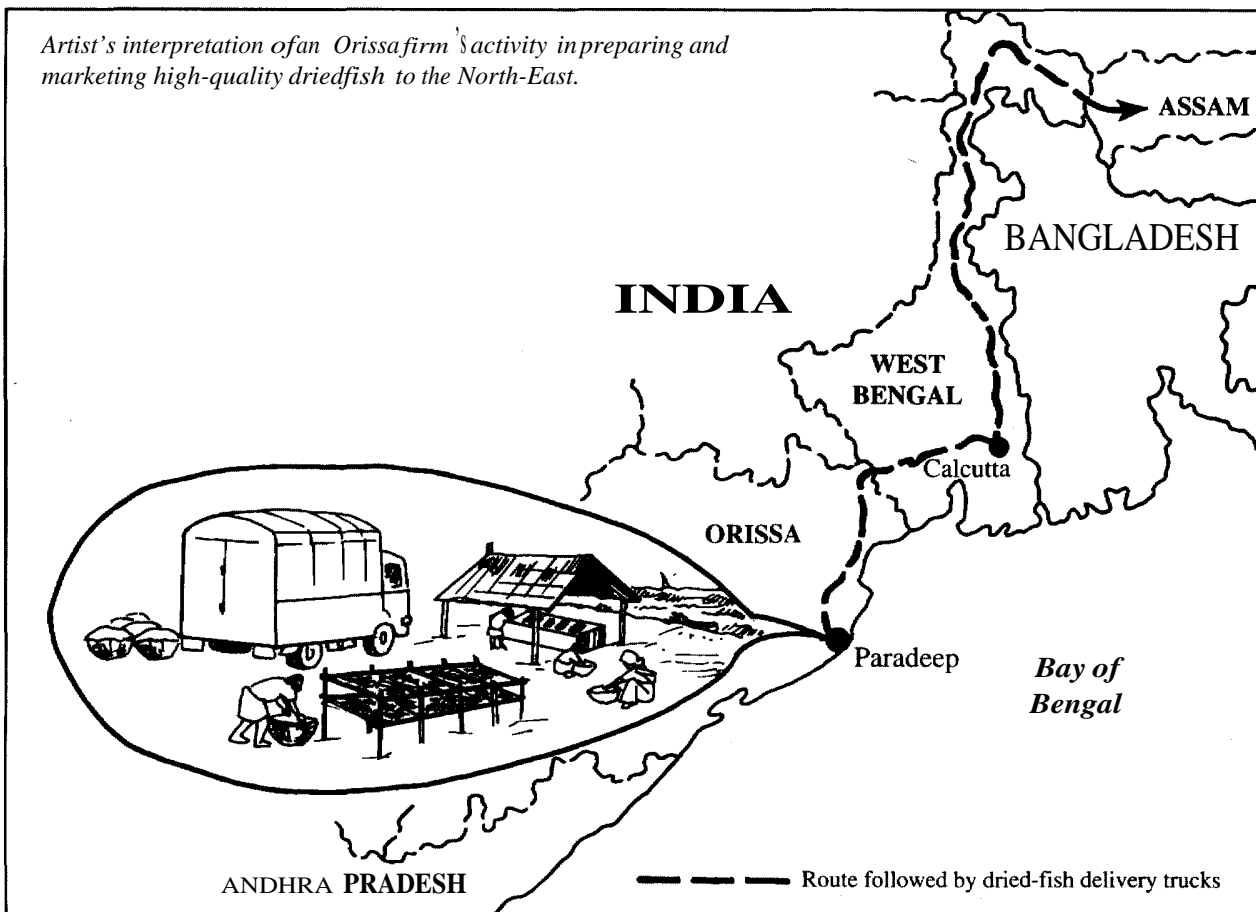
Oriental Dry Fish Industries (ODFI) is a partnership firm established in January 1996, with three partners. Two were former fisheries officers, the third partner ran a business in fisheries requisites.

The impetus for the firm came from Department of Fisheries officers in the area. With support from the PHFP, they were promoting improved fish processing practices like fish-drying racks among the fisherfolk.

Before starting the enterprise, the partners carried out careful ground work. They conducted market surveys and met traders in many areas, including Andhra Pradesh, the interior of Orissa and North-Eastern India. Obtaining favourable feedback from traders for the trial product, they started a unit in Paradeep, a major fishing port in Orissa, for fish and racks. The choice of Paradeep is ideal, because

- the varieties that ODFI chose to prepare dry fish from were abundantly available in trawl-landings in the area for most part of the year, and were cheaper than elsewhere;
- processors in the village were willing to come and work in the **ODFI** unit, and also showed interest in selling their products through ODFI. So the investment on infrastructure need not be as high as was required;
- transportation facilities were good, and traders most often came to the village to lift the product; and,
- **ODFI's** partners had a very good rapport with local fisheries officers and the fishing community.

ODFI partners installed their unit on the beach in an area measuring 0.5 acres, where provision was made for fresh water, salting, cleaning and processing



including drying racks. A storage shed was constructed using locally available materials, which, at the same time, could store products for long periods. A hut was constructed for housing supervisors and watch-and-ward staff.

Three varieties — ribbon fish, anchovies and croakers — were purchased at the Paradeep fishing harbour, and processed hygienically into high-quality products. The staff were trained to maintain the highest standards of quality. The quality of the product was apparent from the fact that it fetched nearly double the price of traditionally processed fish.

In the first year, the enterprise made a moderate profit, selling its product to traders from Calcutta. This had a positive impact on the local community as well, who started installing drying racks in large numbers. The problem they faced was with control of insect infestation, and they approached research institutes like the CIFT. While good anti-insectants are available in the market, conventional wisdom suggested that the product be disposed of at the earliest, before problems such as insect infestation arose.

A business manager may seem an extravagance for a fledgling unit, but he is in fact more essential for small struggling units than for established units.

During the lean season, the partners of ODFI undertook visits to markets in Andhra Pradesh in the south and in the North-East. Some of their product was sold in packs through an apex fishermen cooperative body in Andhra Pradesh. But the returns from the North-East were much higher, the market price there being more than three times the price elsewhere. The ODFI took their produce in the second year to a market in Jagi Road in Assam for sale. But this proved rather costly, because the high prices offered in Assam were offset by a number of factors. These included

high transportation costs;

- uncertainties in transporting to the distant markets through hilly terrain;
- delays, sometimes exceeding six months, in payment for the product by the local traders, and
- prevailing instability and tensions in the area, because of terrorism, which reduced the scope for selling the product immediately.

This experience made ODFI look for other markets that might provide smaller profits but would be more stable. They also started concentrating on local markets, which again may not be as lucrative as the North-East markets, but are more reliable and less expensive to cater to.

However, their troubles were far from over: this time the problem started on the home front — i.e., supply side. A major cyclone devastated the processing unit, which meant that a large part of the money set apart for working capital had to be used up. Secondly, other processors in the village started pooling dry fish on their own and sending it to Paradeep; this was used as a lever by the markets in the North East to reduce procurement prices. There were reports that some of the processors were in fact being employed for the purpose by the traders of the North East.

After a thorough appraisal of the activity, ODFI developed a 3-fold strategy:

- Appointing a young but experienced business manager to look after marketing issues. When the partners did the marketing on their own, they were handicapped both by inexperience and age — a hurdle to frequent travel. Moreover, the psychological pressure on the partners was too high. A business manager may seem an extravagance for a fledgling unit, but is in fact more important for smaller, struggling units, than for established units. The ODFI also started employing sales people on commission to sell the product door-to-door in Cuttack and Bhubaneswar.
- To overcome competition from other producers in the area. ODFI has started exploring the possibility of starting another processing unit based in Andhra Pradesh. The advantage of this approach is that while other processors can supply dry fish only during peak seasons, ODFI can ensure supplies far longer.
- Instead of storing up catches until enough material was produced before sending it by trucks to the North East — a risky process — ODFI has started sending half a tonne of product every week by rail to the North East. This has reduced storage and freight charges as well as risks in transport, and problems of non-payment by traders. Their working capital requirement too has come down substantially.

So far, the strategy seems to have worked well. The ODFI seems well set to be a success story.

Assessment of the activity

The three partners have prior experience in fisheries. This is as it should be – a basic and clear understanding of the sector is necessary for anyone who ventures into the market. It helps identify the most ideal location for the venture, and obtain support from local communities. Also, prior knowledge enables diversification into other products, when fishing is low or targeted varieties are not available.

While the improved process does yield a better product, the ODFI experience clearly shows that there is a lot to learn from traditional processing and marketing practices based on centuries of experience of fisherfolk. They are more practical than the improved processes.

Keeping the investment cost as low as possible, and maintaining most of the processing staff on a daily wage basis, the ODH ensured that overheads did not mount during the lean periods.

Realising the need to explore new markets for improved products, the ODFI started with market surveys, so that they could not only ascertain the demand position, but also identify areas from where raw material could be sourced when needed.

Concentrating on three varieties alone in the initial stages made it possible to pay full attention to them, rather than get entangled in complex production and marketing arrangements.

While the North-East experience was somewhat negative, it afforded valuable lessons.

The need to hire a manager who is not a partner in the initiative, becomes very clear. Also that working capital requirements must be reduced to more manageable levels.

Lessons learnt

For a small entrepreneur like ODFI, if quality products do not pay even investment costs, it is necessary to cut the production costs so that at least the investment can be recovered.

- It is essential to start dealing with local markets before going to more lucrative but risk-prone distant markets.
- The fact that local processors starting to use drying racks on their own, based on the ODFI's experience, indicates that if the financial viability of a technique is properly established, the target group does not need to wait for assistance from any quarter. It also establishes that for any technology to take root in the community, it is always a case of 'seeing is believing'.
- ODFI should have foreseen competition – large-scale adoption of the activity by other processors – since the technology was so simple. Had ODFI taken precautions to retain its unique position in the market, it could have avoided some of the problems it faced.



The high prices offered by Assam buyers were offset by heavy transport costs.

CASE STUDY

Can fisherwomen make money from fish pickles?

One of the imperatives of fisheries development today is to maximise resources – reduce waste, add value, make the most of whatever is caught. Value-addition is a useful way to bring this about. Preparing pickle from fish or prawn is a promising value-addition option. The potential has yet to be systematically tapped. Here's a report of experiences from Nagapattinam and Kanyakumari, Tamil Nadu.

The Project has since 1995 held a series of fish pickle demonstrations in various parts of Tamil Nadu and Andhra Pradesh to inform NGOs and fisherfolk communities about this simple low-cost processing method. Nine such programmes have been conducted for the benefit of "sangam" members belonging to four NGOs – Santhidan, ROSA, COPDANET and MASSES.

ROSA (Rural Organisation for Social Action), based in Nagapattinam, has put the training to very good use and has been able to sustain the activity. It is also considering a proposal for commercial-scale pickle processing.

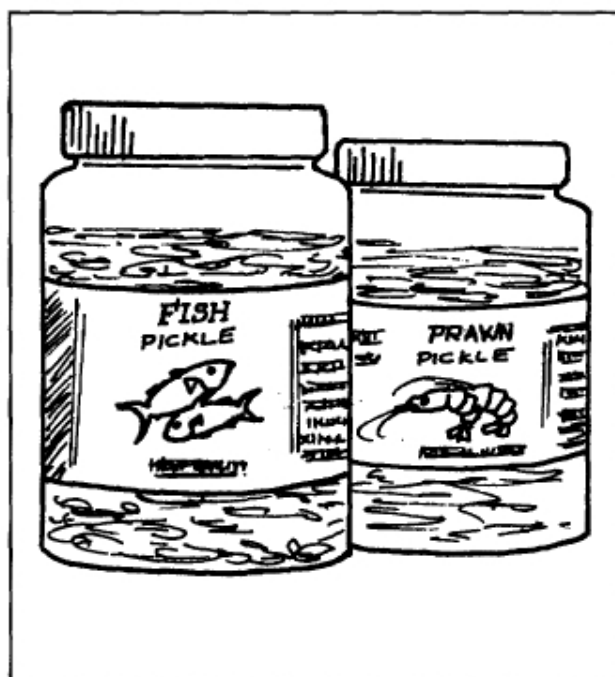
The ROSA experience

The Technical Officer of the Project conducted a fish pickle demonstration for ROSA workers in September '95. (Quantum of pickle produced: 12 kg). In view of the excellent response from ROSA, further technical inputs were provided in the form of full-fledged training for a couple of animators there (who produced 8 kg). The women repeated the exercise themselves the same month, using mixed varieties of fish.

Subsequently (in March 1996), the women produced pickle with tuna fish, and later, 5 kg of prawn pickle. In April '97, they prepared 14 kg of pickle from carangids. Some months later, trained ROSA women passed on their knowledge of pickle-making to select sangam members through a training programme, and prepared 12 kg of pickle.

Some cost figures. To prepare 6kg of pickle, the money spent was Rs 1,050 (Cost of fish, transport and ice Rs 540, cost of ingredients Rs 510). The production cost worked out to Rs 175/kg.

The prepared pickle was test-marketed in small packs (packed in thin polythene cover) in local shops, and demand was found to be good. ROSA therefore plans to expand this operation, packing the pickle in bottles and selling it. ROSA is collecting information on machinery available in the market for polythene



packing and bottle packing. Meanwhile, a project report for producing and marketing fish pickle was submitted to NABARD for financial support.

Advantages of fish pickles

- Adds value to low-value fish varieties.
- Averts loss of resources during glut landings.
- Does not require sophisticated or high-cost equipment. Can be easily taken up by poor fisherfolk.
- Is a potential income-generating activity for women.
- Consumers get the pickles in convenient and cheap packs.
- Provides nutrition.

Problems and constraints for commercial-scale fish pickle preparation:

- The raw material, fish, is in short supply when landings are poor.

- Some packing expertise is needed. Low-quality packing material means leaking packs, rejections and lowering of product's standing in the market.
- Market potential is uncertain in the absence of market studies.
- Quality control is in general low.
- No costing or pricing policy evolved. Profitability therefore questionable.

The NGOs were equipped for production, thanks to training provided by the Project, but not for marketing, and found it difficult to sell the finished product.

- Cost records not maintained.
- Project depends on external funding.
- Some customers believe that pickle is prepared from spoiled fish.

The Santhidan Experience

Santhidan, the Kanyakumari-based NGO in Tamil Nadu, had been looking for opportunities to produce and market value-added fish products. The Post-Harvest Project came to its aid, providing production technology for fish pickles. The project's Technical Officer organised training sessions for Santhidan staff and local fisherwomen in 1995.

Santhidan decided to go ahead with the production. It acquired the equipment and the material needed. Pickle production commenced, with seer fish. Since Santhidan was not equipped to market the finished product, it took the help of a local distributor. He agreed to distribute the product under a new brand name owned by him.

There were constraints, however. The desired species, seer fish, was available only during a particular season. Even when available, most of the fish were diverted to the fresh fish market. Result: short supply of raw material and high procurement price. Due to lack of technical expertise, sealing of containers was not perfect. The containers leaked, making consumers reject the product. Adequate information about suitable packing materials was lacking too.

As far as marketing is concerned, no systematic study was done, so the market potential was uncertain. Since no costing and pricing policies were evolved, there

was 17% loss at the end. The branding and selling by the local distributor was not clearly spelled out. This venture depended solely on external funding, yet such funding was unlikely. So the sustainability of the activity was questionable.

In view of all these obstacles, pickle production has been suspended for the time being. Nevertheless, Santhidan staff are trying to improve packing and quality and strengthen their institutional capability. Efforts are on to obtain financial assistance to sustain the project.

Lessons learnt

- Seasonality is a very important factor to be considered. Fish should be procured during times of glut when fish prices are low. This enables sale at a price that all consumers can afford.
- Costing and pricing should be worked out carefully, taking into account overall costs including manpower, time and transportation costs, in order to ensure profitability. Ignoring these basics led to substantial loss.
- Just as with any other technical interventions, a pilot study covering all cycles – costing, production, market study and sales – has to be undertaken. The NGOs were equipped for production, thanks to training provided by the Project, but not for marketing, and found it difficult to sell the finished product.
- The finished product should be packaged attractively. Some packing expertise or experience is called for. Low-quality packing material may be sufficient for immediate sale in small quantities, but if the product has to be stored for a few days, leaking is inevitable – it leads to rejections by customers and lowering of the product's standing in the market.
- The quality of the product cannot be compromised at any stage of production and marketing.
- Commercial pickle-making cannot be carried out in a residential area. The public would object to the foul smell and the discharge of wastes. Rented facilities cannot be modified according to need. So setting up proper infrastructure facilities, with a waste management system for commercial production, is a must.

CASE STUDY

Alternative income-generation activities for a fisherfolk community

To improve incomes and better living standards, a fishing community must think of alternative income-generation activities. These need not be confined to fisheries. Here is an example from Bangladesh, where fisherwomen marketed handloom products.

The Rakhain women of Cox's Bazar, Bangladesh, who are of Burmese descent and belong to the fisherfolk community, are skilled weavers. Weaving is an old Rakhain tradition. They worked on their looms and wove fabrics whenever contractors provided them with yarn and gave them firm orders. They were usually paid Tk. 15-20 per yard of cloth and Tk. 15 per piece of bag. They could earn Tk. 20-25 in a day. Additionally some of them used to bring yarn from Cox's Bazar to make bags and sell them in the Burmese market nearby at a marginal profit.

The Project identified weaving as an alternative income option for the Rakhain women. A pilot venture was started with the help of UBINIG, an NGO which has considerable expertise in handloom production. It started with only 14 members. Membership expanded gradually to 24. Hence a separate operational group of 24 members was formed.

It is wonderful to see how a slight change in looms and the introduction of market outlets has helped transform traditional Rakhain society.

On the basis of identified need, the weavers were given training on several operations – the dyeing of yarn, design of fabrics, costing, and modified handloom operation. As part of the training programme, they visited weavers' villages in Tangail, where Bengali weavers use Chittaranjan looms, slightly different from the traditional Rakhain looms. There they learned the use of *maku*, a small part of a modified handloom, which makes the weaving operation easier and quicker. On return from the training, they shared experiences with other community members, introduced *maku* and modified some parts of their looms.

