

**B/BP**

REP/73

# Report of the 20th Meeting of the Advisory Committee



**INTEGRATED COASTAL FISHERIES MANAGEMENT**

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**REPORT OF THE TWENTIETH MEETING  
OF THE ADVISORY COMMITTEE**

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March 26-29, 1996  
Pulau Langkawi, Kedah, Malaysia

This document records the recommendations of the 20th Meeting of the Advisory Committee of the Bay of Bengal Programme for Coastal Fisheries Management (BOBP), held 26-29 March 1996, in Pulau Langkawi, Kedah, Malaysia.

The document contains the annual reports (or status reports) of the projects in the Programme. These reports briefly recapitulate the objectives and status of the activities, describe the work and achievements during 1995 and evaluate the progress that was made. Work plans for 1996, where applicable, have been indicated. The report was prepared at the end of 1995 and presented to the 20th Meeting of the Advisory Committee.

The Advisory Committee is composed of member countries, agencies funding BOBP projects, and the FAO. The Committee meets once a year in member-countries on a rotational basis.

The Bay of Bengal Programme (BOBP) is a multiagency regional fisheries programme which covers seven countries around the Bay of Bengal - Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka and Thailand. The Programme plays a catalytic and consultative role in developing coastal fisheries management in the Bay of Bengal to help improve the conditions of small-scale fisherfolk communities in member countries. The BOBP is sponsored by the Governments of Denmark, Japan, United Kingdom and the International Maritime Organization of the UN. The executing agency is the FAO (Food and Agriculture Organization of the United Nations).

**November 1996**

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## ABBREVIATIONS

ADB	=	Asian Development Bank
AGM	=	Annual General Meeting
APO	=	Associate Professional Officer
APRACA	=	Asia Pacific Rural and Agricultural Credit Association
ASFDC	=	Andaman Sea Fisheries Development Centre
BED/TED	=	Bycatch/Turtle Excluder Device
BFDA	=	Brackishwater Fish Farmers Development Agency
BOBP	=	Bay of Bengal Programme
COPDANET	=	Coastal Poor Development Action Network
DANIDA	=	Danish International Development Agency
DFARD	=	Department of Fisheries and Aquatic Resources Development
DGF	=	Directorate General of Fisheries
DOF	=	Department of Fisheries
DRDA	=	District Rural Development Agency
EIA	=	Environmental Impact Assessment
ESBN	=	Estuarine Set-Bag Net
FAO/UN	=	Food and Agriculture Organization of the United Nations
FRI	=	Fisheries Research Institute
GEF	=	Global Environment Facility
GIS	=	Geographical Information Systems
G01	=	Government of India
HACCP	=	Hazard Analysis and Critical Control Point
ICAM	=	Integrated Coastal Area Management
ICSF	=	International Collective in Support of Fishworkers
IGA	=	Income-Generating Activity
IMM	=	Integrated Marine Management
IMO	=	International Maritime Organization
IOFC	=	Indian Ocean Fisheries Commission

IRED	=	Innovations and Development Networks
<b>ITQ</b>	=	Individual Transferable Quotas
KAP	=	Knowledge, Attitude and Practice
KDFSF	=	Kanyakumari District Federation of Fishermen's Sangams
LME	=	Large Marine Ecosystem
MCS	=	Marine Conservation Society
MES	=	Madras Editorial Services
MFARD	=	Ministry of Fisheries and Aquatic Resources Development
MOFA	=	Ministry of Fisheries and Agriculture
MRS	=	Marine Research Section
NABARD	=	National Bank for Agriculture and Rural Development
NARA	=	National Aquatic Resources Agency
NGO	=	Non-Governmental Organization
NIFT	=	National Institute of Fisheries Training
NORAD	=	Norwegian Agency for International Development
NRI	=	Natural Resources Institute
ODA	=	Overseas Development Administration
PFS	=	Provincial Fisheries Service
PHFP	=	Post-Harvest Fisheries Programme
PHFRP	=	Post-Harvest Fisheries Research Programme
PIB	=	Permanent Ice Box
PMBC	=	Phuket Marine Biological Centre
PN	=	Pushnet
ROSA	=	Rural Organization for Social Work
SAMP	=	Special Area Management Plan
SEAFDEC	=	Southeast Asian Fisheries Development Centre
SEU	=	Social and Economic Unit
SIDA	=	Swedish International Development Agency
SIFFS	=	South Indian Federation of Fishermen's Sangams
SIFR	=	Strategy for International Fisheries Research

SRL	=	Sri Lanka
SWEDMAR	=	Swedish Centre for Coastal Development and Management of Aquatic Resources
TAPP	=	Technical Assistance Project Proforma
TCDC	=	Technical Co-operation Among Developing Countries
UNDP	=	United Nations Development Programme
UNHCR	=	United Nations High Commissioner for Refugees
UNICEF	=	United Nations Children's Fund
VESHI	=	Volunteers for Social Harmony and Improvement
VJNNS	=	Visakha Jilla Nava Nirmana Samiti
WID	=	Women in Development

**REPORT OF THE 20TH MEETING  
OF THE ADVISORY COMMITTEE OF THE BAY OF BENGAL PROGRAMME  
FOR COASTAL FISHERIES MANAGEMENT**

**OPENING OF THE MEETING**

1. The Advisory Committee of the Bay of Bengal Programme for Coastal Fisheries Management (BOBP) held its Twentieth Meeting from 26 to 29 March 1996, at the City Bayview Hotel, Pulau Langkawi, Kedah, Malaysia. A list of the participants is given in Appendix A.
2. The Meeting was formally inaugurated by Dato' Shahrom bin Haji Abdul Majid, Director-General of Fisheries of Malaysia.
3. The working session of the Meeting was opened on 26 March 1996 by the outgoing Chairman from Indonesia, Mr Zainuddin Siregar, Chief, Provincial Fisheries Service, North Sumatra, Republic of Indonesia.

**ELECTION OF CHAIRMAN**

4. The Advisory Committee unanimously elected Mr Lui Yean Pong, Head, Resource Management Branch, Department of Fisheries, Malaysia, as its Chairman to hold office until the beginning of its Twenty First Meeting.

**ADOPTION OF THE AGENDA**

5. The Advisory Committee adopted the Agenda shown in Appendix B. The documents placed before the Committee are listed in Appendix C.

**COASTAL FISHERIES MANAGEMENT (GCP/RAS/150/DEN & 151/JPN)**

6. The focus of the Project should be on facilitating and enabling the management of coastal resources by working with the users rather than coastal resources per se.
7. The proposed study on values, perceptions and attitudes of stakeholders should be comprehensive and include issues related to fisheries management such as coastal aquaculture, mariculture and the post-harvest system.

8. The proposed study of values, perceptions and attitudes should try to identify and document local knowledge and practices relating to management and conservation of coastal resources, as such knowledge could facilitate and give direction to the Project's efforts.
9. The proposed skill gap analysis and training needs assessment should be confined to areas relating to the management of coastal resources and should be undertaken with a view to give direction to the capacity-building functions of the Project.
10. In building the capacity of fishery and other related agencies in coastal fisheries management, given the similarity in problems and conditions, training, where feasible, should be undertaken on a sub-regional and regional basis.
11. While each of the pilot efforts is unique, there are some similarities, and the Project should make efforts to promote the sharing of learnings and skills through facilitating exchange visits of concerned national staff, using TCDC-type nationally assisted arrangements.
12. The 1996 workplans proposed for each Member Country and the region as a whole are agreed to in principle, and should be refined, modified and finalized by the Project in consultation with their counterparts prior to implementation.
13. Given the national execution thrust of the Project's activities, the workplan should clearly indicate the responsibilities of national agencies and the BOBP in implementation.
14. The decision of DANIDA to release the savings of the 2nd Phase Project (GCP/RAS/118/MUL) to supplement the 3rd Phase Project's activities, is welcome and appreciated. Such supplementary funds should be used primarily for, though not restricted to, undertaking assessments of various types and for enabling better monitoring and evaluation systems.
15. The Member Countries continue to consider the Information Service of the Project (GCP/RAS/117/MUL) an important component of the Project, given the emphasis on communications and awareness-building, and confirmed to support the effort regularly through their annual contributions.
16. Efforts need to be made to standardize methodologies of data acquisition, analysis and reporting of fisheries and fisheries related information to facilitate exchange of learnings and experience and improved management of resources of the Bay of Bengal Large Marine Ecosystem.