The training enabled group members to produce more high quality fabrics in a given time. The product is now being marketed in Dhaka, with UBINIG providing support to buy yarn, dye it, and market the product. The women understood the whole operation by practising it regularly. Their awareness and consciousness about production and marketing channels has gone up considerably. After some initial



Handloom weaver at Rakhainpara.

hesitation, the group is now trying to discover new marketing outlets, gradually taking over the production process from UBINIG.

Growing in confidence, the Rakhain women are learning to maintain production records and acquaint themselves with marketing procedures so that they can run their activities by themselves without any external support.



Fig: The handloom production and marketing cycle.

Women plan visits to Dhaka to promote products

The group nominated a 4-member committee (two women, two men). They are responsible for buying yarn, marketing the products and keeping contact with market outlets on behalf of the group.

UBINIG in collaboration with the project is now preparing a promotional brochure for the handloom products of Rakhain women. It will introduce the products to various market outlets. The women are planning to visit five big outlets in Dhaka city with brochures and sample products. They will be able to obtain regular orders if the market promotion goes off well.

Rakhain women want to put their improved weaving skills to productive use. Skill training has encouraged many more Rakhain women to join the group. Outsiders too are keen to take up weaving. It is wonderful to see how a slight change in looms and the introduction of market outlets has helped transform

traditional Rakhain society. Rakhain women plan to take up weaving seriously as a profession, because it has helped them double their incomes.

Lessons learnt

- A slight modification can make a product more profitable.
- Exposure trips can strengthen knowledge and raise the confidence level of a rural community more effectively than discussion and explanation.
- Income-generating options can be effective if market channels and outlets are identified.
- Proper training on costing and accounting are essential to sustain and expand production.
- The weavers are all female – some male support is necessary.
- Technical skills can be absorbed quickly but acquiring commercial acumen can be a slow process.



CASE STUDY

Success story from Sri Lanka: Fishermen co-operatives link up with multi-purpose co-operatives

Young men get jobs. Fishermen get better prices for their fish. Consumers get better-quality fish. The economy gets a boost. All these benefits flow from an innovative marketing idea in Sri Lanka – to link fishermen's co-operatives in coastal areas with multi-purpose co-operatives from the hinterland.

In Sri Lanka, there are over 700 fishermen's co-operatives with more than 90,000 members. Their activities include community development, welfare, subsidies and sale of fishing gear. Some of the co-operatives have been upgraded as rural fisheries banks. More than 90% of these co-operatives are in the marine sector. Only a handful of the co-operatives deal with fish marketing.

Sri Lanka also has some 300 multi-purpose co-operative societies (MPCS), with 651 wholesale outlets and 7306 retail outlets, active in consumer durables, books and stationery, fuel, bakery products and banking. A majority of these societies in the districts have their own rural banks, which in turn are affiliated to a district banking union. The first consumer co-operative society, forerunner to the MPCS, was born in 1927 and the first fisheries co-operative in 1942.

Individuals, organisations and government departments with divergent and differing agendas and priorities can be brought together to undertake programmes for the common good.

The Project, in co-operation with the Department of Fisheries and Aquatic Resources Development, decided to undertake a unique and a novel marketing venture. Fish produced by members of fisheries co-operatives were to be supplied to consumers in hinterland areas through a chain of multi-purpose co-operatives located in Kandy and Matale districts. The Commissioner of Co-operative Development in charge of Central Province also participated in the venture.

Under the venture, 37 unemployed men from 10 multi-purpose co-operatives were selected to act as fish retailers, using insulated fish boxes developed by the project. They had no knowledge of fish or fish marketing at all. They had even to be trained on how to cut fish. Each of these individuals was given a loan of up to Rs.12,000 towards purchase of a bicycle, a fish box, a set of weighing scales and a fish cutting knife, and cash to purchase two days' supply of fish.

With the help of the National Aquatic Resources Research and Development Agency (NARA) and the Department of Fisheries, a series of workshops and training sessions was conducted for officials and prospective fish retailers.

A fishermen's co-operative in Chilaw and another in Negombo were selected to supply fish to the multi-purpose co-ops. Insulated fish boxes were used to transport fish from the producer co-operatives to individual multi-purpose co-operatives, who in turn distributed the fish to cycle traders for marketing.

This is the first time that a market link-up between fisheries and multi-purpose co-operatives has been attempted in Sri Lanka. It was hailed as an innovative ground-breaking venture, with jobs for the unemployed and cash for fishermen supplying quality fish at reasonable rates to far-off consumers. Through this arrangement, the fishermen have a guaranteed outlet for their produce at prevailing market prices, while consumers are assured of superior quality fish at affordable rates. The multi-purpose co-operatives keep a small mark-up to cover operational costs.

It is reported that a cycle trader handles between 10 and 15 kg. of fish and earns a net income of Rs. 250 to Rs 350 per day. He completes his work by noon. He can attend to some other income-generating activity in the afternoon if he wants to. The trader is expected to pay cash for the fish he buys, and also settle his interest and capital against the loan on a daily basis.

The programme was inaugurated on 3 October 1997, with Mr. Mahinda Rajapakse, Minister of Fisheries and Aquatic Resources, as chief guest. It is now making satisfactory progress. More and more multi-purpose co-ops are clamouring to join in this activity.

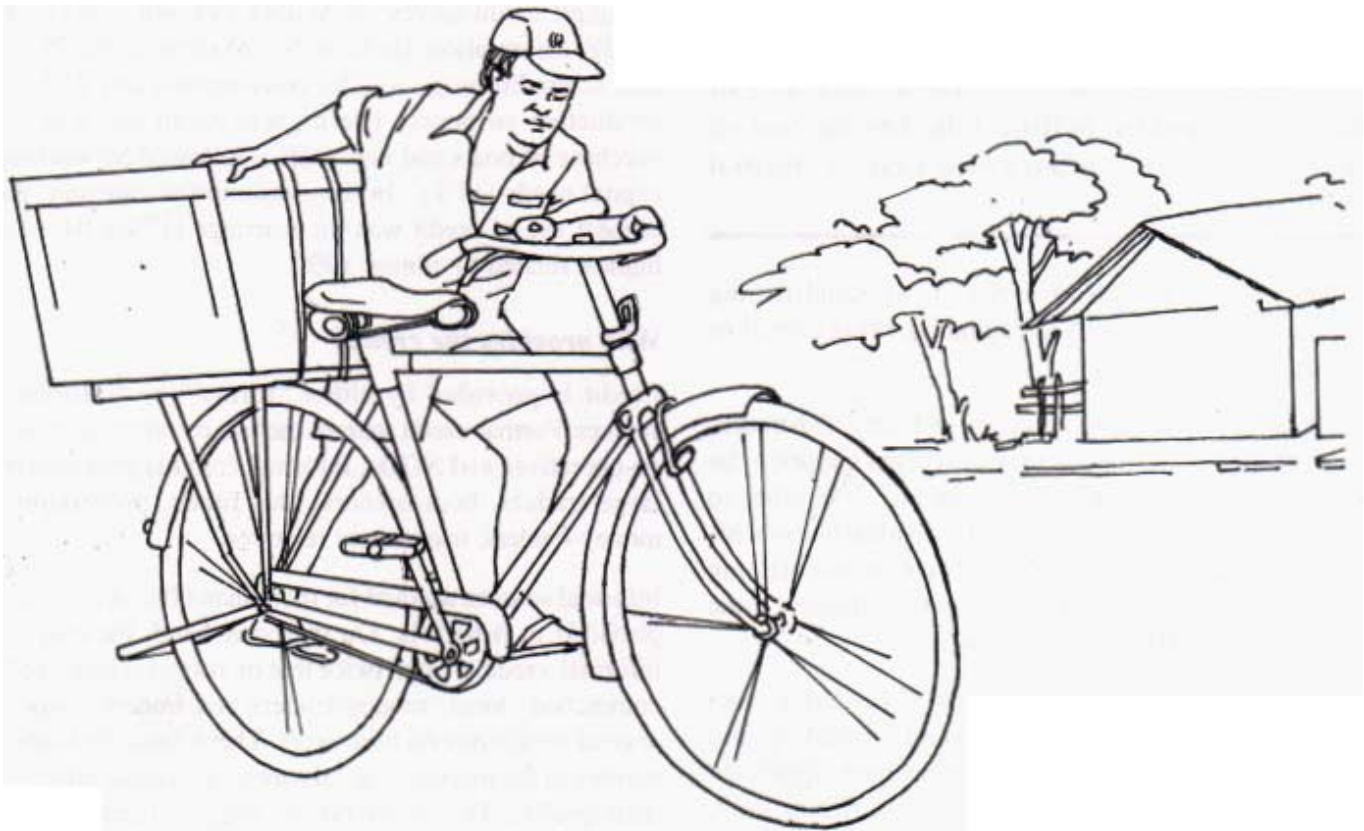
Benefits

- Consumers get better-quality fish at affordable prices. Better-quality means higher nutritive value.
- Fishermen get better prices for their catch and assured markets.

- Young people without jobs have acquired a source of livelihood, with the multi-purpose co-operatives providing the necessary working capital.
- The project has been able to demonstrate the benefits of the newly developed insulated fish boxes.
- Multi-purpose co-operatives, which never marketed fresh fish earlier, have now taken to fish marketing.
- PHFP has been able to strengthen its links with the Ministry of Fisheries, the Department of Co-operative Development, fishermen's co-operatives and multi-purpose co-operatives.
- The supply of fish to a large number of distribution outlets should not be left solely in the hands of a single supplier, as there could be shortfalls in supply and a tendency to manipulate prices.

Lessons learnt

- Individuals, organisations and government departments with divergent and differing agendas and priorities can be brought together to undertake programmes for the common good.
- People with very little knowledge of a product can be trained to market it if they are given proper guidance.
- Insulated fish boxes developed by the project do have an impact on producers, traders and consumers: better-quality fish means less spoilage and higher margins.



Post-Harvest Fisheries: Credit and Finance Issues

Credit is vital for fishing communities. Any development project that seeks to improve their standard of living has to address the question of credit.

Why do fishing communities need credit? How do they use it?

Artisanal fishing communities and petty fish traders in India, Bangladesh and Sri Lanka require credit for

- purchase, maintenance and replacement of craft and gear;
- trading and processing of fish – raw material (fish), ice, fuel, equipment (ice boxes, containers, racks).
- other small business needs – petty trade, artisanal products manufacture;
- basic survival – food and other essentials during lean fishing season, education of children;
- social obligations – functions relating to births, marriages, funerals.
- personal assets – house building, repair.



Consumption: Demand for consumption credit (either basic food or meeting social obligations) is usually a small proportion of the total credit demand. But the birth of a male child, the wedding of a daughter, the death of the head of the family – such events necessitate fairly large sums of credit.

A sample credit survey in Andhra Pradesh (see ODA-BOBP Information Bulletin No. 6) showed that 28 per cent of credit usage was for consumption and 72% for productive purposes. The highest credit use was for purchase of boats and nets (45%) followed by working capital needs (17%). In the consumption category, the highest use of credit was for marriage (17%), the next highest related to illness (9%).

Informal sources account for more than 60% of the credit provided to fisherfolk. But the cost of informal credit is often twice that of formal credit.

In other words, the credit needs of artisanal fishing communities relate to fixed capital, working capital or consumption.

Fixed capital: Artisanal fisherfolk and petty fish traders (most of them are women; they also often happen to be wives of fishermen) need fixed capital. It is often so large in relation to their income that individual households must tap several sources of credit. Buying or maintaining fishing craft and nets, or maintaining their house – these are examples of fixed capital needs.

Working capital: Working capital is needed to meet fuel and labour costs, also to invest in trading and processing of fish. Fuel costs have become significant because of the increased mechanisation of fishing craft. An estimated 10 to 15 per cent of the total credit is needed for working capital.

Who provides the credit?

Credit is provided by either “formal” or “informal” sources. Formal credit sources include commercial banks, co-operatives and NGOs. Informal credit is provided by large traders, boat-owners, chit funds, professional money-lenders, friends and relatives.

Informal sources account for more than 60% of the credit provided to fisherfolk. On the other hand, the cost of informal credit is often twice that of formal credit. Well-entrenched local money-lenders and traders impose several conditions on borrowers. These limit the latter’s options in the market, and take away a sizeable chunk of their profits. This is by far the biggest barrier to the advancement of artisanal fishing communities and petty fish traders.

Why is fisherfolk access to formal credit poor?

Banks, the main sources of formal credit, need collateral — fixed assets such as houses — as security for their loans. Artisanal fisherfolk and petty fish traders usually possess few such assets. Further, many banks have had bad experiences in the past concerning credit to fisherfolk, with vast amounts remaining unpaid. The two factors together deter bank loans for fisherfolk.

What is the Post-Harvest Project's approach to credit? How has it enabled credit for fisherfolk in its activities?

in its interventions to help fishing communities (usually women) to obtain credit, the Project follows these steps:

- Encourage the formation of self-help groups in the community.
- Train the groups to think through their problems, and promote co-operation and understanding within each group.
- Introduce a savings scheme within each group. Every member puts in a certain sum of money regularly. Members discuss and finalise details of regular contributions and interest. The discussion is usually facilitated by an animator from an NGO that is a project partner.
- Group credit: money pooled by the group is used to advance loans. The entire group is a partner and a witness to the loan process.
- Bank credit. The animator and group leaders approach a neighbourhood bank with a request for group loans

against the group's savings. The bank is usually happy to provide such loans — they benefit the poor, promote self-reliance, and the rate of repayment is high.

An Impact Assessment Study of the project showed that the percentage of target households that accessed formal credit increased on account of project activities by 12 to 100% at various locations in India.

Some of the Project's credit-enabling activities:

- Group formation, training and bank credit for petty fish traders in Tarangambadi, Tamil Nadu, in co-operation with ROSA, an NGO.
- Group formation, training, credit and income-generating activities in Bangladesh.
- Formation of associations of cycle fish traders in Sri Lanka, training and credit activities for the traders.
- Promoting contacts between fisherfolk NGOs and nationalised (government) banks, as also NABARD, the National Bank for Agriculture and Rural Development.
- Seminars, workshops and training courses concerning credit for fisherfolk — involving fisherfolk, NGO staff, bankers. These activities improved NGO and fisherfolk knowledge on bank procedures, as well as bankers' knowledge of fisheries. They strengthened the capacity of NGOs to facilitate credit for fisherfolk.

The tables on these pages provide some information about the usual sources of credit, the purposes, and the interest payable at typical project locations in India, Bangladesh and Sri Lanka.



Usual sources of credit and terms of credit in India, Sri Lanka and Bangladesh

INDIA

Source	Purpose	Loan\amount\interest\repayment	Remarks
Large Traders\Boat Owners	Purchase of craft and nets, assistance during disasters, consumption.	Rs 50,000 to Rs 200,000; interest not specified; repayment not specified.	“Tied loans” from these sources restrict fisherfolk options.
Chit Funds	Consumption, working capital for fish trade.	Rs 250 to Rs 5,000; interest not specified; repayment not specified.	An ideal base for savings and credit.
Commercial Banks	Purchase of craft and nets, consumption, working capital for fish trader.	Rs 500 to Rs 200,000; interest not specified; repayment not specified.	Write-off of bank loans vitiates the credit environment.
Co-operatives	Fishing craft & gear. working capital for fish trade, assistance during disasters.	Rs 1,000 to Rs 150,000; interest not specified; repayment not specified.	Repayment poor. Can undermine the credit philosophy.
NGO initiatives	Working capital for fish trade.	Rs 1,000 to Rs 5,000; interest not specified; repayment not specified.	Ideal base for prospective intervenor.

SRI LANKA

Source	Purpose	Loan\amount\interest\repayment	Remarks
Large Traders\Boat Owners	Purchase of craft and gear, assistance during disasters, Consumption.	Rs 100,000 to Rs 500,000; interest 18 to 22 per cent; repayment over 5 years.	“Tied loans” restrict market options of fisherfolk.
Chit Funds	Consumption, working capital for fish trade.	Rs 2,000 to Rs 5,000; interest not specified; repayment not specified.	An ideal base for savings and credit.
Friends & relatives	Consumption, working capital for fish trade,	Rs 500 to Rs 5,000; interest not specified; repayment not specified.	Easy loan availability “spoils” fisherfolk, prevents financial growth.
Money-lenders	Purchase of craft and nets, assistance during disasters, consumption working capital for fish trade.	Rs 500 to 10,000; interest rate 36 to 240 per cent; repayment not specified.	Money-lenders tend to preserve monopoly hold on credit and exploitative hold on fisherfolk.
Commercial Banks	Purchase of craft and nets. consumption, working capital for fish trader.	Rs 500 to Rs 200,000; interest rate 18 to 22 per cent; repayment is specified.	Write-off of bank loans undermines the credit philosophy.
Co-operatives	Fishing craft & gear, working capital for fish trade, assistance during disasters.	Rs 1,000 to Rs 150,000; interest rate 18 to 22 per cent; repayment not specified.	Repayment good. but frequent loan write-offs vitiates the credit environment.
NGO initiatives	Working capital for fish trade.	Rs 500 to Rs 1,500; interest not specified; repayment not specified.	Ideal base for prospective intervenor.