#### **CLEANER FISHERY HARBOURS (IMO)**

17. Given the importance of cleaner fishery harbours in order to improve fish product quality and public health, FAO and BOBP should make efforts to locate alternate sources of funding to support new and continuing efforts in the region to promote cleaner fishery harbours.



18. The Committee placed on record their appreciation of the International Maritime Organization's support of the Cleaner Fishery Harbour efforts in India, Thailand, Maldives and Sri Lanka.

#### **POST-HARVEST FISHERIES (ODA)**

19. Bangladesh emphasized the need to strengthen the existing co-operation and coordination between the activities of the Post-Harvest Fisheries Project and the Coastal Fisheries Management Project, in view of the fact that both Projects are focusing on estuarine set-bag net fisheries.

20. To ensure appropriate Government clearance of the Post-Harvest Fisheries Project, the ODA, through appropriate channels, should formally inform the Government of Bangladesh of the Project and the fund allocations.

21. Sri Lanka requested that the Itinerant Fish Trader Project's activities be expanded to cover the whole market chain, by addressing the post-harvest needs and concerns at fish landing centres and fish marketing outlets.

22. While the main project of BOBP facilitates coordination and communication between Governments and agencies working under the BOBP umbrella, there is a need for each agency to also have regular contact with Governments to ensure that they are kept adequately informed.

#### **SIFR PROPOSAL ON FISHERIES INFORMATION FOR BOBP REGION**

23. Acknowledging the importance of timely information to facilitate and enable fisheries development and management, all the Member Countries emphasized the need to improve and strengthen fisheries information systems at national and regional levels.

24. The SIFR proposal needs to be carefully thought through for possible modification, keeping in mind the particular information needs of policy makers, fishery managers and other stakeholders and the sustainability of information systems beyond the project period.

25. Further, there is a need, in considering the institutional framework of the project and the modalities of information collection, analysis and dissemination, to avoid duplicating the efforts of existing regional fishery bodies and national systems.

#### **ITQ APPROACHES TO FISHERIES MANAGEMENT**

26. All Member Countries are interested in learning more about ITQ Approaches to Fisheries Management in order to consider whether such approaches may have utility for selected fisheries in the region.

## **LEARNINGS FROM BOBP SECOND PHASE**

27. In reviewing the project findings and recommendations of the Small-Scale Fisherfolk Communities in the Bay of Bengal Project (GCP/RAS/118/MUL), Member Countries recommended that the learnings from the 2nd Phase of BOBP be given consideration in the implementation of BOBP's third phase programme.

## **GEF PROPOSAL**

28. All Member Countries strongly endorsed the project proposal for Sustainable Environmental Management of the Bay of Bengal Large Marine Ecosystem being submitted to the Global Environmental Facility. They requested BOBP to continue regional coordination of the effort.

29. Delegations of all Member Countries informed the Committee that their Governments were considering the proposal favourably. Ministries overseeing fisheries and environment, and acting as nodal points for GEF-related issues, are expected to convey their endorsement of the proposal to GEF shortly.

## **OTHER MATTERS**

30. The ODA informed the Committee that the 3rd Phase of the Post-Harvest Fisheries Project will come to an end in March 1998 and there is a need for the Committee to reflect on post-harvest fisheries needs of the region and consider ways of addressing them after the project ends.