BANGLADESH

Source	Purpose	Loan\amount\interest\repayment	Remarks
Friends & relatives	Repair of boat, engine and nets and during start of fishing operation consumption during lean season and disaster relief	Taka 2,000-15,000, interest not specified, repayment not specified	Limited availability of loans and given an trust.
Boat owners	Consumption during lean season	Taka 500 5000 Interest Commitment to work during particular season Repayment adjusted with contractual amount	These loans could restrict fisherfolk s marketing options
Local money-lenders and large traders	Purchase of craft, engine and fishing gear; assistance during disasters fund for starting fishing operation during season; consumption,	Taka 2,000-20,000 Interest rate: 24% 50% Repayment by end of fishmg season.	Money-lenders exert monopolistic hold on credit; traders offered loans
Dadondars (money-lenders) and aratdars (wholesalers)	Purchase of craft, engine and fishing gear assistance during disasters; fund for starting fishing operation during season; consumption	Taka 5,000-100,000; Interest rate 36% 180% Repayment not specified.	Loan conditional on sale of catch to these sources
NGO initiatives	Purchase of craft, engine and fishing gears; fish trade, alternate non-fishing income generating activities	Taka 2,000-20,000 Taka 25,000-100,000 (for groups) Interest rate 12%-20% Repayment weekly / monthly instalments	Easier loan procedure; helpful for intervenor.
Commercial Banks	Purchase of craft and gear engine.	Taka 5000-200000 Interest rate: 16%-18% Repayment monthly	Lengthy procedure Collateral for loans over taka 5,000.

Impact of project interventions on credit by country

Country	Prior to intervention	After intervention
India	Cost of credit about 36 to 40% per annum, short term credit about 120 to 300% per annum, no access to formal sources,	Cost of credit to fisherfolk participating in project activity about 13 to 24 per cent per annum, access to formal sources of credit provided.
Bangladesh	Cost of credit about 180 to 240% per month, no access to formal sources.	Cost of credit about 144 to 180% per month, access to formal credit.
Sri Lanka	Cost of credit about 500 to 800% per month, no access to formal sources,	Cost of credit about 21 to 140% per month, access to formal credit.

Notes on the Project's work – Credit and finance

The Project's inputs in the area of credit for fisherfolk have been modest; salary support and training inputs for savings and credit groups managed by NGOs, and link facilitation with banks. Here are some discussion notes concerning project work.

Mode of Credit Assistance to NGOs

- Promote the savings habit amongst poor communities.
- Improve the operation of existing chit funds.
- Set up linkages with external agencies.
- Attempt to break links between credit and product markets.



Promoting savings among poor communities.

Problems & Constraints Faced by the Project

- Project mandate prevents contribution to seed capital.
- Only deals with members of target groups who are able to meet subsistence requirements.
- No uniform policy on credit because of differences in policies followed by individual banks, NGOs & co-operatives.
- Non-recovery/writing off of loans by government bodies badly affects loan repayments – target group assumes that loans need not be repaid.
- Groups often unwilling to meet the administrative cost of credit.
- Low level of savings makes asset acquisition using loans from credit groups difficult.

Promoting Savings: Points for Discussion

- Savings first — group savings should be the starting point.
- Everyone saves — Otherwise how do they look after themselves?
- Good savers are good credit risks — they tend to repay loans better.
- Saving money is an act of discipline. Members of a savings group should contribute to a group fund at every meeting.
- Save for a clearly defined purpose.

Best Practices for Strengthening Links with Banks

- Organise members into groups;
- Discuss with nearest bank conditions for opening individual/group account;
- Individual/group members discuss bank conditions;
- Individual/group accounts opened and operationalised;
- Individual/group savings deposited regularly into account;
- Members discuss with bank their credit needs and possible limits;
- Individuals/groups apply for loan based on need;
- Follow-up on sanction of loan amount.

Do's and Don'ts for Savings Group Formation

Do's

- Keep group sizes under 20 members.
- Ensure that each member has a pass book.
- Check group accounts once a month.
- Ensure sufficient margins to cover cost.
- Conduct training exercises on maintenance of accounts and group behaviour.
- Keep value of loans taken by an individual to a maximum of 50 per cent of savings over a 6 month period.
- Encourage/promote group activities such as visits to local tourist centres and the cinema to strengthen group identity.
- Encourage members to take over accounts.



Don'ts

- Expand group size after formation.
- Allow retention of passbook by animators.
- Cover all costs of administration.
- Provide more than 2 loans per person per cycle.
- Allow members to relend.



Bank officer with women's credit groups in Tamil Nadu.



CASE STUDY

Banking on the poor by Ashok Mahadevan

This article on the Grameen Bank, Bangladesh appeared in the Reader's Digest nearly six years ago – November 1992. Though many of its statistics about Grameen Bank performance are naturally dated, the article is being reproduced here because of the detail it provides about the origins of the bank, its approach to credit and its impact on thinking about credit.

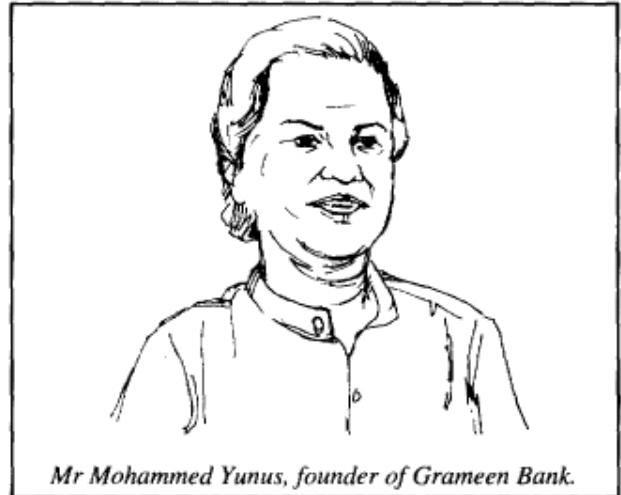
A year ago, Kaimun Ali⁹ lived hand-to-mouth in the Bangladeshi village of Hathil with her husband Muhammad Jubaid and their three children. Illness often kept Jubaid from working at the betel-leaf plantation where he was a daily-wage labourer. And although Kaimun embroidered bed covers for other villagers, she rarely made more than four taka a day. Today, though, she has a small rice-husking business, and her earnings have more than doubled. "We're still poor," she says, "but we eat better. And we have hope."

When her fisherman husband developed tuberculosis, Leonisa Esmayan, in the Philippines island of Negros, was full of fear. How would she, who had not studied beyond the fifth standard, feed her husband and their six children? Today Leonisa raises pigs and sells fish and vegetables at a local market, enabling her to support her family.

Most poor people want to improve their living standards and will work hard to do so... What they need is a little capital – a loan at reasonable rates without having to put up collateral.

These women are examples of an exciting way of combating poverty that is helping millions of people in some 30 countries around the world. What this approach argues is this: Most poor people want to improve their living standards and will work hard to do so. Moreover, many have skills they can use to immediately start tiny businesses that will raise their incomes right away. What they need is a little capital – a loan at reasonable rates without having to put up collateral.

During the last 40 years, Third World governments, backed by international aid organisations, have poured billions of dollars into cheap-credit programmes for the poor. But the benefits rarely reached those who needed them. Now a number of organisations have shown that such projects can work, that grassroots capitalism is one of the best routes out of poverty.



Mr Mohammed Yunus, founder of Grameen Bank.

Spectacular proof of this comes from the Grameen Bank in Bangladesh. In the last 16 years it has lent \$200 million at market interest rates to nearly one million impoverished peasants – most of them women like Kaimun Ali – and got back 98 per cent of its money, plus a modest profit.

The Grameen approach is the brainchild of Muhammad Yunus, a soft-spoken economist-turned-banker with, as he puts it, "a worm's eye view of life – close to the ground."

The son of a jeweller, Yunus was born in Chittagong in 1940. He was a top student at school and eventually earned a master's degree in economics from Dhaka University. In 1964 he received a Fulbright fellowship that enabled him to get a PhD from Vanderbilt University in the United States.

In March 1971, while Yunus was teaching in the United States, civil war erupted in Pakistan. After the liberation of Bangladesh, Yunus returned home and was given a top job in the new nation's economic bureaucracy. Finding, however, that he had little real work, he went back to Chittagong to head its University's economics department.

Vicious Circle. Academic life didn't satisfy Yunus either – the sophisticated economics he taught seemed to have little relevance to Bangladesh's most pressing

economic problem: its abysmal poverty. He kept asking himself what use his knowledge was if it couldn't help poor people.

Accordingly, Yunus decided to start talking to the poorest members of Bangladesh's society – landless families – and find out how their lives could be improved. One woman he met was Sufiya Khatun, a bamboo-stool maker with two children, married to an often-unemployed agricultural labourer. Sufiya borrowed money at 10 percent interest a month from a trader to buy bamboo, then sold him the stools she made at a price he set. "How much profit do you make?" Yunus asked. "Sixty-two paise per stool," Sufiya said.

"Could you make more if you didn't have to sell your stools to the traders?" Yunus asked, "Of course," Sufiya replied. "But where would I get the money to buy the bamboo?"

Many landless people were trapped in the same vicious circle as Sufiya – rickshaw-pullers who rented vehicles at exorbitant sums; women who husked other people's rice all day for a half-kilo of rice and a meal of leftovers; skilled weavers who, unable to buy their own looms or yam, laboured for pitifully small wages. If these people had access to a little capital, Yunus reasoned, they could start earning more for themselves.

A quick survey turned up 42 residents in the village of Jobra near university campus who altogether required 865 taka to start their own ventures. Yunus distributed 865 taka of his own money among the 42 as interest-free loans.

That generous act eased Yunus's conscience, but it was clearly not a practical solution to Bangladesh's poverty. Interest-free loans by well-meaning individuals couldn't possibly help millions onto their feet. There had to be a better way.

Why couldn't banks lend money to the poor? When Yunus put the question to the university branch of the government-owned Janata Bank, the manager scoffed. "It's too risky," he told Yunus. "These people don't have collateral, so there's no way we can recover our money if they don't pay back." Undaunted, Yunus went to the Janata Bank headquarters in Dhaka and persuaded senior officials to approve seven loans totalling 16,050 taka. However, Yunus had to personally guarantee each one of them.

Feasible Plan. Although pleased at his success, Yunus knew the bankers had a point: you can't loan money to people and simply hope they'll repay you. Somehow he would have to get around the problem of collateral.

It took time to iron out the details, but Yunus finally worked out a plan that replaced collateral with peer pressure: borrowers had to organise themselves in groups of five – friends from the same village who would encourage one another to honour their dues. Group meetings would be held once a week, and attendance was compulsory. The group would decide the size of the bank loan each of its members should get. To make repayment easier, loans had to be discharged in equal weekly instalments spread over a year. After repaying a loan, a person could get another. But the group was responsible for the debts of its members. So if even one member defaulted, no one else in the group would get any more credit.

There are many similarities between poor Americans and poor Bangladeshis. Today private foundations in the US fund projects patterned on the Grameen system.

Saving, too, was mandatory. Five per cent of every loan would be withheld by the bank and put into a special fund to which every group member was required to contribute a taka a week. Members could borrow from this fund on terms set by the group.

In 1978 Yunus began extending his credit scheme to villages around Jobra, and as word of its success spread, other banks helped fund it. In 1981, the UN's International Fund for Agricultural Development loaned the project \$3.4 million to start work in other parts of Bangladesh. But working through nationalised banks was too cumbersome, so in October 1983 the Bangladesh government approved the establishment of the Grameen Bank, an institution that would lend money only to the very poor. Yunus was made its managing director.

Grameen's track record soon made economists around the world sit up. For once, development experts began visiting Bangladesh not to give advice but to learn. After a meeting with Yunus in April 1985, David Gibbons, then teaching in Malaysia, started a Grameen-type anti-poverty scheme there the following year. Today this scheme has lent more than \$3.4 million to over 11,000 borrowers, helping raise average monthly incomes by 50 per cent. Repayment rates: 99.9 per cent.

Guiding Principle. In 1986, Yunus visited the United States, where he discovered many similarities between poor Americans and poor Bangladeshis. Today, private foundations and banks are funding over 20 projects patterned on the Grameen system in the United States.

In Bangladesh — as in most Grameen-type projects around the world — the overwhelming majority of borrowers are women. “They experience poverty much more intensely than men,” Yunus explains. “If one of the family members has to starve, it is an unwritten law that it has to be the mother.”

Women are therefore particularly eager to seize opportunities to better their lives. A Grameen Bank official recalls how hard a 60 year-old Bangladeshi woman worked to fulfil the requirement that all borrowers learn to write their names. While cooking, she would hold a stick and keep practising her signature on the ground. It took her six months, but she finally got it.

Women also tend to nurse their resources more carefully than men. One woman bought a mosquito net out of her increased earnings not for herself, but for the cow that she had recently purchased with a loan. “My blood has already been sucked away,” she explained to Muzammel Haq, Grameen’s general manager. “If this cow keeps well, I may get my blood back.”

With their increased earnings, all Grameen Bank borrowers are required to buy one 100-taka Grameen Bank share. As a result, the Bangladesh government’s holding in the bank — 60 per cent when it was founded in 1983 — is now down to 15 per cent. “I’d like to

see this reduced still further,” Yunus says. “Grameen should be owned entirely by its customers.”

Customers also make up nine of the bank’s 13-member board of directors. Thus illiterate rickshaw-pullers, basket-weavers and sweet-meat-sellers help set the policy of a 150-million-taka-a-year institution.

Thanks to its excellent repayment rates, the day-to-day operations of the 12,500-employee Grameen Bank are now self-financed. The bank still borrows money from international agencies, but mainly for expansion; about 200 new branches are opened every year.

Yunus has won the Independence Day award, Bangladesh’s highest honour and the Ramon Magsaysay Award, Asia’s equivalent of the Nobel prize. He has also repeatedly been offered cabinet-rank positions in the government.

But none of this, I realised recently, could be as satisfying as the overwhelming affection of the poor of Bangladesh. As I accompanied Yunus on one of his frequent rural tours, the roads were lined with cheering Bangladeshis. At meetings, borrowers, dressed in their best, strained to touch his feet, offer gifts, or simply thank him. Turning to me at one point, Yunus said proudly: “Look at them. Once they, too, were oppressed. See what they have accomplished.” Then he added wistfully, “That’s all the poor need: a decent chance.”





Organising women into groups (sanganzs) and inohilising savings among them is an important project intervention. Such savings facilitate bank credit.



“The poor are credit-worthy”

by Tim McGirk, Time Magazine

IN BANGLADESH, IT HAS LONG BEEN THE custom for women to hide their faces and walk two steps behind their husbands. Times are changing. Bangladeshi women may still be veiled, but today they often stride ahead of their menfolk and are soon likely to be found on mobile telephones, haggling over the price of a cow or a rice crop. A quiet revolution is under way in Bangladesh.

One secret to Bangladesh's turnaround is “micro-credit”, small loans that are given without collateral. Social workers have discovered that a start-up loan of as little as \$20 can often be enough to rescue a family from starvation and a lifetime of indebtedness to village moneylenders. What makes micro-credit so novel is that relief agencies have been making the loans almost exclusively to women. Creditors realised that wives are less likely than husbands to squander the money on gambling and alcohol.

With financial independence comes courage. Emboldened by the little cash they have managed to tuck away in the folds of their colourful sarees, some Bangladeshi women are challenging the tradition of purdah confining them to their homes. They are running shops, riding motorcycles, insisting on contraception – the average family size has shrunk over the past 25 years from seven members to a more manageable four – and demanding education for their daughters.

“Economists have found that micro-credit works best when the government stays away and lets smaller, nimbler social agencies handle it.”

Out in the watery fields in a village in the northern Mymensing district, a tiny woman named Marjina scythes grass for cows she brought on micro-credit from BRAC, the biggest private agency helping women.

Bangladesh's experiment with micro-credit has caught the eye of international development agencies. The World Bank and other institutions now acknowledge that loans to little people can often do more good for impoverished countries than gargantuan investment projects. At a meeting in Washington last February, developed countries pledged to distribute \$21 billion in small loans to 100 million of the world's poorest people by 2005. Economists are now examining the possibility that micro-credit might replace expensive welfare systems, even in Europe and America.

More than 200 micro-credit programmes, nicknamed “slum banks”, are now doling out loans to poor people in the United States. Economists have found that micro-

credit works best when the government stays away and lets smaller, nimbler social agencies handle it.

Muhammad Yunus, 57, is recognised as the pioneer of micro-credit. Returning to Bangladesh from his studies at Vanderbilt University in the U.S., Yunus was convinced that poor people stayed poor simply because they were denied access to credit. To test his theory, Yunus in 1976

“Bangladesh's experiment with micro-credit has caught the eye of international development agencies...”

dug into his own pocket and lent 42 people 62 each, asking them to return the money in small instalments.

The loans changed their lives. With that tiny capital; the Bangladeshis bought raw material to weave chairs or make pots. Soon, they had earned enough to repay Yunus and had a few cents' profit. “I realised that people have enormous potential”, he told TIME in Dhaka, the Bangladeshi capital. “All they need is a chance.”

Bankers, allergic to lending without collateral, were reluctant to give the Yunus strategy a chance. So he obtained a loan himself and distributed it to the poor. “The bankers thought I was a mad man to take such a risk”, he recalls, laughing. In 1983 he set up the Dhaka-based Grameen Bank, which has disbursed nearly \$2 billion through 1,068 branches serving 36,000 villages. The rate of repayment on the loans is 98%. This goes to prove, says Yunus, that “the poor are creditworthy”. The key to Grameen's plan, adopted by BRAC and other private aid agencies in Bangladesh, is peer pressure. Lenders don't give to individual borrowers but to a committee of loan seekers. If one member defaults (sometimes the loans are snatched by husbands and guzzled away), the entire group loses its credit. Yunus' latest plan is to provide rural women with that ultimate status symbol, the mobile phone, linking Bangladesh's isolated villages to the outside world.

Tossed the lifeline of a mini-loan, many Bangladeshi women are grasping the opportunity with both hands. Nine years ago, a landless peasant woman named Hazera Begum borrowed \$120 to buy a cow. In a year, she repaid the loan and bought chickens. Since then Hazera Begum, 30, has transformed her life moving from a shack to a brick house, an advantage when the cyclones blow. She purchased land, a television set and gold jewellery for her daughters' future dowry. As Hazera Begum says, “These loans have changed our destiny”.

-Reported by Meenakshi Ganguly and Farid Hossain.

INFORMATION NOTE

The Micro-Credit Summit and after

A first-hand report of the Micro-Credit Summit held in Washington D.C. February 2-4, 1997 – a landmark in the history of micro-credit. The author is Mr. Satish Babu, Chief Executive of SIFFS (South Indian Federation of Fishermen Societies, Trivandrum).

The Micro-Credit Summit in Washington D.C. was attended by 2600 delegates! Its sheer size was overwhelming. An independent non-government initiative, it was described as a “People’s Summit” and as a “business summit of the poor”.

The Washington DC summit formally launched a global campaign for micro-credit. Its aim is lofty: credit – for self-employment and for business – should reach 100 million of the world’s poorest families, especially the women, by the year 2005. The summit aimed at eliminating extreme poverty by the year 2005.

Both beneficiaries and staff of credit programmes need training. It will ensure that programmes follow essential principles and policies, and that beneficiaries put the credit to good use.

The summit was “hosted” by the Government of Bangladesh, which was present in strength: as many as 250 delegates plus Prime Minister Sheikh Hasina Wajed herself, who inaugurated the summit. (Two NGOs active in credit, BRAC and Grameen Bank, persuaded their government to play a major role at the seminar.) Other VIP delegates included America’s First Lady Hillary Clinton, former Prime Minister Tsutomu Hata of Japan, Queen Sofia of Spain, President Albert Fujimori of Peru, President Alpha Konare of Mali, First Lady of Malaysia Siti Hasmah, and World Bank President James Wolfensohn. There were some 20 delegates from India, representing SIFFS, SEWA and NABARD.

The seminar was sponsored by the World Bank and a few other organisations; Results Foundation, USA was responsible for many of the arrangements; but participants met their own expenses for travel and accommodation. Even the registration fee at \$200 was pretty steep. So it’s only the more affluent NGOs who attended the summit.

The seminar brought various stakeholders in development together for the micro-credit seminar. These stakeholders included financial institutions, donors and funding agencies, development NGOs, religious institutions, government agencies and UN agencies.

Participants from India met three times during the Summit to launch an Indian initiative that would be part of the micro-credit movement. This initiative is known as India Collective on micro-credit, and is coordinated by Dr Amitava Mukerjee, Executive Director of Actionaid, Bangalore. The Collective will lobby the Indian Government, the Reserve Bank of India as well as credit and financial institutions in the country to make funds available for micro-credit.

Concepts Discussed at the Workshop

Several concepts concerning micro-credit emerged during the workshop discussions. Briefly:

The poor are as good a credit risk as anyone else:

Mainstream financial institutions normally view the poor as high credit risks. This is partly because political populism often leads to a write-off of loans to the poor, much to the detriment of financial institutions. But in micro-credit programmes, once the beneficiaries realise that the programme is their own, repayment problems hardly ever arise (unless they fall victim to disasters such as droughts, cyclones and disease).



International and national financial institutions should specifically plan for micro-credit:

Both international funding agencies and national financial institutions were asked to ensure that concern for micro-credit was reflected in their plans and programmes. This would help make funds available for micro-credit in government and non-government programmes.



High repayment is a sign of a well-run micro-credit programme:

Well-run micro-credit programmes like those the Grameen Bank, Bangladesh, reveal a fine record in loan repayments. Good repayments are one indicator of a well-run credit programme.



However, repayment at any given point in time depends on many factors including seasonality. For example, repayments during the lean season in a fishery credit programme may be below normal. But this is a seasonal phenomenon; the repayments will pick up later. An important insight: women are invariably better repayers of loans than men.

Micro-credit by itself is not sufficient for development to take place:

Micro-credit is an important input for development, but cannot bring about development by itself. Example: micro-credit to a hundred women in a village to buy chickens would only make the



prices of chicken and eggs crash. Comprehensive pre-project planning – relating for example to marketing, insurance, veterinary services and management training – is essential. The role of the micro-credit organisation will therefore expand over time.

Focus should shift from micro-credit to micro-finance and then to micro-enterprise development:

Micro-credit institutions will have to expand their agenda to cover financial services (insurance, training) and management inputs at both individual and collective levels. At the final level, the programme will need to support micro-enterprises.



Beneficiary participation is required to manage micro-credit programmes:

Much of the success of micro-credit programmes is based on the high motivation of the beneficiaries vis-a-vis the programme.



Decentralisation and high beneficiary participation

in decision-making is another characteristic of successful micro-credit programmes.

Training of staff and beneficiaries is an important factor in successful micro-credit enterprises

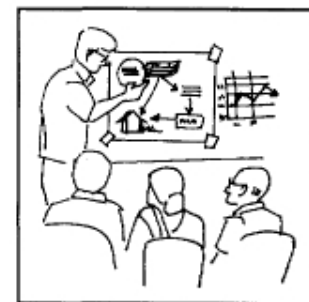
Both beneficiaries and staff of credit programmes need training. Training will enable policy-makers and credit designers to ensure that their programmes follow certain essential principles and policies.



At lower levels, credit officers and field staff require training on administering credit. Beneficiaries require training too – so that they put the credit to good use.

Follow-up to the Micro-credit Summit

To sustain the momentum generated by the micro-credit summit, these follow-up programmes have been proposed:



- Enhancement of the SIFFS credit programme.
- Lobbying the Government of India and financial institutions through the India Collective.
- Identifying institutions for training on micro-credit.
- Local workshops on micro-credit under the India Collective.

The Summit has laid the foundation for major interventions in micro-credit at the global level for the next nine years. Prof. Muhammad Yunus, founder of the Grameen Bank in Bangladesh and “the father of micro-credit” exclaimed: “We are celebrating the freeing of credit from the bondage of collateral.”

CASE STUDY

Credit for artisanal fisherfolk and petty fish traders

An analysis of the Project's experience with micro-credit in co-operation with ROSA, Nagapattinam, its partner NGO in Tamil Nadu.

ROSA (Rural Organisation for Social Action), based in the village of Tarangambadi in Nagapattinam district, Tamil Nadu, is one of the PHFP's main partner NGOs. The partnership began in 1993. ROSA then operated village-level units in half a dozen villages around Tarangambadi which conducted credit and education programmes.

Before the Project intervention

A typical ROSA savings and credit group consisted of about 30 petty fish traders who set up a revolving fund. The fund was used to provide loans to members. When repaid with interest, the money was put back into the revolving fund. ROSA augmented the revolving fund with a grant.

The running of the group had its positive features. Every member had a passbook. Separate sets of accounts were maintained for savings and credit. Day-to-day operations, such as collection of savings, maintenance and auditing of accounts, were supervised. However, there was a problem with sustainability, because the group was driven by ROSA's animator.

Many members of the group were illiterate and could not write accounts. They preferred to leave this job to the animator. They in fact seemed to regard the entire operation as the activity of the animator. They lacked a sense of ownership of the group and its work.

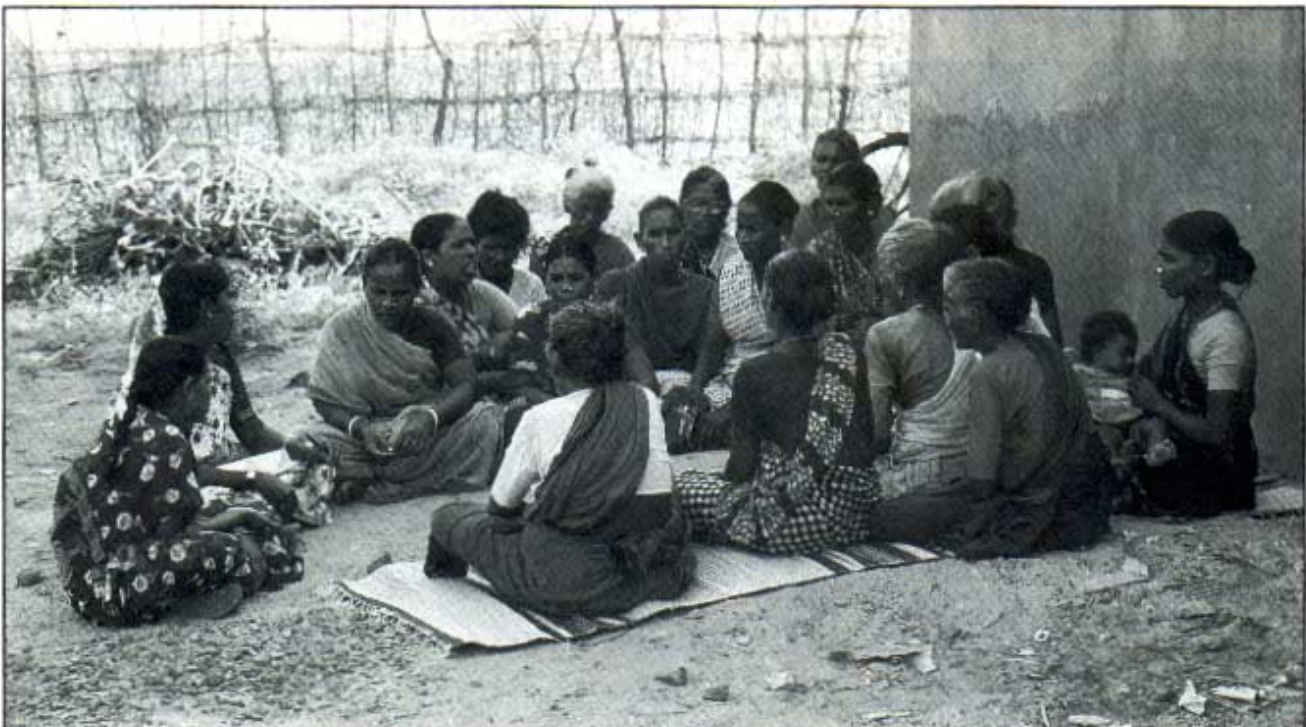
During the Project intervention

The Project sought to build the capacity of members to manage their own credit group. This was done by training group members to maintain accounts, formulate rules for credit assistance, and interpret these rules. The training aimed at enabling group members to take over group management in course of time.

The Project identified a core group of trainers within ROSA. They were to provide constant training to the group and transfer skills. The communication skills of trainers were strengthened to facilitate the process.

Despite the Project's effort, the tendency of group members to pass responsibility on to the animator persists. When the group was asked to pay for the animator's services, they demurred. They wanted

A ROSA savings and credit group meets.



ROSA to provide the services of the animator free of charge. This has only reinforced the dependence of the group on ROSA, and cast doubt on the group's long-term sustainability.

Another major Project intervention was the introduction of bank credit. The Project found that the revolving fund was not large enough to meet the working capital requirements of traders. The Project was requested to provide seed capital, but it had no mandate for such assistance. It therefore helped the groups gain access to bank credit.

The Project collected and disseminated information about the sources of credit, the costs, and the procedures to win access to banks. The Project also brought in staff from commercial banks to explain the procedures for bank credit. It also organised awareness workshops among bankers to improve their awareness of post-harvest techniques.

One of the problems with bank credit was a condition laid down by the local commercial bank: that group members should save for a minimum of six months before going in for a loan. Most members found this condition difficult. It's only the better-off members within the group who could meet this criterion.

After the Project's intervention

Members of the group are now able to study their accounts and scrutinise their pass books. In fact they brought to the attention of the animator savings entries that should have been made in the passbook which had been omitted.

However, the day-to-day operation of the group is still in the hands of the animator. The group is unwilling

to meet the animator's salary and pay for the costs she incurs. The animator too didn't like being asked to gradually hand over the accounting system to group members. Managing the group accounts gives her tremendous power over the group, something she relishes because she belongs to the village. In these circumstances, there's a long way to go before sustainability is attained.

The Project has successfully established links between the credit group and the local commercial bank. NABARD, the refinance agency, has been brought into the picture; it has a positive approach to refinancing bank credit for groups. But the problem of credit access for poor members of the group remains.

Lessons learnt

- The long-term sustainability of credit groups can be assured only if a group takes on some of the costs of administration — such as animator salary, stationery cost and transaction costs. This fact should be made clear to the group at the start of the intervention.
- Systems that are in place for day-to-day running of the groups should as far as possible be managed by the members. They should initially take charge of the group accounts. The members' responsibility may be gradually increased.
- Before setting up links between the credit group and the bank, the composition of the group must be scrutinised. The group must be told about the bank condition that members must save for six months before applying for a loan.



Starting a new venture in a rural area? Get NABARD to help!

An interview with Shahji Zacharia

Bank loans for rural development in India are facilitated by NABARD or the National Bank for Agriculture and Rural Development. It refines such loans, in this interview, NABARD's fisheries development manager explains what the bank does, why and how.

Q: *NABARD is today a formidable name in rural credit. When did it come into being, and what exact/v does it do?*

Zacharia: NABARD was initially a department of the Reserve Bank of India. It was later transformed into ARDC (Agricultural Refinance and Development Corporation). NABARD came into being in 1982 by an Act of Parliament. Its head office is in Bombay, there are branches in all state capitals.

Our loans cover the entire gamut of rural activities: agriculture, fisheries, forestry, small-scale industries, cottage industries, rural artisans, poverty alleviation programmes.

NABARD's main function is refinance. If a bank advances a loan in fisheries, for example, we refinance the bank to a certain extent, and thereby supplement its resources.

The annual NABARD business is around Rs. 3100 crores for investment refinance or long-term credit. Our involvement in crop production credit (short-term loans) is around Rs. 4700 crores per annum.

Q: *Do you help individuals as well as institutions?*

A: We help entrepreneurs of all types: individuals, partnerships, co-operative societies, companies, corporations. Their schemes must be worthy (promoting the goal of rural development, directly or indirectly) and viable.

Q: *Do you refinance all banks or on/v nationalised banks?*

A: We refinance banks of all types: commercial banks, co-operative banks, regional rural banks, land development banks.

We assist state governments who want to subscribe to the share capital of co-operative credit institutions. We also facilitate asset creation if a new co-operative institution is being set up in rural areas.

Q: *Do you have any specific goals in refinance?*

A: There can be many specific goals concerning the problems of agriculture and rural development. Poverty alleviation is an important goal. It could be higher crop

or fish production, better marketing, or better distribution. It could be research, it could be training. We try to improve management and technical inputs toward solutions. We try to help implementation. Or systematic monitoring and evaluation.

We try to redress regional imbalances. We are active in areas that the government regards as high priority. Such as water management, dryland farming, wasteland development, programmes to help the very poor in rural areas.

Q: *Let us move to fisheries. What is the thrust of your refinance operations in fisheries?*

A: During our initial years, we focussed on marine fisheries. Later we started to cover inland and brackishwater fisheries. Now we promote all three areas.

In marine fisheries, we help both the mechanised and the non-mechanised sectors. Under the former we have helped refinance vessels ranging from the 28-foot gillnetter of Kerala to the 32-foot trawler used in the shallow sea. We have supported bigger vessels, 42 to 45 feet in length, in other stretches of the Indian coastline.

Our studies show that the trawlers off the Tamil Nadu and Andhra Pradesh coasts are very popular. The situation is different in Kerala, where no new trawlers are allowed to operate. It's okay to replace an abandoned trawler, but no new trawler can be introduced.

Under the non-mechanised sector, we provide finance for catamarans, nets, outboard engines; these take up the major portion of marine fisheries finance, about 60% of it.

We generally finance vessels of OAL up to 23m only. Bigger vessels are usually financed by other organisations such as the SCICI. At present of course, because of the outcry against deep-sea fishing, the bigger trawlers are in the doldrums.

Q: *Does fisheries constitute a major area of NABARD refinance?*

A: No, not at present. Fisheries constitutes only a small percentage of NABARD's loans. Of our Rs. 3100 crores in investment finance last year, fisheries accounted for less than Rs. 100 crores.

Q: In which states are you most active in fisheries?

A: Andhra Pradesh has been a major player, it accounts for some 60% of NABARD refinance in fisheries. Tamil Nadu ranks next.

To give you some statistics. Loans for fisheries in AP went up from Rs 34.75 crores in 1993-94 to Rs 68.5 crores in 1994-95 and Rs 65.95 crores in 1995-96. Tamil Nadu ranks next but comes far behind. Loans for fisheries in Tamil Nadu increased from Rs 6.78 crores in 1993-94 to Rs 6.85 crores in 1994-95 and Rs.6.61 crores in 1995-96.

As for Kerala, the comparative figures for the three years are Rs.2.04crores, Rs.1.54 crores and Rs.1.58 crores.

Q: Subjectwise, which area offisheries has taken up most of your loans?

A: Brackishwater shrimp farming has accounted for the bulk of NABARD's loans. But the controversy over shrimp farming has hit our business. During 1996-97, our business in Tamil Nadu has shrunk from Rs. 6.61 crores in 1995-96 to just about 1 crore. It has fallen all along the coast.

Q: When did you begin financing shrimp farming?

A: **One company** in Tuticorin must be described as a trend-setter in shrimp farming. It was started in 1989-90 and was funded by State Bank of India. We provided refinance to the extent of Rs.1.3 crore.

This company challenged many conventional beliefs concerning shrimp farming. It acquired wasteland and converted it into a shrimp farm. The features of scientific shrimp farming that the company adopted were unique then for India. Such as direct pumping of seawater into the farm; high stocking density; use of pelleted feeds and paddle-wheel aerators; heavy water exchange.

With this approach, the company produced 7 to 8 tonnes per hectare of crop – very high by Indian standards. Even at 1989 prices, the company generated a gross income of Rs 21 lakhs per hectare on land per annum.

I think this company's success was primarily responsible for the entry of some big companies into shrimp farming. It fuelled the subsequent shrimp farming boom in India.

Q: I'm told NABARD played a role in introduction of freshwater prawn farming in India.

A: Yes, indeed. Before 1993, when NABARD began to refinance freshwater prawn farming, it was insignificant. It has since made progress by leaps and bounds. This year we have launched a programme to finance around 800 ha in the state over the next five years.

The Fish Farmer Development Agencies (FFDAs) in Tamil Nadu provide farmers with technical help. The Government has approved this programme and plans to promote them through subsidies. Once we develop 800 ha of land, they can generate an annual income up to about Rs 40 crores.

We promote freshwater prawn farming through seminars, training and awareness programmes, skill development in co-operation with professional agencies.