31. The FAO informed the Committee that the main project of the BOBP (GCP/RAS/150/DEN and 151/JPN) will have a Mid-Term Evaluation early in 1997. The 6 -8 weeks Mission will consist of 3 persons nominated by the Government of Japan, DANIDA and FAO, respectively. Given the importance of the activity there is a need for the BOBP and the Member Countries to start preparations for the Evaluation.

32. The FAO informed the Committee that the Government of Netherlands had offered the services of two Associate Professional Officers (APOs), to be posted to the BOBP, one focusing on resource economics and the other on geographical information systems. The Indian delegation offered to respond expeditiously to the matter of clearing the postings.

33. All Member Countries emphasized that there was a need to reflect on what could and should happen beyond the year 1999 when the present Phase of BOBP would end. There was a suggestion that the Member Countries could consider evolving the Project into an inter-governmental agency to continue the work of the BOBP and act as the implementation arm of the IOFC's BOBC. The BOBP was requested to present a discussion paper on the issue for the consideration of the Committee at its 21st Meeting, next year.

34. All Member Countries reiterated their interest in the BOBC Subgroup's findings and recommendations and expressed their commitment to progress in the matter. The BOBP

and BOBC Secretariat will actively pursue the possibility of attracting donor support to facilitate the implementation of the recommended projects.

35. The Committee reflected on a suggestion made by the Director General of Fisheries of Malaysia in his opening address, wherein he had suggested that while BOBP has always concentrated its efforts on small-scale artisanal fisherfolk, the “BOBP should now consider promoting commercial fishing with the advent of modernization and better fishing technology”. While the Project Document, given the interactive nature of fisheries in the region, allows BOBP to work with any fishery provided the ultimate benefit reaches the small-scale artisanal fishers, the Committee felt that addressing the needs of a commercial fishery outside of such a context would perhaps only be possible if the Programme is able to attract additional funding.

36. It was noted that BOBP could collaborate with other regional agencies, particularly INFOFISH and SEAFDEC, in the areas of fishery information and programme development, in order to enhance effectiveness and to avoid duplication of efforts.

#### **NEXT MEETING**

37. The Committee gratefully acknowledged the invitation of the Government of India to host the 21st Meeting of the Advisory Committee in conjunction with the 10th Session of the IOFC/BOBC in New Delhi, subject to government clearance.

#### **ADOPTION OF REPORT**

38. The report was adopted on 29 March 1996.

## Appendix A

### LIST OF PARTICIPANTS

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Resource Management Branch  
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***Maldives***

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Director General of Fisheries (R & D)  
Ministry of Fisheries and Agriculture  
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***Observers***

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Steve Corbett

Partner  
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Colombo

H V C Fernando

Deputy Director  
Department of Fisheries and Aquatic Resources  
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***SEAFDEC***

Damrong Silpachai

Policy & Planning Coordinator  
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***Thailand***

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I Clucas

Snr. Fish Technologist,  
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***Secretariat (BOBP)***

Kee-Chai CHONG  
R N Roy  
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S Scurville (Ms)

Programme Coordinator  
Communications Adviser  
ODA/Post Harvest Fisheries Adviser  
Snr Admin Assistant

## **Appendix B**

### **AGENDA**

#### **TUESDAY, 26 March 1996**

1. Opening of the Meeting
2. Election of Chairman
3. Adoption of Agenda
4. State of the Programme
5. Annual Report 1995 - Coastal Fisheries Management (BOBP)
  - a. Progress during 1995
  - b. Workplans for 1996
6. Annual Report 1995 - Post-Harvest Fisheries (ODA-UK)
7. Annual Report 1995 - Cleaner Fishery Harbours (IMO/BOBP)