Q: Is freshwater prawn farming free from the environmental problems of brackishwater farming?

A: Yes, that's the big advantage. In fact near Thanjavur in Tamil Nadu, the effluent from freshwater prawn farms is in big demand because it is so rich in organic matter. Farmers pump the effluent into paddy fields, sugarcane and vegetable farms.

Q: NABARD is perhaps most widely known for its assistance to self-help groups, particularly women. Could you provide some information on this?

A: We have refinanced some 2500 self-help groups all over India, including about 750 in Tamil Nadu, where they are very popular. A single branch of the State Bank of India at Panchapatti near Trichi has financed 250 self-help groups. Some self-help groups have been sponsored by BOBP and DFID-PHFP. Many relate to women.

Q: How does one form a self-help group? What conditions should they satisfy?

A: The group has to be rural; it has to be in existence for at least six months. Any nine people may form a group – on the basis of age, profession, caste, religion, community – anything.

Members of the group put their savings together and raise a certain sum of money. A bank will advance the group a loan that is five or six times this sum. The savings can be for only one purpose. The group must decide the purpose. NABARD offers 100% refinance. The money is given to the leader of the group.

The big merit of the self-help group scheme is the number of people it benefits. Money for one group benefits 20 to 30 people. So it generates a multiplier effect.

Some five or six fishermen groups in Chingleput district, for example, have availed of NABARD refinance assistance.

Q: Could you give some examples of NABARD support for individual small-scale entrepreneurs?

A: I'll give you some examples cited in a small booklet we have produced in Tamil.

Take Thangam of Sahampetti. She took a Rs 1000 loan from a local bank for a petty shop, and made a profit of Rs. 50 per day. She later took two more loans. Today she makes a daily profit of Rs. 150 from which she saves Rs. 100. All the loans she obtained were refinanced by NABARD.

Dhanalakshmi of Pappapatti is from a 7-member Dalit family. She took a loan of Rs 3000 for her poultry business: she buys poultry locally and sells them in Erode for a small profit.

Pottu of Sethupatti had to look after a large family and made very little money from her small tea shop. A loan

of Rs. 3000 enabled her to expand and start an idli joint. This attracted many customers. She started making a daily profit of Rs. 100. She soon started a vegetable business as well. Today she's quite comfortable.

There are many examples like this.

Q: Any exciting future plans ?

A: In the years to come, NABARD will play a greater role in rural development. Self-help groups, hi-tech agriculture, rural industries, food processing, wasteland/dryland farming are some key areas. NABARD's Rural Infrastructure Development Fund (RIDF) is expected to improve the rural infrastructure scenario substantially.

Are credit institutions biased against fisherfolk?

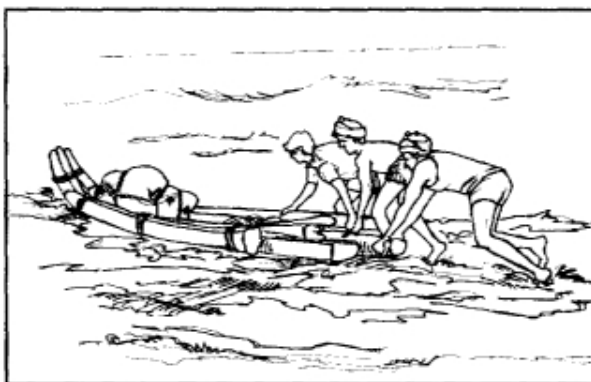
The attitude of banks and other credit institutions to fisherfolk is discussed by ME Blowfield and AKamila in their paper "Credit services, women and empowerment in coastal fishing communities"

In Bangladesh, conditions in agrarian and fishing communities are similar. Yet none of the large NGOs provided credit to fishing communities before 1992. In Tamil Nadu, formal credit for fisherfolk was available only through co-operatives.

Why have fishing communities been largely bypassed by the burgeoning credit movement? One reason: Fisherfolk make up a relatively small percentage of the rural population: less than 2% of the 60 million population in Tamil Nadu. In Bangladesh this percentage is probably lower.

in Bangladesh, fisherfolk in Chittagong are mostly Hindus; in Cox's Bazar, they are often Buddhists. They therefore belong to minority religions. In Tamil Nadu, fisherfolk are usually from Chettiar, Thevar, Kaliar and Nadar castes and subcastes.

Fishing communities are economically and culturally isolated from farming communities, Cultural isolation



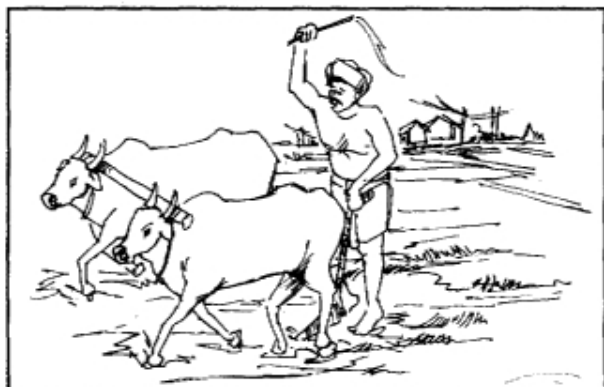
can in turn mean political isolation, with fisherfolk having little or no voice in local government bodies such as panchayats and thanas.

Governments, banks and NGOs share a suspicion that fisherfolk are a poor risk when it comes to repayment. Reports of low recovery levels from around the world have created an institutional inertia (in the matter of aiding fisherfolk).

Compared to poor farmers, poor fisherfolk often require large-sized loans (for the purchase of boats and fishing gear). If they default on a loan, the unpaid debt will be larger.

However, bankers have no aversion toward fisheries, says Dr Uwe Tietze, an expert on credit now with the FAO in Rome. But they need viable schemes and a lot of documentation before sanctioning credit. They therefore stay away from sectors they know little about.

if fisherfolk seek bank credit, the NGO that's assisting them must prepare the necessary documentation and workout viable bankable schemes in co-operation with banks, says Dr Tietze.



Fish vendors meeting their own credit needs

by J Lucas

The founder of the NGO Santhidan describes its philosophy, its experience with credit, and its achievements. Mr. Lucas died in 1997, but Santhidan's outstanding work with credit and women's empowerment goes on.

In India, thousands of women support their families. Many of them are self-employed after putting up some initial capital. Women's organisations have been campaigning for institutional support to meet women's credit needs. They have had little success. As a result, some NGOs have begun to help women organise themselves to take care of their own credit needs. Santhidan is one such successful initiative, where women fish vendors, at the end of 1994, had total savings of approximately Rs 35 lakhs, on the basis of which they were able to secure an equal amount of loan to meet their credit needs.

Santhidan (gift of peace), is a social action and credit programme for fish vending women. It was founded in 1983. It is located at the southernmost tip of India in Kanyakumari District, Tamil Nadu.

Background

Kanyakumari district has a high concentration of fishing communities, with around 200,000 people living in 40 villages along the west coast and at the tail-end of the Coromandel coast. Fishermen in this region have fished for generations in catamarans and country boats. Income from the fishery fluctuates seasonally. Result: fisherfolk incomes are unstable, and they are vulnerable to exploitation by moneylenders and middlemen.

At Santhidan, women fish vendors, at the end of 1994, had total savings of about Rs. 3.5 million.

Over the last ten years, the incomes of fishermen have gone down because of declining fish catches, competition from mechanised trawlers, and the rising cost of living. Although the use of outboard motors and other innovations like multi-hook lines have increased the potential catch for some, it has also raised their operational costs. The work remains arduous, living standards in the villages are still poor. Housing, sanitation and drinking water facilities are inadequate, morbidity rates are high and literacy rates low.

Condition of Women

This situation is worse for families that lack male support. Women in fishing communities have traditionally been economically active. Their roles include net making, and the processing, storage and vending of fish. The advent



Kanyakumari has a high concentration of fishing communities.

of machine-made nets eliminated an important source of income for them, even as declining real incomes for the men forced the women to seek work outside the home. Many more women have therefore taken up fish vending. A large number of them are widows, abandoned wives, and women kept single by the dowry system. These women are marginalised, and powerless within the community.

The lot of women fish vendors is hard. Their earnings are usually just enough to provide for the day, meaning that they have to buy fish on credit. This binds them in debt to money-lenders. Increasingly, they are travelling long distances just to procure fish.



Until very recently, it was a constant battle for them to carry fish to the market by bus, as other passengers objected to the smell of the fish, and unsympathetic bus conductors evicted them. Life in the village is not easy either; back-breaking work, drunken and physically abusive husbands, ill health and poor living conditions.

Santhidan's Origins and Objectives

Santhidan was inspired by the recognition that women are the poorest and most oppressed section in fishing communities. It tries to organise self-employed rural women and help them with social and economic empowerment. Towards this objective, a twin-pronged strategy of social awareness and education, along with financial assistance for self-reliance, has been adopted. More specifically, the project aims at:

- mobilising and organising women;
- promoting their long-term security through savings;
- providing credit to expand their trade;
- liberating them from indebtedness and exploitation;
- evolving co-operative credit structure;
- education to raise their social awareness and to enhance literacy and other skills;
- income generating activities;
- helping them discover their own leadership capacities; and
- providing some formal education for their children.

Programmes and Activities

Savings and Credit Scheme

In 1983, the first savings sangam was set up by a woman social worker in the village of Eraunmanthurai. The women invited to join were mainly widows or women with several daughters.

As other sangams came up, an informal credit delivery system linked to thrift-and-savings societies was developed. The delivery system has simple procedures, disburses credit quickly, and allows flexible repayment schedules. Loans are given for a variety of causes: marriage, house building, net buying, purchase of fish to sell. Repayment rates are high. The aim of the system has been to help each group of women develop the skills to manage their own affairs and also manage matters such as the admission of members, selection of beneficiaries for loans and repayment mechanisms.

Self-help Groups

From mid-1993 onwards, there has been an emphasis on transforming the sangams into self-help groups, which



A Santhidan representative explains a display of ice boxes, rack-dried fishes and fish pickles at a workshop in Tuticorin.

would be responsible for the entire decision-making process at the village level. (A district-level trust has been formed to facilitate inter-group lending.) It is hoped that will increase the participation of women and strengthen their self-reliance.

Social Action

Santhidan members have taken up a variety of social action campaigns; the right of fish vendors to use public transport, drinking water facilities, street lights, the use of correct measures in fair price shops, and the cleaning of wells and drains. They campaign against the brewing and sale of illicit liquor, holding demonstrations and (in the case of arrack shops) smashing containers. In most cases, the campaigns have met with success.

Mahalir Mandrams

Young unmarried women have formed groups at the village level, where they learn about and discuss social, political and health issues. The women have held seminars on the Indian economy, unemployment, marriage laws, the Christian Marriage Act, dowry, divorce and the Indian Penal Code.

Seminars and training sessions are also conducted for other groups of women: mothers, sangam members and Santhidan animators and volunteers.

Skills Development

Animators and community organisers receive training in management and community building. Recently, many of them were trained in first aid, preventive health care, post-harvest fish handling and processing and panchayati raj (village self-rule).

Programme for School-going Children

School-going children are given tuition to enable them to do better in their examinations. The classes are conducted by members of the young women's association in the village and are supervised by a team of Santhidan volunteers. Educational and cultural activities for the children, such as leadership camps, are also part of the programme.

Achievements

From three sangams, 94 members and a total savings of approximately Rs 9,000 in 1983, Santhidan grew to 52 sangams, 3,625 members, and total savings of Rs 34.5 lakh in 1994.

Social action by the women has won them a number of benefits. A May 1990 survey showed that while in the previous five-year period only 10 per cent of women vendors used public transport, by 1990, over 50 per cent of them did so. More importantly, women have become aware of their rights and can no longer be pushed off buses. They can hold their own against men who challenge them in their anti-arrack campaign. At home, they are better able to stand up to drunken husbands.

A major achievement is the visibility Santhidan has achieved with the public and the government. This is the outcome of its involvement with other like-minded groups

in the district on public issues such as bride-burning. A mark of public recognition is the repeated requests Santhidan has received to set up sangams in fishing villages of Chingleput District in north Tamil Nadu. A team of organisers was sent to help set up sangams in five villages of the district. Santhidan oversees the functioning of these sangams, although eventually they will become independent.

Courtesy: International Collective of Fish Workers

Fishermen at Kanyakumari.



The author, Mr J Lucas, and founder of Santhidan, with members of Santhidan sangams at the beach in Kanyakumari.



Post-Harvest Fisheries: Monitoring & Evaluation

Designing project monitoring and evaluation*

Definitions

Monitoring is the *continuous assessment of project implementation* in relation to agreed schedules, and of the use of inputs, infrastructure, and services by project beneficiaries. Monitoring:-

- provides managers and other stakeholders with continuous feedback on implementation.
- identifies actual or potential successes and problems as early as possible to facilitate timely adjustments to project operation.

Evaluation is the *periodic assessment of a project's relevance, performance, efficiency, and impact* (both expected and unexpected) in relation to stated objectives:

- Project managers undertake interim evaluations during implementation as a first review of progress, a prognosis of a project's likely effects, and as a way to identify necessary adjustments in project design. The use of mid-term reviews of ongoing projects has spread quickly in the last decade.
- Terminal evaluations, conducted at the end of a project, are required for project completion reports. They include an assessment of a project's effects and their potential sustainability.

Need for effective monitoring and evaluation

Monitoring and evaluation (M & E) is increasingly recognised as an indispensable tool of both project and portfolio management. The need to improve the performance of development assistance calls for close attention to management information, both to support the implementation of projects and programs and to feed back into the design of new initiatives.

M & E also provides a basis for accountability in the use of development resources. Given the greater transparency now expected of the development community, governments and agencies assisting them need to respond to calls for more "success on the ground" with examples of development impact and with evidence that



they have systems in place that support learning from experience.

Used carefully at all stages of the project cycle, monitoring and evaluation can help to strengthen project design and implementation and stimulate partnership with project stakeholders. It can:

Influence sector assistance strategy. Relevant analysis from project and policy evaluation can highlight the outcomes of previous interventions, and the strengths and weaknesses of their implementation.

Monitoring and evaluation processes unearth examples of development impact. They also generate evidence of systems in place to support learning from experience.

- *Improve project design.* Use of project design tools such as the logframe (logical framework) results in systematic selection of indicators for monitoring project performance. The process of selecting indicators for monitoring is a test of the soundness of

* We reproduce for readers, through the kind courtesy of the World Bank, a lucid paper on the what—why-how of monitoring and evaluation.

project objectives and can lead to improvements in project design.

- *Incorporate views of stakeholders.* Awareness is growing that participation by project beneficiaries in design and implementation leads to greater “ownership” of the project by them and encourages the sustainability of project benefits. Ownership brings accountability. Objectives should be set and indicators selected in consultation with stakeholders, so that objectives and targets are jointly “owned”. The emergence of recorded benefits early on helps reinforce ownership, and early warning of emerging problems allows action to be taken before costs rise.
- *Show need for mid-course corrections.* A reliable flow of information during implementation enables managers to keep track of progress and adjust operations to take account of experience.

M & E design: Five components

Good M & E design during project preparation is a much broader exercise than just the development of indicators. Good design has five components, discussed in turn in what follows:

- Clear statement of measurable objectives for the project and its components, for which indicators can be defined.

Projects are designed to further long-term sectoral goals, but their immediate objectives, at least, should be readily measurable.

- A structured set of indicators, covering output of goods and services generated by the project and their impact on beneficiaries.
- Provisions for collecting data and managing project records so that the data required for indicators are compatible with existing statistics, and are available at reasonable cost.
- Institutional arrangements for gathering, analysing, and reporting project data, and for investing in capacity building, to sustain the M & E service.
- Proposals for ways in which M & E findings will be fed back into decision-making.

These five components help to ensure that M & E is relevant, within the capacity of the borrower’s institutions, and used to good effect.

Project objectives

Projects are designed to further long-term sectoral goals, but their immediate objectives, at least, should be readily measurable. Example: A health project might be designed to further long-term goals such as a reduction in child mortality and incidence of infectious diseases. But it should have an immediate, measurable objective – providing more equitable access to health services. Objectives should be specific to project interventions, and have a realistic time-frame for implementation, but should be measurable for evaluation.

Objectives should be specific to project interventions, and have a realistic time-frame for implementation, but should be measurable for evaluation.

India’s District Primary Education Project, for example, set out its objectives at the district level in clear statements linked directly to indicators:

- *Capacity building:* District sub-project teams would be fully functional, implementing sub-project activities and reporting quarterly on progress. In-service teams would be functioning, with augmented staff and equipment, providing support for planning and management, teacher in-service training, development of learning materials, and programme evaluation.
- *Reducing dropout and improving learning achievement:* Schools/community organisations would be fully functional for at least half the schools, and dropout rates would be reduced to less than 10 per cent. Learning achievements in language and mathematics in the final year of primary school would be increased by 25 per cent over baseline estimates.
- *Improving equitable access.* Enrollment disparities by gender and caste would be reduced to less than 5 per cent.

By asking how objectives can be measured (for example, what are suitable indicators for equity of access?), and how component activities lead to those objectives, project objectives will be more precisely defined. In this way M&E design contributes directly to the quality of projects at entry to the portfolio.

The quality of a new project also depends on ownership by stakeholders and awareness of the scope and limitations of project actions. Monitoring may need to include information about supporting actions that are likely to affect the success of the project. Problem analysis is a tool that can help to identify such actions.

Monitoring experiences of PHFP: Reflections from a social perspective

The Project set up its Internal Monitoring Unit in December 1992 to monitor the impact of the Project.