#### **WEDNESDAY, 27 March 1996**

8. Discussion on Selected, Themes in Fisheries & Aquaculture Management
  - a. SIFR Proposal on Fisheries Information for BOBP Region
  - b. ITQ Approaches to Fisheries Management
  - c. Learnings from BOBP Second Phase
  - d. GEF Proposal
9. Other Matters
10. Next Meeting

#### **THURSDAY, 28 March 1996**

11. Field Trip to Pulan Payar Marine Park (fish sanctuary)

#### **FRIDAY, 29 March 1996**

12. Adoption of the Report

## Appendix C

### LIST OF DOCUMENTS

1. Provisional Agenda
2. List of documents
3. List of participants (Provisional)
4. State of the Programme
5. Annual Report 1995 and Workplan 1996 (Coastal Fisheries Management)
6. Annual Report 1995 and Workplan 1996 (Post Harvest Fisheries)
7. Annual Report 1995 and Workplan 1996 (Cleaner Fishery Harbour)
- 8a. SIFR Project Proposal on Fisheries Information Systems
- 8b. The Quota Management System of Property Rights for Fisheries Through Individual Transferable Quotas By Bruce Shallard
- 8c. GEF Proposal



## **Appendix B**

### **AGENDA**

#### **TUESDAY, 26 March 1996**

1. Opening of the Meeting
2. Election of Chairman
3. Adoption of Agenda
4. State of the Programme
5. Annual Report 1995 - Coastal Fisheries Management (BOBP)
  - a. Progress during 1995
  - b. Workplans for 1996
6. Annual Report 1995 - Post-Harvest Fisheries (ODA-UK)
7. Annual Report 1995 - Cleaner Fishery Harbours (IMO/BOBP)

#### **WEDNESDAY, 27 March 1996**

8. Discussion on Selected Themes in Fisheries & Aquaculture Management
  - a. SIFR Proposal on Fisheries Information for BOBP Region
  - b. ITQ Approaches to Fisheries Management
  - c. Learnings from BOBP Second Phase
  - d. GEF Proposal
9. Other Matters
10. Next Meeting

#### **THURSDAY, 28 March 1996**

11. Field Trip to Pulan Payar Marine Park (fish sanctuary)

#### **FRIDAY, 29 March 1996**

12. Adoption of the Report

## Appendix D

### STATE OF THE PROGRAMME 1995

#### *GENERAL*

01. 1995 has been an interesting and challenging year for both the member countries and BOBP. The 8-month transition between the termination of the BOBP's second phase project on Small-scale Fisherfolk Communities (GCP/RAS/118/MUL) and the start of the main new Third Phase project on (Integrated) Coastal Fisheries Management in the Bay of Bengal (GCP/RAS/150/DEN and 151/JPN) has provided the BOBP family of member countries time to pause and think through 15 years of BOBP presence in the region. Member countries have been anxious and eager for BOBP to start its regional activities again.

02. The Third Phase BOBP is considerably reduced in size not only in staff number and funding support but is expected to do more with less. This reduction in staff and funding should be kept in mind in the design and implementation of activities in the member countries. However, with greater stakeholders' awareness on the need for and benefits and methods of fisheries management, especially by actively bringing in and involving fishermen and other stakeholders into the management process, greater efficiency and cost-effectiveness can be achieved.

03. The tasks ahead are not entirely new, only more complex. With hindsight and lessons learned over the last few decades, not only are management concepts more clearly defined or clarified but also more focussed or directed. Witness the improved vocabulary or **language** used to articulate old issues, problems, concepts and solution options.

04. Past fisheries management initiatives had not worked out nor had the desired or expected impact due to the piecemeal or ad-hoc nature of the efforts. Successful fisheries management calls for closer coordination, co-operation and commitment among all the concerned parties.

05. Even though the Third Phase became officially operational in May 1994, the international staff-came on board only in December 1994. In effect, 1995 was operationally the first year of the Third Phase.

06. So far, member countries have completed the situation analyses of their respective fisheries in order to prioritise fisheries issues, problems and constraints -- the resolution of which can go a long way towards improving the living conditions and quality of life of the communities which the member countries seek to address under the Third Phase of BOBP.

07. The BOBP/ODA Post-Harvest Fisheries Project in India, Bangladesh and Sri Lanka continued its momentum into the third year of its third five-year phase which is expected to run till 1997.

08. The BOBP/IMO Cleaner Fishery Harbour Project in the Maldives and Sri Lanka saw further progress and is expected to be completed during 1996.

09. Unlike previous phases, the Third Phase relies on national execution of Programme activities, with a catalytic and enabling role from BOBP. Because of the new and innovative thrust on national execution, member countries are expected to play a leading role in spearheading Programme activities in laying the foundation for Third Phase activities.

10. The foundation (and/or preparatory work to lay the foundation) to implement Third Phase activities is either already present or have been well laid out. The member countries are in various stages of “preparedness”, some more so than the others. The latter can be traced to available budgets at the national level and tedious administrative procedures to secure them. But all are anxious to start or self-start as the report on the progress, status and indicative workplans will reveal below.

### ***OVERVIEW AND REVIEW OF PROJECT***

11. As spelled out in the Project Document (Prodoc), the Project is intended to address the problems of stagnating and decreasing fish catches and corresponding low fishing household incomes, lack of basic infrastructures, amenities and social services as well as threats of environmental degradation.

12. The ultimate objective is to achieve sustainable development in coastal communities, through an integrated coastal area development approach with the following inputs: conservation of fisheries resources, economic diversification, provision of infrastructures and social services and environmental protection.

13. However, the main BOBP project thrust is the containment and regulation of fishing capacity and fishing effort through entry restrictions employing licensing and registration, as well as other fisheries management measures and practices. The latter comprise of both old and new innovative approaches.

14. Old approaches may not necessarily be bad just because they have not had the expected impact. One can still benefit from old management practices, but one should avoid mistake(s) made earlier. The old management practices, combined with new methods, can go a long way toward the desired outcome and impact.

15. The Project’s immediate objective is to increase awareness and knowledge of the need, benefits, practices and methods of fisheries management. This objective is to be achieved by:

- a) multi-media and multi-stage campaigns aimed at target groups of beneficiaries at different levels from policy-makers to fishermen and other stakeholders in increasing their awareness and knowledge on the need for, benefits of and methods of fisheries management
- b) national and regional seminars and workshops on fisheries management strategies, methods and practices for national staff, fishermen and other stakeholders
- c) advisory services on specific management issues
- d) consultation and exchange of information and experiences in Project implementation

16. The Project is simple and straightforward. It innovatively provides for national execution. Under this national execution mechanism, all activities are implemented through national institutions in the respective member countries responsible for fisheries management.

17. Such activities are to be closely coordinated with and supplementary to other ongoing national efforts since the activities are an integral part of the respective national fisheries plans. The national staff assigned by the member governments are the main inputs to the Project including necessary government budgetary allocations. BOBP's role is only as facilitator and catalyst.

#### *COASTAL FISHERIES MANAGEMENT IN THE BAY OF BENGAL*

18. Although it is easy to articulate, clarify and understand what fisheries management is, it still frequently means different things to different people. One can start understanding the need for, benefit of, practical approaches to and methods and practices of fisheries management by defining what overfishing is.

19. An ideal definition of overfishing provides for a threshold that should not be crossed or exceeded, rather than a target. It should be based on sound theory, operationally unambiguous, and at least neutrally conservative in protecting against recruitment overfishing. The definition must be quantifiable and linked to management action as well as biologically sensible with no obvious improvement to the pre-determined criteria or threshold evident.

20. Integrated coastal area management, however is a more complex and complicated task requiring not only multidisciplinary inputs but also total commitments. Its widespread practice needs to be stepped up to ensure environmental and resource sustainability and integrity.