- The unit focussed initially on developing indicators to measure achievement of objectives, and on collecting quantitative data. However, over time the deficiencies of this approach became glaring. The qualitative side of the story needed to be told. The attitudes and perceptions of target audiences that enabled achievement of objectives needed looking into.
- Another important issue concerning internal monitoring is process orientation: the process of achievement of objectives. You don't achieve objectives by clicking a button or pressing a switch. A lot happens in between.
- Linked closely to qualitative data collection, process-oriented monitoring focusses on people and examines the changes that occur within communities, the growth that takes place gradually, the tensions and animosities that arise during the course of technology extension. Process-oriented monitoring has provided valuable experiences that have determined the future course of a project and the possibility of replication. It has also helped identify new areas not taken into consideration earlier.
- The Project monitoring unit also began to take into account target group perceptions of a project activity before introducing it. This brought to light many interesting points that might otherwise have been ignored. Example: the Project was considering financial support to an NGO – hire of a van to transport women fish vendors to fish markets. But discussions with the target group revealed that the van service was unrealistic (different fish landing times at different villages, varying distances). The idea was dropped. Valuable project time, effort and money was saved by the discussion.
- This interaction highlighted the heterogeneous nature of what was originally thought to be a homogenous group – women fish traders! It gave the project some insight into fish vendors that helped in planning subsequent interventions.
- An interesting discovery was made about how people perceived the term “monitoring”. Most NGO staff said the word did not have a positive ring, and seemed to reflect a top-down approach. Therefore the monitoring unit was renamed “social and economic unit” (since

most of the unit's functions related to economic and social data collection and analysis).

- Around this time, the question of sustainability of the work of the social and economic unit, including monitoring, was raised within the unit. Would monitoring survive as a process in the project's partner institutions once the project wound up? This question, and the discovery that many people regarded monitoring as a “top-down approach” led the unit to design and conduct trainers' training programmes, so that NGO field staff could themselves carry out monitoring and evaluation.
- The training programmes systematised and focussed what the animators of NGOs were already trying to do informally. The importance of documentation was also stressed through training programmes on report writing. It was decided that the NGO grassroots staff would work in close collaboration with the project's social and economic unit for the rest of the project period. They would thereby strengthen their skills, and also develop methodologies to transfer these skills to the community.

Monitoring is essential for the success of any project since it tells us

1. Are we on the right track? If not, why and where did the shift occur?
2. Are material, financial, human and time resources being utilised in the manner originally envisaged?
3. What are the issues that need immediate project attention?
4. What needs to be done next?
5. At the output level, however, we would need to examine what the activity achieved, what the project sought to do and how successfully.

Some lessons learnt:

1. If the “monitors” of an activity produce a negative report, the managers implementing the activity feel hurt. They see the report as a comment on their capabilities. Since developmental work involves a high degree of emotional involvement from the staff, it is but natural that they feel upset if they fail to

achieve the objectives. This brings out two important issues

- The more intense the involvement, the higher the disappointment when objectives remained unachieved; and the better are the prospects of success. Hence, close community involvement at all stages of an activity – from planning to implementation and evaluation – is essential. Unless the community feels that an activity is theirs and assumes some responsibility for it, they would not feel concerned by its success or failure!
- People should look forward rather than backward when such a situation arises.

People's participation is the key word for the success of any developmental activity.

As regards evaluation and monitoring, a clear monitoring plan is needed from the very inception of activities. The plan should be participatively prepared, with indicators being designed collectively by all stakeholders – the communities, the field level functionaries, the NGO heads and the project staff.

2. Monitoring work should emphasise what can be done to bring an activity back on track while underscoring lessons learnt from past mistakes so that they do not occur again.
3. Past experience should be documented to feed information back into the project cycle and to all the stakeholders. Likewise, information about a success story must be disseminated widely along with the

methodology so that it is replicated. But project staff should bear in mind that what is successful in a particular geographic and social environment may be totally unsuccessful in another environment. Even successful interventions must be analysed and discussed with all concerned before being replicated elsewhere.

4. The merits of process-oriented monitoring have been highlighted. Rather than treat an intervention as a discrete entity, one must look at it as a part of a whole strategy of development and how it initiates a process within a community of achieving objectives.

How do we know whether the objectives are being achieved?

To understand this, one needs to evolve indicators. These are like milestones that tell us how far we are from our destination. The indicators must be realistic and easily verifiable. However, a single indicator may not indicate the actual level of achievement. A combination of indicators is essential to provide a more complete picture.

Finally, the ripple effect of any project activity must be examined. Sometimes a particular activity may have an impact in a manner not envisaged by the project, in an area not targeted by the project. However, such impact should not be ignored during the process of monitoring and evaluation.



“A monitoring plan should be prepared participatively

Monitoring Experiences of PHFP: An economist's viewpoint

What is Monitoring & Impact Assessment?

Monitoring is the *continuous* assessment of project activities to confirm and ensure that they progress according to schedule; that inputs, infrastructure, and services are used by the project and beneficiaries as planned. It helps the project identify problems and delays at an early stage. This facilitates timely corrective action before problems become too serious to solve or it is too late. Monitoring usually focusses on *activities*.

Impact Assessment (IA) is the *periodic* assessment of a project's relevance, performance, efficiency, effects and impact (both expected and unexpected) in relation to stated objectives, focussing essentially but not only on outputs.

Monitoring facilitates timely corrective action before problems become too serious to solve or it is too late.

It generally takes place mid-term, at the end of a phase, or at the end of the project, and includes a study of the effects of a project in the long-term (intended or otherwise), achievement of purpose by the project, and sustainability of achievement.

The Project, like all DFID projects, uses the logical framework as a planning and M & IA tool. The logframe is essentially a statement of the goal and purpose of a project, followed by outputs that the project must generate in order to achieve its purpose, and finally a list of specific activities that may be expected to lead to these outputs. Against each activity, output, and purpose are listed specific indicators that show or measure the level of achievement expected. And there is a list of assumptions that are expected to remain valid if achievement is to be possible. (Even where the logframe approach is not used, projects may be expected to have in some form a statement of aims and objectives, methods and strategies, which would provide a basis for M&IA).

The Project's experience with M & IA is described below:

Summary of project experience

Formal monitoring of the Project was initiated only with the third phase of the Project on a recommendation made by consultants. An Internal Monitoring Unit (IMU) was established with one person, an economist. Initially there was no clear plan; the logical framework provided only a loose definition of project purpose. Plans and systems



Discussion at a project workshop on impact assessment.

evolved with time, in stages, each characterised by certain features described below:

Stage! (1993—1994)

Attempts to establish linkages between various interventions and changes taking place in target communities.

While “monitoring” refers to continuous assessment of project activities to ensure expected progress, “impact assessment” is a periodic assessment of a project's relevance, performance and impact.

- Structured and conventional field research and data collection methods.
- Research/data collection/analysis aimed at poverty issues concerning post-harvest activities and relevant to target groups.
- Indicators developed were based on certain assumptions, not always valid; e.g. acquisition of new fishing craft/equipment by target community = desired output from Project intervention.
- Emphasis on output level indicators of the logical framework.
- Inadequate field research skills.
- Divergence in perceptions/priorities of partner institutions (NGOs) and Project.

- Weak linkage (within logical framework) between purpose & output, output & activity.
- No strong linkage between logical framework and monitoring.

Stage 11(1994 – 1995)

- Increased emphasis on impact monitoring.
- Movement towards participative methods for data collection and field research, with analysis and reporting remaining with Project.
- Name of IMU changed to Social and Economic Unit; expanded to include a sociologist.
- Revision of project logical framework in the light of experience of Project and partners.
- Increased use of logical framework in monitoring.
- Use of monitoring to address Project management priorities, resolving crises and problems; immediacy overtakes long-term needs of project.
- Use of monitoring team to also carry out pre-feasibility assessment of new initiatives contemplated by project.
- Limited access and use by project partners of results and data generated by monitoring team.

Stage 11(1995 – 1998)

- Emphasis on capacity-building of partner organisations for monitoring.
- Shift from project-led to demand-led monitoring, i.e., more frequent requests from partner agencies for assistance.
- Logical framework reformulated in line with project experience and ground realities.
- Training module on monitoring developed and implemented.
- Monitoring analysis and report writing now in consultation with partner institutions.
- Feedback process strengthened, i.e. information and reports routinely fed back not only to project management, but also to partner agencies.

The changes described above resulted from project work, consultants' reports, and experiences from other projects and subject areas.

Impact Assessment

In 1996/97, an end-of-phase impact assessment exercise took place. Main features:

- Impact assessment started with a review of the project logframe, but it was found that the new indicators still

Participative data collection – an essential monitoring tool.



needed to be modified to make them relevant and meaningful...reflective of reality.

- The LAS was a participative exercise. Partner organisations and the community took part. This improved objectivity, validity, learning and ownership of the report.
- Actual collection of information done using participative tools, i.e., focus group discussions, individual case studies and anecdotal information collected at the sites selected for impact assessment.
- It took into account diversity of situations, conditions, and project approach across countries and states.

Main Lessons

- Need for a carefully formulated project logical framework which requires no major changes over (say) a timeframe of 3-5 years, with clear and comprehensive indicators, validated by the monitoring team in the field from time to time.
- Importance of methods that are acceptable to partners/communities.
- A feedback and validation mechanism involving partner institutions, the community and Project staff.
- Techniques and methods adjusted to skill levels, linguistic abilities and understanding of all participants.
- Participative planning, fieldwork and analysis to ensure ownership and acceptability certainly, but more importantly to enhance validity of monitoring and LAS exercises.
- Open-ended participative and group data collection exercises are often more productive, cost effective and

A consultant reviews the Project's indicators of achievement.



Workshop participants discuss "impact"

comprehensible than structured data collection techniques (like using standard questionnaires).

- Need for a well conceived and integrated monitoring and impact assessment programme and systems as part of the project plan, which is reviewed and revised periodically.

Main Findings of Impact Assessment Study

- Project impact has been small so far, but has created conditions for bigger impact in future. This the Project has been able to do by demonstrating to target communities the relative importance of the use of simple post-harvest methods for preserving fish at selected locations where it has intervened. These interventions have also demonstrated to partner agencies the importance of post-harvest questions in fisheries and the need for policy changes to better address these issues. This has created an enabling environment for further expansion of impact over a wider area.
- The Project has moved from a technology-centred to a people-centred approach.
- It has moved from addressing post-harvest problems to the livelihood of post-harvest fish workers.
- The Project has demonstrated a need for adopting a multi-disciplinary approach to address post-harvest fish workers' needs.
- The Project has brought about a change in the policy environment which enables further expansion in impact.

Co-ordination and facilitation

“The Department of Fisheries may have technical expertise. An NGO may have close support with fishing communities. When the DOF and the NGO come together, both stand to gain.”

Why Co-ordination?

A development programme faces constraints of many kinds. It could be lack of funds, lack of technical guidance, lack of knowledge about target groups. There is duplication of effort by different agencies associated with the programme. Experience shows that if proper linkages are established among these agencies, many of the constraints and problems could be overcome.

For example, the Department of Fisheries may have the technical expertise for fisheries development programmes at the macro-level, but lacks close links with village-level communities. An NGO has close rapport with fisherfolk communities in specific villages, but lacks the resources and technical expertise of the DOF. When the NGO and the DOF come together, both stand to gain.

This means that the most needed development inputs are already available with existing agencies; what's needed is to fine-tune the development effort, bring all agencies into line and facilitate resolution of conflicts.

Co-ordination and facilitation thus means identifying agencies working in a particular area, understanding their special roles, strengths and weaknesses, and bringing them together to pursue a common goal. This seems simple, but it needs considerable effort from the co-ordinating and facilitating agency.

Different agencies have their own *modus operandi*. Their background and work culture are different. Unless they evolve a common approach by consensus, the programme is likely to fail.

First, the objectives. The different agencies concerned should share an objective. The co-ordinating agency must have a clear idea of the purpose of interventions by different agencies, before it can proceed to bring the agencies together.

Second, different agencies have their own *modus operandi*, own style of planning, implementation, documentation and monitoring. Their background and work culture are different. Their perspectives on efficient implementation vary widely. Unless they evolve a common approach by consensus, the programme is more likely to fail than to succeed.

How the co-ordinating agency is viewed by the other agencies is important too. If the agency is a direct partner in implementation, its pro-active role could be viewed with suspicion and its motives questioned. If on the other hand the agency is only a catalytic agent, it should ensure that not only is its advice heard but implemented with zeal.



The Project co-ordinates with banks and NGOs.

The theory behind networking is sound, but most agencies balk at doing it for several reasons. Certain agencies do not want to lose their identity in a group or be identified with certain other agencies. Differences in objectives, development mandates and ideology between various organisations are often not easy to reconcile. In the initial stages, motivation and support are essential to facilitate the process of the partners understanding one another and learning to work together.

There is another pitfall too. The agencies could discover some common interests – other than those promoted by the co-ordinating agency – and spend their time together on extraneous matters. The co-ordinating agency's role would be crucial in ensuring that the main objective doesn't get jettisoned.

Networking need not be formalised. The partner agencies come together at regular or irregular intervals to address particular issues of common concern which are need-based, and do not involve any formal arrangement. Most

networks function *far* better in an informal environment than when a code of conduct is involved.

Skills of co-ordinating agency

In sum, the co-ordinating agency needs the following skills:

- A clear perception of what needs to be achieved through networking.
- Good rapport with partner groups.
- Necessary clout with the agencies, to bring them together.
- Means to mobilise resources to initiate the networking process.
- Resources to provide the skills to consolidate the network
- Planning to ensure that the network continues even after the catalytic agency withdraws.

The Project has always advocated co-ordination and strengthening of links between government organisations and NGOs active with fishing communities. It has played

a strong catalytic role in securing benefits for fishing communities through networking.

Networking

- It made possible two NGO networks – COFCON in Bangladesh, East Coast Fisherfolk Forum in India. It has also tried to stimulate a network of marketing agencies on the east coast, comprising private agencies, government and quasi-government agencies, co-operative bodies, NGOs and fisherfolk groups.
- The project has stimulated the following linkages on the east coast:
 - Government with the private sector, NGOs, banks, fisherfolk organisations.
 - NGOs with other NGOs, government agencies, banks.
 - Fisherfolk organisations with government agencies, NGOs, private sector, banks.
 - Banks with government, NGOs, private sector and fisherfolk groups.

Networking brings together government, NGOs and fisherfolk.



Project Partnership with NGOs

The Project's sociologist recalls the Project's partnerships with NGOs. How they began and evolved, problems that arose, achievements, lessons learned. She concludes that despite difficulties the partnerships "helped both partners to grow... they have taken the Project to locations and target groups who would otherwise have been beyond access."

The Project's strategy has been to work with partner institutions – government, NOOs and CBOs (community-based organisations). Each partnership has generated its own learning experiences and achievements.

Partnerships with NGOs

An important reason for the Project's partnerships with NOOs was that technology should not be promoted in isolation. Social and economic issues concerning the target communities have to be examined. But a relatively small project based in Chennai with limited staff cannot interact closely with communities scattered over wide areas of three countries. Hence the need for partner institutions. NGOs were chosen because they were close to target communities and had worked with them.

Identification of partner NGOs:

Identifying the right partner NGOs was the next step. It was crucial for the success of the activity. Some important points considered for identifying partner NGOs:

1. *The target community and its area of operation:* It was important that the NGO in question should work with the same target community as the Project, and in a geographical area that falls within the Project's mandate.
2. *(Congruence of objectives:* Did the NGOs in question share the Project's objectives?

People everywhere are distinctive and unique, there is no uniform solution to any problem. A strategy that works well in Kanyakumari may misfire in Nagapattinam.

3. *Methodology of work :* Despite congruence of objectives, the development approaches adopted by the Project and the MOO might be radically different. It is important to identify an organisation whose methodology of targeting interventions is similar to that of the Project.
4. *Interest in the Project's agenda :* The process of identifying NGOs was time-consuming. The Project had to tap both formal and informal information sources. It soon became apparent that the number of

NGOs working with fishing communities was rather limited.

But once the NGOs were identified, discussions were held with them so that each partner understood the other's expectations from the partnership. During the course of discussion, some of the NGOs mentioned certain gaps in their knowledge and skill base which would affect their role as partners. The Project sought to address these gaps by conducting a series of workshops on project planning and management.

Discussion following the workshop helped narrow down the list of potential partners, from which the actual list was finalised. The roles and responsibilities of the Project partners were clearly defined.

Project's experiences in partnership with NGOs

The partnerships with NGOs made the Project technology more people-oriented. They gave the Project direct access to people. The interaction with community-based organisations made the Project realise certain ground realities and alter its approaches accordingly. The NGOs on the other hand strengthened their post-harvest skills and knowledge.

- In many cases, the NGOs themselves had already formed grassroots level institutions that could be targeted for technology promotion. This saved the Project a lot of time and effort. The Project's interventions fitted very well the programmes already ongoing within certain NGOs.
- The NGO-Project partnerships helped the Project understand its target communities better, thereby leading to more effective interventions. It made the Project realise the myriad problems faced by the people, many of which fell outside the Project's agenda. "This helped us alter our own strategies."
- Finally, working closely with NGOs made the Project realise how practical certain interventions and approaches were. "We learnt what would work and what would not. It taught us that since people everywhere are distinctive and unique, there is no uniform solution to any problem. A strategy that works well in Kanyakumari may misfire in Nagapattinam."



Partner NGOs of the Project in action - Bangladesh (left), Sri Lanka (right).

- The Project catalysed information exchange among NGOs. Staff from different NGOs readily shared their experiences when they came together. This in its own way led to capacity-building.
- As the Project-NGO partnerships grew and matured, the Project realised that roles and responsibilities need to evolve as well. This evolution is a steady, constant process.

In Sri Lanka, the cycle trader associations at St. John's Fish Market in Colombo and Negombo were launched and developed with the assistance of an NGO.

The existing networks of village-based fishermen's co-operatives were available for the Project to carry out technical assistance. The Ministry of Fisheries and Aquatic Resources Development supported this activity.

The commitment and enthusiasm of NGO staff have helped the Project develop a more optimistic and pragmatic approach to its work.

Some difficulties encountered:

- A partnership between two organisations is not without its skirmishes. A major problem was the inability of some NGO partners to distinguish between a funding agency and an executive agency. They could not comprehend why the Project staff should attend village-level meetings. They thought this reflected a lack of trust in them, and this feeling generated some animosity. However, the role of the Project as a partner was clearly discussed with NGOs at a workshop; this improved understanding.
- A problem faced by the Project as well as by NGOs is the high turnover of field level staff. Most NGOs

employ young women from local communities. But when these women marry, they leave their jobs and villages and move to some other village. Result: A waste of training inputs, and lack of coordination of work at the field level.