21. Next, to cultivate the habit of and institutionalise fisheries management, it is essential to reward such habits and attitudes. Fishermen and the other stakeholders will manage their fisheries or resources if they see the benefits of doing so.

22. The low literacy level of fisherfolk, our target clientele, inhibits them from obtaining the necessary information to better their lives. The mission of BOBP is thus how to put more information into their hands, to build awareness and educate them and evolve an environment where the learning can be put to use. This in a nutshell is the fundamental basis of our work in the Third Phase. Like many others, fishermen will willingly participate in the management process if they know the why, what and how of management. That is to say, "We Know, therefore We Participate".

23. Has the Programme lived up to its mandate, mission and vision in 1995, especially in terms of the objectives and delivery of outputs: activities agreed to in our workplan for 1995: BOBP (regional) and individual country (national)?

The answer is a qualified yes.

24. In four to five years' time, that is, by the year 1999/2000, the following outcomes

and impact would have been achieved in the pilot areas designated by the member countries for joint country/ BOBP activities:

**AA. Integrated management of Pulau Payar Marine Park in Malaysia**

25. An excellent beginning on sustainable multi-resource use and livelihood security for rural communities dependent on Pulau Payar coastal resources initiated through a fully operational Special Area Management Plan or SAMP under an integrated coastal area management or ICAM institutional framework. Management awareness inputs have targeted area fishermen, stakeholders as well as government and non-government officers through multi-media and multi-stage information channels, a community learning centre, travelling roadshows and seminars under the guidance and direction of Tier I and II Committees.

**BB. Model fishing village for Tapanuli Bay fisheries in Indonesia**

26. Improved levels of awareness and confidence in government and community intervention and participation in integrated coastal resource management and conservation stewardship. Existing fisheries management plan amended and consensus-building mechanism developed to provide for closer coordination and consultation among stakeholders to resolve competitive or conflicting multi-resource use problems between and among small-scale and medium-scale fishermen, anchovy fishermen and cage culture fishermen/operators over shared waters and resources. Fishing zones demarcation for different activities reviewed and modified to suit the present resource situation and condition in terms of level of exploitation and development.

**CC. Phang-Nga Bay model community-based fisheries management system in Thailand**

27. Existing Thai fisheries management laws, regulations and rules amended to accommodate and provide for greater community participation and responsibility in managing growing scarcity of fisheries resources in Thai waters. Similarly, a good start on sharing of fisheries management authority is in place in the Bay between the government and local resource users and stakeholders. The Phang-Nga Bay model for community-based fisheries management system is introduced to other Thai waters. Savings from enforcement costs through reducing the fleet size or the number of patrol boats and staff are used for other more productive activities within the fisheries sector. The Department of Fisheries, in close consultation with the fishermen, established criteria and means to guide the fishermen in managing their resources. A useful illustration and valuable experience is the curb on trawling in inshore waters and gear diversification of the trawler fleet such as switching to gillnet, baby trawl equipped with BED/TED and larger codend mesh size; and gradual phasing out of pushnets.

**DD. Estuarine set bag net and push net fisheries in Bangladesh**

28. Demonstrate the feasibility of alternate fisheries and non-fisheries options to the existing use of estuarine set bag and push nets such as gillnets. This is because of the awareness-building and public education campaign targeted not only at the estuarine set bag net fishermen but also at net manufacturers to convince them that the gear is detrimental

to the long-term sustainability of the fisheries resources as well as their own livelihood security. Learnings about participatory mechanisms of management enhanced among fishermen and other stakeholders.

#### **EE. Integrated reef resources management in the Maldives**

29. Sustainable exploitation, development and management of the island-nation's reefs and fisheries resources are now governed by a flexible and adaptive fully-operational integrated reef resources management plan. The fishermen and stakeholders are directly involved in the management process, sharing full responsibility for the health and sustainable production of the reefs. Compatible inter- and cross-sectoral multiple use of reef resources achieved. Marine resources development is now the engine driving the growth of the national economy. The experience from the joint Maldives/BOBP work in the four atolls will be used to initiate efforts in the other atolls in the country.