- There are NGO partners who simultaneously tackle a number of issues. The Project has sometimes felt that an NGO partner might not accord as much importance to post-harvest as the Project hopes for. But such problems have usually been sorted out through discussion.
- The Project began to realise at a certain point that instead of setting the partner's agenda, it should work with the existing agenda and put it to the best use.
- Setting a partner's agenda does not lead to constructive partnerships – the Project has learnt this lesson. Example: the Project once persuaded an NGO partner from Andhra Pradesh to start work with fishing communities in a geographical area new to them. The partner's unfamiliarity with both the target communities and the Project location led to frustration on both sides, vitiating the partnership environment.
- Understanding the way the partner organisation works is important. Many NGOs tend to be person-centred. Leadership is restricted to a single individual. If he is absent, no decisions are taken. This affects the partnership.

But such difficulties notwithstanding, the Project's partnerships with NGOs have helped both partners to grow. They have taken the Project to locations and target groups who would otherwise have been beyond access. The commitment and enthusiasm of NGO staff have helped the Project develop a more optimistic and pragmatic approach to its work.

Project's Partnership with Department of Fisheries, Andhra Pradesh

Andhra Pradesh was the first state government in the Bay of Bengal region to incorporate post-harvest fisheries into its action plans on the advice of the Project.

The Department of Fisheries in AP assisted the Project in identifying study sites, provided staff support for conducting pilot studies, made available staff and infrastructure facilities. By promoting the technologies developed by the Project in the state, the DOF helped the Project reach fisherfolk all along the coast.

"We owe a great deal to the vigorous co-operation of the Department of Fisheries for the excellent impact of our activities in Andhra Pradesh," says Project Field Manager Duncan King.

Highlights of the Department's co-operation with the Project:

- *introduction of 200 kg fibreglass ice boxes* on board large-mesh gillnetters was the Project's first activity (1988). The DOF provided staff support for the ice box trials. Introduction of ice boxes was included in the action plans of the AFCOF (Andhra Pradesh

Fisheries Co-operatives Federation). Two hundred ice boxes were constructed and distributed to fisherfolk at 33% subsidy. The government later made the boxes available on credit in response to fisherfolk's request.

- *Development of ice boxes of different sizes for different purposes (ongoing from 1992):* The DOF helped the Project conduct trials with 100 litre, 35 litre and 150 litre ice boxes for use on medium-sized navas and catamarans and by petty fish traders respectively. These ice boxes were included in the action plans of the District Rural Development Agency (DRDA) which provided them to fishermen at 33% subsidy.
- *Pilot studies with improved smoking kilns (1994-96):* The DOF provided the Project with a field assistant for the studies. The Department later liaised with the district administration, and a large number of smoking kilns were provided to fisherfolk in the area through credit and a subsidy provided by the Backward Classes Corporation and the DRDA respectively.

The Project and the DOF in Andhra Pradesh worked close/v to develop and extend ice boxes.



- *Project planning and management workshop:* The DOF provided generous assistance for a two-week project planning and management workshop meant for executives Of fisherfolk NGOs (Mar-April 1994). The Department provided vehicles, premises for demonstration, resource persons and other infrastructure facilities.
- *Training on post-harvest fisheries activities:* (ongoing from 1995): Trainees from the Fisheries Training Institutes are brought to the Project's regional office in Kakinada for training in post-harvest fisheries. Also trained by the Project are Fisheries Extension Officers from coastal districts. These officers later undertake post-harvest related extension work in their areas.
- *Awareness programme on value-added fish and fisher's products:* The Department promoted this programme, held in Hyderabad in August 1996, in a big way, with technical assistance from the Project. No effort was spared by the DOF. It released advertisements in newspapers, printed and distributed handbills in large numbers, put up banners and ensured the highest possible public exposure for the event.
- *Exposure visits from other states* (ongoing from 1995): The DOF assists the Project in conducting exposure visits in post-harvest fisheries for NGOs, government departments and fisherfolk organisations from other states.

Some other areas of project work where the DOF has assisted substantially:

- Development of linkages between agencies (NGOs, banks, DOF).
- Developing marketing linkages to facilitate higher sales and better prices for fisherfolk for their products.
- Inclusion of post-harvest related programmes in a big way in the Ninth Five-Year Plan of Andhra Pradesh.
- Special proposals to the Ministry of Food Processing for financial support to fund small-scale enterprises.
- Providing assistance to women petty fish traders through the DRDA-sponsored DWCRA programme.
- Proposals for the DOF to construct its own in-board ice boxes.

Orissa officers given an orientation on project activities in Andhra Pradesh.



Market linkages were developed to facilitate better prices for fish products.



CASE STUDY

Project for Rehabilitation of Cyclone-affected Fisherfolk Communities in the East Godavari district, Andhra Pradesh

The Government, the Post-Harvest Project and a select group of NGOs and CBOs joined hands to help cyclone-hit fisherfolk in a district of Andhra Pradesh – a striking example of co-ordination and facilitation.

In November 1996, a devastating cyclone struck the East Godavari district of Andhra Pradesh, India. Fisherfolk communities were the most affected, with a large number of deaths and unprecedented economic losses. The Central Government declared the cyclone as a national disaster.

The Department of Fisheries, Government of Andhra Pradesh, approached the DFID for assistance under its Emergency Aid Programme, to replace fishing inputs – craft and tackle – and restore the productive capacities of fisherfolk in selected villages, by setting up revolving funds. The DOF, with the help of the Project, developed an action plan that aimed at drawing into the activity NGOs working with coastal fisherfolk and CBOs in villages, to ensure proper implementation. The Project was expected to run for one year.

The idea that a single agency can handle all issues related to integrated development is no longer valid.

The proposal envisaged constituting a Core Action Group (CAG), with nine members – four from the Department of Fisheries, four from NGOs and CBOs, and the PHFP. The Commissioner of Fisheries was the Chairman of the CAG. A national NGO, AFPRO, agreed to co-ordinate the work related to NGO selection, co-ordination and training, in addition to being a member of the CAG.

The Project's role was to monitor the progress and report to the CAG. The Project's imminent closure in March 1998 was noted, and it was agreed that alternate arrangements would be put in place in time. The DOF's role would be to make the financial arrangements, co-ordinate the progress, and provide back-up support to NGOs in the villages. The two selected NGOs were to identify villages to work in and groups to work with, and prepare a beneficiary list based on a sets of criteria provided by the CAG. The CBOs would deal exclusively with women. They would decide the final list of beneficiaries, develop time frames and interest rates for recovering the loan



Fisherfolk communities were hit hard by the November 1996 cyclone.

component and default procedures, with the assistance of NGOs.

The Core Action Group met for the first time in August 1997, to develop a logframe for the programme including task plans and responsibilities of various agencies and time frames. A consultant from the UK facilitated the process. Based on the detailed action plan submitted, the DFID released the first instalment of its aid amount in November 1997.

Agencies involved in the programme

DOF (*Department of Fisheries – the government agency*).

Andhra Pradesh Fishermen Cooperatives' Federation (a Govt.-managed cooperative body, which in this instance acts as the accountant and custodian of funds)

Action for Food Production (AFPRO): a national-level NGO which assists grassroots-level NGOs through training, technical and advisory support.

The Project: in this case, the coordinating and monitoring agency.

Two NGOs: FIRM (Forum for Integrated Rural Management) and Sravanti, working with small-scale fisherfolk in East Godavari district.

United Fishermen's Association: a CBO, constituted by the fisherfolk youth of one village, BCV Palem, in the cyclone-affected area.

Assessment of the activity

This is the first time that a multi-agency approach to development has been put into practice at government instance in Andhra Pradesh. The mix of agencies

ensured that the planning exercise would take into the consideration the concerns of various stakeholders. The DOF plans to apply this approach to all further activities, should the plan go according to schedule.

Lessons learnt

- The idea that a single agency can handle all issues related to integrated development is no longer valid. In an environment where multi-disciplinary interventions are the need of the hour, no agency can handle all issues by itself.
- Involving the primary stakeholders – fisherfolk – and the field level implementation staff in the planning made it realistic and need-based.
- The increasing need for forging links between the government agencies – who are strong in technology promotion but weak in community-development issues – and the NGOs (whose strong point is their rapport with the communities and weak point is technical issues) has been addressed through this programme. Its success will have long-term implications for all concerned agencies, including donor agencies.

Field-level staff and fisherfolk must be involved in planning to make it realistic and need-based.



Fisheries co-operatives in Sri Lanka

Fisheries co-operatives in Sri Lanka play an important role in the socio-economic well-being of the fisherfolk community. The development of co-operatives represents an example of effective coordination between the government, commercial banks, and non-government Organisations.

The first known fisheries co-operative in Sri Lanka started in 1942. What started as a single co-operative in 1942 has now expanded to well over 700 societies distributed all over the island.

The co-operative sector is today the main non-government enterprise through which the government has endeavoured to improve the socio-economic well being of the fishing community.

From the very beginning, the co-operatives have been used as channels to introduce various fisheries-related development programmes. In the process, the fishing community received subsidised engines, boats, fishing gear and other benefits. Various other educational, health, community development, management and social upliftment benefits were passed on to the community through these co-operatives.

The co-operatives are presently managed by the community itself, through a 7-member management committee, including two women. These are all village-based co-operatives, which together are linked to provincial-level co-operatives and then to district-level and to an apex-level federation.

Fisheries co-operatives are a good example of co-ordination, facilitation and linkages. The Department of Co-operative Development which belongs to the Ministry of Co-operatives has an officer (of Asst. Commissioner rank) in the Ministry of Fisheries to coordinate the activities of fisheries co-operatives.

Fisheries co-operatives make possible:

- Bank loans for fishermen.
- Government subsidies for purchase of boats and fishing gear.
- IRDP (Integrated Rural Development Programmes) schemes.
- Loans for self-employment schemes.

Financial Benefits:

- Assistance for buying fishing crafts, etc., through subsidy and preferential interest rates.
- Loans for self-employment programmes.



Training and education programmes on:

- New and improved fishing craft, fishing methods and technological innovations.
- Savings and financial management.
- Imparting leadership qualities.
- Guidance and training programmes.

Provision of common amenities:

- Fish auction centres.
- Sales depots for fishing gear, fuel, ice, spares.
Marketing information over radio.
- Welfare facilities.
- Houses, land, electricity, water, health, roads, beacon lights.
- A contributory insurance scheme for fishermen.
Link to Employees Trust Fund (ETF).

Strengths and Weaknesses

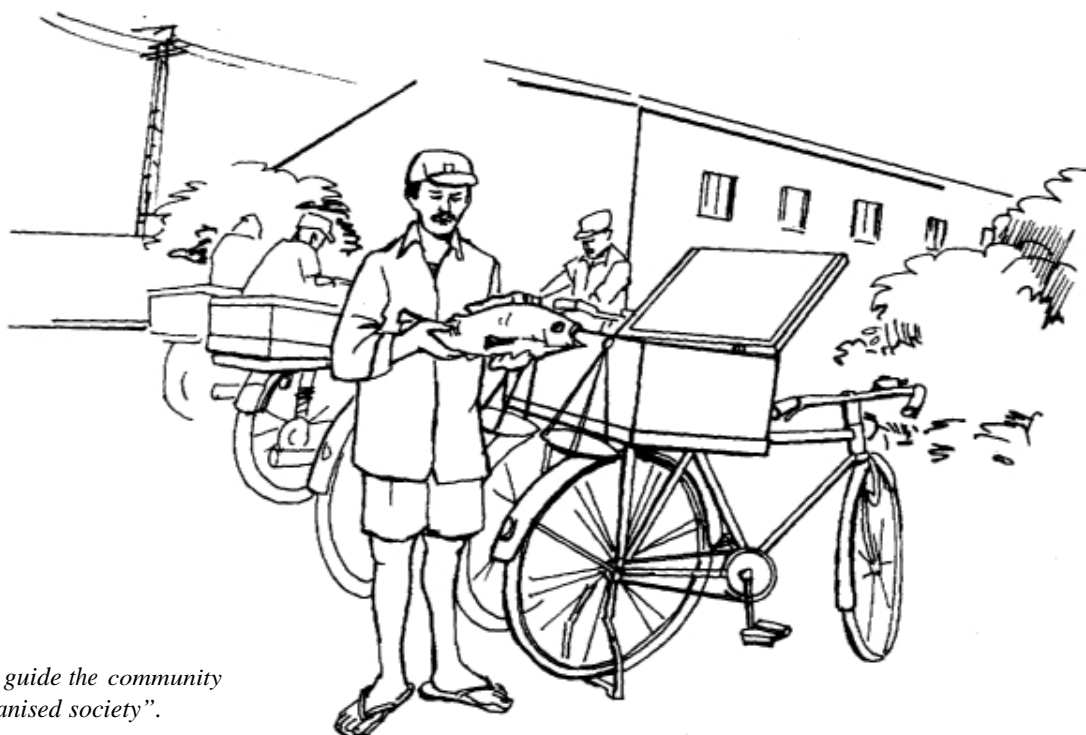
Strengths:

- Fishermen's co-operatives have now been accepted as an essential community-based organisation through the community.
- Co-operatives draw legal support from the Co-operative Act.
- Supervision by the Co-operative Department and the Department of Fisheries to improve access to banks and institutional credit.
- Easy accessibility and communication since the co-operative is village-based and the management committee itself comes from the village.
- Easy access to credit for members of a recognised co-operative, since the co-operative guarantees such credit.

- Growth of inter-personal relationships.
- Community development programmes such as pension and insurance schemes and trust funds.
- Introduction of savings and thrift habits.
- Co-operatives help guide the community towards a cultured and organised society.

Weaknesses:

- The co-operatives expect everything to be done by the Department of Co-operatives and the Department of Fisheries. But these departments do not have the personnel to administer co-operatives individually.
- The management of the co-operatives is in the hands of village-based people with a low level of education and exposure to management techniques. Many co-operatives have been mismanaged.
- The rich and the influential in the village have sometimes acquired management positions in the co-operatives, neglecting the poor and downtrodden.
- Hasty implementation of programmes without proper assessment of the capability of co-operatives to carry out such programmes.
- Non-acceptance and non-co-operation in the case of government programmes that do not benefit the majority of the community.
- Non-repayment of subsidies and bank loans by the beneficiaries and lack of commitment on the part of the management to recover these loans.



Co-operatives guide the community towards an organised society”.

Spreading the good word

The Project has been pro-active in extending and disseminating its work. The tools used have been information, workshops and consultations, technical demonstrations where appropriate and village-level extension.

The Project's information output includes 13 quarterly newsletters, 14 information bulletins (post harvest "overviews", technical reports and summations of Project activities), numerous extension leaflets in English and local languages, and four video films.

Lessons from the Project's information output:

- **The Newsletter**, *PHF News*, has been popular. Informal comments by fisheries decision-makers have been positive, so have written requests for the newsletter. Issue No.12 on fish marketing led to a request from the Director of Fisheries, Tamil Nadu – he asked the Project to give his staff a detailed briefing on its work with fisherwomen.

The Newsletter is suitable for top level and medium-level contacts and decision-makers. Any agency that can regularly put out an attractive pictorial newsletter should do so. But it is a skill-intensive operation, and requires the services of a professional journalist and artist, computer facilities, a bank of usable action photographs, and a quality-conscious printing press.

However, NGOs should try to put out at least a simple newsletter that periodically informs target groups about what it is doing. They should also consider as a first step a small factual brochure about their aims, activities and services.

- What about other media? Nothing can match the impact of a good video film on an invited audience of donors or busy decision-makers. A video film's appeal is multi-sensory – to head and heart, eyes and ears. If you have 10 minutes to tell a VIP audience what you are doing and why it needs support, there is no substitute for this medium. A good video film would cost anything between Rs. 1 lakh and Rs. 10 lakhs (US \$2,500 to US \$25,000) depending on the video format and the field locations to be covered.

- Slides would be less expensive, but the impact of a slide show depends entirely on its quality. Attempt a slide presentation only if you have professional quality slides.

- The Project's extension leaflets in English and other languages – about the use of ice, drying racks and smoking kilns – have been widely disseminated in the field. Such literature in local languages is essential while promoting a technology or technique among fishermen or fisherwomen. It is most effective when it follows a technical demonstration or a workshop. It is less effective as stand-alone material.

- The Project's **Information Bulletins** are found on the libraries and bookshelves of fisheries institutions. It would be safe to assume that this literature makes less of an immediate impact than the newsletter and is read less widely. But the Information Bulletins are of great interest to subject-matter specialists. They are also invaluable as reference material, and are a useful input for policy-makers, decision-makers and experts, besides serving as a record of development.

NGOs and fisheries departments too, should document all their technical work and pilot activities. These would be useful for themselves and for others. With resources for development work dwindling, projects should learn from one another.

- The Project will also soon publish the final versions of various post-harvest "Overviews" – factual and analytical summaries on the status of PHF in India, Bangladesh and Sri Lanka. (These are edited, refined and updated versions of Information Bulletins 1 to 5). These will be useful for fisheries institutions, libraries, officials, researchers and decision-makers.
- The Project has conducted scores of workshops, particularly on technical issues and credit, and numerous seminars and consultations for middle-level fisheries department and NGO staff. These have helped considerably in raising awareness on post-harvest issues.

Project Publications

NEWSLETTER:

PHF News No. 1-13 (Jan 1995-March 1998)

INFORMATION BULLETINS:

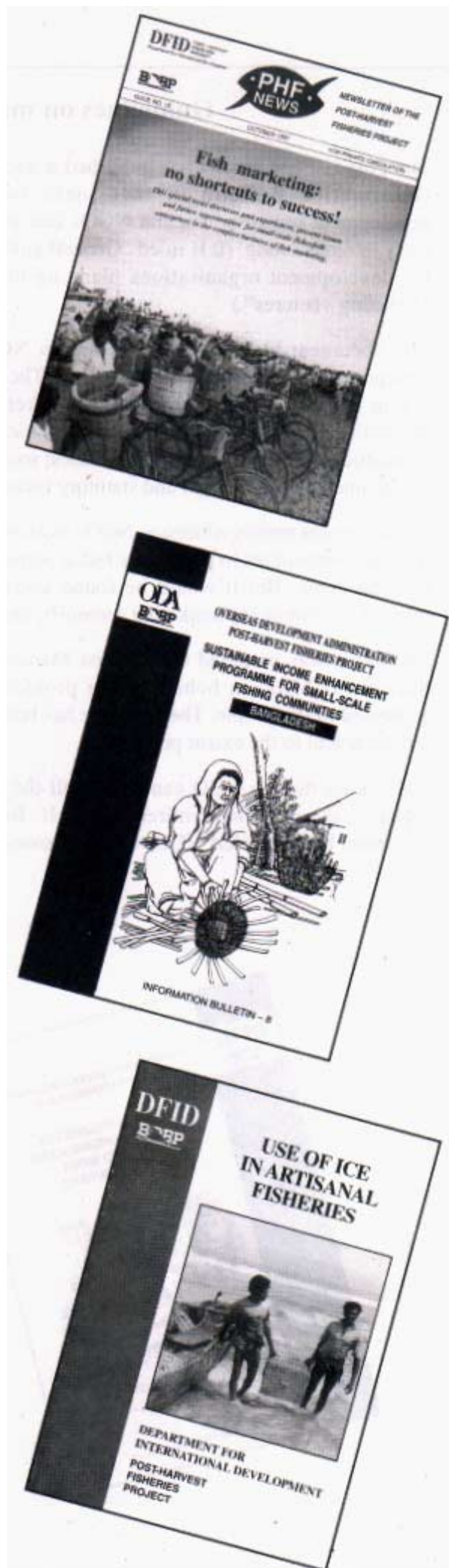
- 1 PostHarvest Fisheries Overview of the East Coast of India
6. Credit Availability for Marine Artisanal Fisherfolk: Andhra Pradesh and Orissa.
7. A Study of Marketing Practices and Channels for Traditionally Processed Fish in Andhra Pradesh and Orissa.
8. Sustainable Income Enhancement Programme for Small-scale Fishing Communities – Bangladesh.
9. General Guidelines for Development Organisations planning to enter marketing ventures.
10. Socio-economic Methodologies for Coastal Fishing Communities: The Example of Set Bagnet Communities in Bangladesh.
11. Rural Credit: An Assessment of Sources and Types Available in Bangladesh by M. Hannan.
12. Caught in Their Own Nets: A Social Study of Set Bagnet Fishing Communities in Bangladesh (in Bengali)
13. Small-scale Fish Marketing in Tamil Nadu – an Alternate Fish Container for Women Petty Fish Traders.
14. Introduction of an Improved Fish Smoking Method in Andhra Pradesh, India.
15. Cycle Fish Traders in Sri Lanka.
16. Post-Harvest Fisheries Overview, Bangladesh.
17. Post-Harvest Fisheries Overview, Sri Lanka.

VIDEO FILMS:

1. Use of Ice Aboard Fishing Boats of Andhra Pradesh.
2. Good Fish, Good Price.
3. Anchovy Drying in South India.

POST HARVEST FISHERIES LEAFLETS:

1. How to make high-quality dried anchovies.
2. A new and better fish marketing container.
3. How to use ice box on Navas.
4. Insulated fish boxes: types, specifications and usage.
5. Permanent ice box: construction specifications.
6. Improved credit system for a better quality of life.
7. Ice boxes add value to your fish catch.
8. Use of ice boxes for cycle traders.
9. Use of ice in artisanal fisheries.



Guidelines on marketing: Project publication

The Post-Harvest Project has published a document (Information Bulletin 9) that seeks to help development organisations and NGOs that plan an entry into marketing. (It is titled “General guidelines for development organisations planning to enter marketing ventures”.)

The document lists eight stages that an NGO or enterprise must follow to market a product: The stages are in sequence: what product to market; pre-feasibility; detailed market research; technical and economic appraisals; organisational issues; social and environmental issues; legal and statutory issues.

The document mainly addresses NGOs working with fishing communities in peninsular India, particularly the east coast. But it would be found useful and relevant for almost any marketing venture by an MOO.

The paper was prepared by Catalyst Management Services (CMS), on behalf of the project. It is addressed to lay people. The language has been kept non-technical to the extent possible.

CMS notes that no NGO can handle all the issues raised in the document entirely by itself. But this document hopes to alert NOOs to these issues so

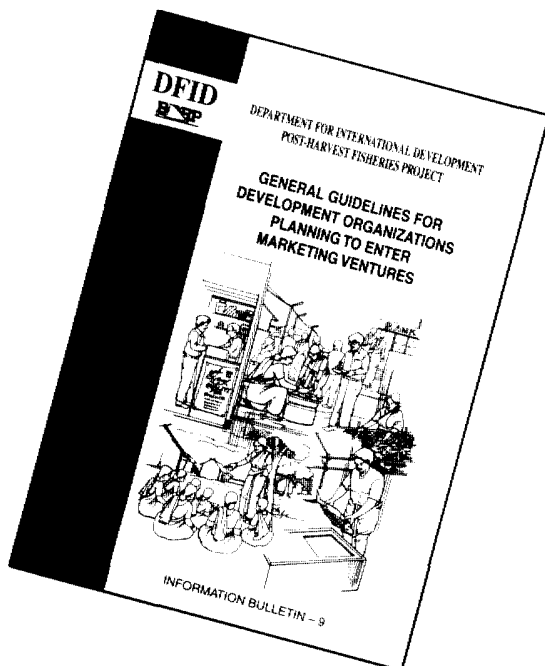
that they know the questions they MUST ask before proceeding further with their marketing venture. They may then seek external help to handle the issues and questions.

How did this publication come to be written? NGOs contacted by the project said that specific areas on which they needed advice were:

- A systematic approach to starting a commercial venture.
- Obtaining market information intelligence.
- Evaluating consumer perceptions and taste.
- Product development.
- Building a marketing organisation: structure and strategy.
- Costing and pricing.
- Legal and statutory requirements concerning marketing.
- Quality control.

The project then initiated work on preparing a document of marketing guidelines that would address these and other issues.

The document contains as annexures an indicative list of useful government publications; a sample questionnaire for a feasibility study; types of probability and non-probability samples; a format for product costing; a format for calculation of break-even volume; a format for cash flow.



Opportunities for fish marketing and handling initiatives that may benefit traditional fishing communities in India

A workshop held in Chennai, India, on March 18-19, 1997, discussed how traditional fishing communities can tap opportunities to improve their fish marketing and processing practices – or adopt new practices and initiatives – to earn higher incomes.

As preparation for the workshop, a number of studies had been carried out by various organisations in India. These related to:

- Successful fresh fish marketing by a fishermen's group from Manapad, Tamil Nadu.
- Activities of the Visakhapatnam Fisherwomen Dry Fishing Co-operative Society.
- Experience of an Orissa firm in producing and marketing value-added items in dried fish.
- Ice distribution to the artisanal fishery sector: a study of Kanyakumari, Trivandrum and Quilon districts.
- Deevara Navodaya – some observations on a radio programme for fishing communities in Sri Lanka.
- Issues and concerns on the long-term sustainability of a retail fish traders' project in Sri Lanka.

Technical papers relating to the above case-studies were presented and discussed at the workshop, which brought together 31 people from varied backgrounds – scientists, officials, NGOs, consultancy firms, international development projects. It was funded by a project managed by the UK's Natural Resources Institute (NRI).

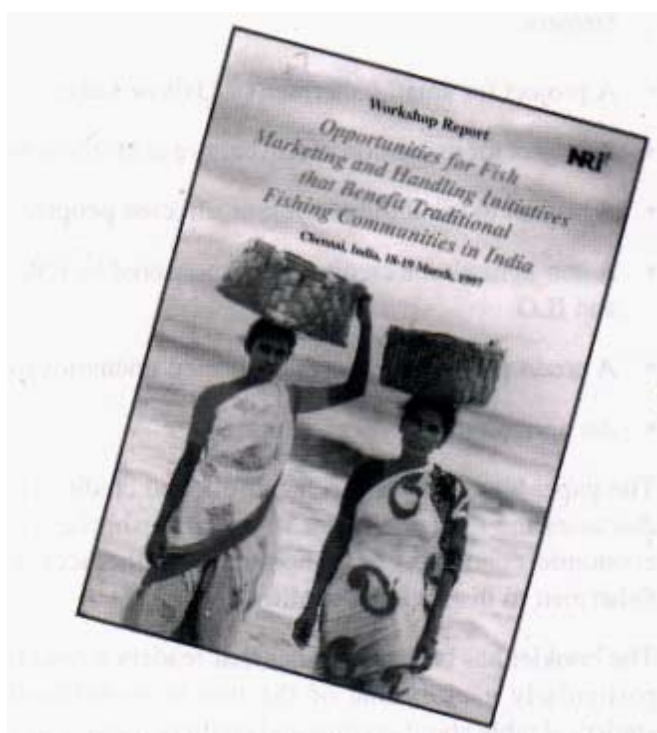
Working Groups of workshop participants then discussed three subjects:

- fish marketing issues and their implications for fishing communities in South India;
- dried fish processing and marketing on India's east coast and
- actions government organisations must take with respect to strategic policy and research issues on marketing.

The workshop highlighted a number of areas where follow-up work was required:

- Market research to determine the demand for a radio programme.
- Research on standards and certification.
- Investigation of restrictive practices in fish marketing in the northeastern states.
- Policy research, to explore impacts on the post-harvest fisheries sector.
- Need for an apex organisation for women's groups.
- Research into the feasibility of alternative mechanisms for bulking up dried fish to tradeable volumes when produced by multiple small-scale processors.
- Public events aimed at promoting fish products and networking.

A report of the workshop has been published. Copies are available with Ms Ann Gordon (Head, Marketing System, Economics & Social Sciences Department), Natural Resources Institute, Central Avenue, Chatham, University of Greenwich, Kent ME4 4TB, UK.



Rural credit in Bangladesh

A Project paper (Information Bulletin No. 11) provides a fund of information on rural credit in Bangladesh.

Based on a survey conducted by a former Assistant Director of Fisheries, the paper is titled “Rural credit: an assessment of sources and types available in Bangladesh.”

The paper describes **four** types of credit agencies: banks, government and semi-government authorities, NGOs. It discusses what activities these agencies finance, who is eligible for the loans, how much money they provide, what conditions they insist on for loans.

Banks discussed by the paper include Bangladesh Bank, Bangladesh Krishi Bank, RAKUB, Bangladesh Rural Development Board, Sonali Bank, Janata Bank, Agrani Bank, Rupali Bank and Bangladesh Samabaya Bank.

Government organisations covered are the Ministry of Youth and Sports (Department of Youth Development), the Ministry of Women Affairs (Department of Women Affairs), and the Ministry of Social Welfare (Department of Social Services).

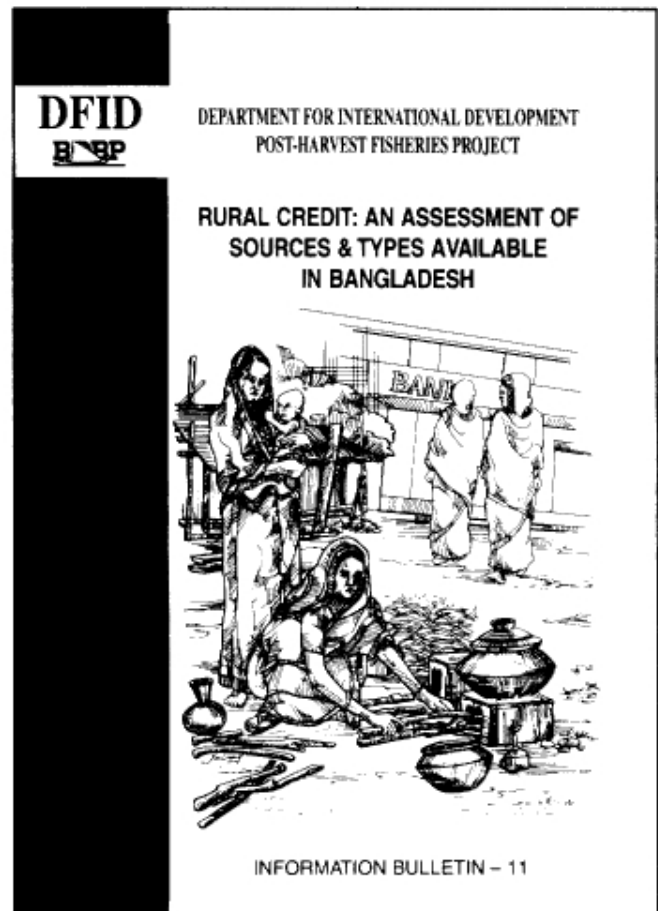
NOOs discussed are the Bangladesh Rural Advancement Committee (BRA), the Association for Social Advancement (ASA), Grameen Bank, Proshika, Community Development Centre (CODEC), and Rangpur Dinajpur Rural Service (RDRS).

The paper discusses the problems of formal credit – bank perceptions that the poor are high credit risks, as well as the latter’s perception that banks are alien institutions meant to serve the well-off.

Banks demand collateral for loans, they insist on documentation. They regard the small loans that the poor want as expensive to approve and process.

Yet, banks have managed to help the rural poor. To cite an example, the Bangladesh Krishi Bank implements as many as 15 small-scale credit projects to help self-employment among the rural poor. These include

- A rural women employment project.
- A credit programme for landless marginal farmers.
- A credit programme for women entrepreneurs, another for rural small entrepreneurs.
- A programme for “employment of distressed rural artisanal women”.
- A beef fattening project.



A poultry and livestock development project for small farmers.

- A project for small fishermen of Oxbow Lake.
- A project for expansion of fish culture at Mymensingh.
- A project to rehabilitate cyclone affected people.
- A non-agricultural credit project sponsored by ESCAP and ILO.
- A credit programme for the educated unemployed.
- An agricultural credit programme.

The paper has a chapter on fisherfolk and credit, which discusses the fisheries sector in Bangladesh, the socio-economic conditions of fishermen, and the access of fishermen to institutional credit.

The booklet has two appendices that readers would find particularly useful. One of the two is an exhaustive statistical table about savings and credit pertaining to 128 NGOs in Bangladesh. The other lists the addresses of these 128 NGOs.

FURTHER READING

- Management Guidelines-Revolving Loans Funds and Credit Programmes for Fishing Communities.* Rome, FAO (1998)
- Clucas, I.J., and Ward, A.R., (1996). *Post-Harvest Fisheries Development: A Guide to Handling, Preservation, Processing and Quality.* Natural Resources Institute, Chatham Maritime, Chatham, Kent ME4 4TB, UK.
- Bostock, T.W., Walker, D.J., and Wood, C.D., (1987). *Reduction of Losses in Cured Fish in the Tropics-Guide for Extension Workers.* Natural Resources Institute, Chatham Maritime, Chatham, Kent ME4 4TB, UK.
- Townsley, P., (1993). *A Manual on Rapid Appraisal Methods for Coastal Communities.* Published by Bay of Bengal Programme, Chennai, India.
- Samudra Dossier Women in Fisheries Series No 2 (1996). Women First Report of the Women in Fisheries. Programme of ICSF in India Volume 1. Compiled by Nayak, N., and Vijayan, V., and published by International Collective in Support of Fishworkers, Chennai, India.
- Guidelines-Women in Fishing Communities.* FAO, Rome (1998).
- Helping Fisherfolk To Help Themselves.' A Study in People's Participation.* Published by the Bay of Bengal Programme for Fisheries Development, Chennai, India (1990).
- Brown, B.E., (1997), *Integrated Coastal Management: South Asia.* Department of Marine Sciences and Coastal Management, University of Newcastle, Newcastle upon Tyne, UK.
- Code of Conduct for Responsible Fisheries.* FAO, Rome (1995).
- Panayotou, T., (1985). *Small-scale Fisheries in Asia.' Socioeconomic Analysis and Policy.* Ottawa, Ontario, IDRC.
- Johnson, SE., and Clucas, I.J., (1996). *Maintaining Fish Quality.' An Illustrated Guide.* Natural Resources Institute, Chatham Maritime, Chatham, Kent ME4 4TB, UK.
- Joachim, T., and Grady, H.M., (1991). *Participatory Rapid Appraisal For Community Development. A Training Manual Based on Experiences in the Middle East and North Africa.*
- Connell, J.J., (1980). *Control of Fish Quality.* Fishing News Books, Surrey, UK.
- Kurien, J., (1996). *Towards a New Agenda for Sustainable Small-Scale Fisheries Development.* Published by South Indian Federation of Fishermen Societies (SIFFS), Trivandrum, Kerala, India.
- Campbell, J., (1996). *Participatory and integrated Policy: A Field Guide for Policy Formulation in Small-Scale Fisheries.* Published by Integrated Marine Management Ltd, Exeter, UK.
- Appraisal of Projects in Developing Countries.' A Guide for Economists.* HMSO (1993)
- Muthu, V., Kunchitha, Padam and Bhatnagar P.S.A., (1993) *Management of Fisherfolk Microenterprises: A Manual for Training of Trainers.* Published by Bay of Bengal Programme, Chennai, India.
- Manual Project Cycle Management.* Published by Commission of the European Communities, 1993.
- Maine, R.A., Cam, B., and Davis-Case, D. *Participatory Analysis, Monitoring and Evaluation for Fishing Communities.' A Manual.* FAO Fisheries Technical paper. No 364 FAO, Rome 1996.

Copies of the Project's publications listed on page 145 can be obtained from DFID, India at the address on the inside cover.

The FAO-Bay of Bengal Programme has also produced many publications covering small-scale fisherfolk and for further information you should contact the FAO-BOBP, Post Bag 1054, Chennai, 600 018, India.