#### **FF. Coastal fisheries and aquaculture management in India**

30. The existing trawler fishing fleet on the east coast is increasingly retrofitted with alternative fishing gear such as gill nets and long lines. They are now fishing outside the 50-metre depth. Those fishing offshore are also equipped with BED/TED.

31. Aquaculture in the coastal zone of India's east coast, dominated as it were by shrimp aquaculture, has evolved a system of production based on well-managed, low-conflict, low-impact and low-chemical/nutrient input technology which is not only sustainable but also meets the stringent HACCP requirements of the importing country for wholesome products in terms of heavy metal, toxic or organic waste contamination.

#### **GG. Managing ornamental fish fisheries in Sri Lanka**

32. The structure, conduct and performance of the ornamental fish industry in Sri Lanka strengthened by a) improving the availability of information on market prices b) increasing export opportunities c) determining the species allowed for export and those on the endangered list d) making available the ICLARM fish base on CD-ROM and waterproof species identification guides e) making available safety-first training guides for divers and other industry-support services such as formulations for ornamental fish feed and packaging for export.

#### *IMPLEMENTATION CONSTRAINTS*

33. It should be pointed out here that a combination of unique administrative procedures and Project start-up problems, such as full-time counterpart staff commitment, and in a couple of cases political uncertainty, have delayed timely achievements and progress of the Project. Overall, in 7 member countries, about 80 % of the member country activities for 1995 have been successfully implemented.

34. Awareness-building of the need for, benefits of and methods and practices of fisheries management, being the main mandate of the Project, took priority and all efforts were

geared not only toward fishermen but also toward policy-makers and field personnel at government and non-government levels, and included *inter alia*:

- a) Workshop on Fisheries Management and Development in Bangladesh
- b) Workshop on Community-Based Fisheries Management in Thailand
- c) Training Workshop on Stakeholder Analysis in Bangladesh
- d) Training Workshop on Stakeholder Analysis in Indonesia

#### ***INFORMATION SERVICES (GCP/RAS/117/MUL)***

35. The member countries have continued to support BOBP's Information Services (GCP/RAS/117/MUL) through cash contribution of US\$90,000 a year. The Information Services, formally attached to the main Project (GCP/RAS/150/DEN and 151/JPN), were contracted out to a firm to cut costs while benefiting from the collective services that the firm provides which includes library, information and editorial services.

36. With the Third Phase's main thrust on awareness-building and education, the role and contribution of the Information Services within BOBP and member institutions is crucial.

#### ***ADDITIONAL SUPPORT***

37. The 19<sup>th</sup> Meeting of the BOBP's Advisory Committee, realising that the task the Programme was expected to undertake would be complex and difficult with the relatively low level of funding, recommended that BOBP seek additional donor support. New Zealand has shown interest in supporting an initiative to introduce and familiarise member country institutions and others in the region with their experience concerning quota management approaches to fisheries management.

38. Similarly, the Global Environment Facility is looking into the possibility of collaborating with BOBP on its International Waters/Biodiversity programme under its incremental funding mechanism. BOBP has submitted a regional proposal to GEF on "Sustainable Environmental Management of the Bay of Bengal Large Marine Ecosystem (LME)".

39. As the Third Phase is implemented, more and more like-minded donors and agencies will be approached to explore cost-sharing activities and leverage BOBP's financial resources to benefit not only BOBP member countries but the region as well.

#### ***OTHER BOBP ACTIVITIES***

40. The Swedish International Development Agency (SIDA) contracted SWEDMAR to undertake a review of BOBP with the purpose of evaluating the impact of Swedish contribution to BOBP over the last 15 years. The report is awaited.

41. BOBP also organised a children's art competition in selected fishing communities in Tamil Nadu, Andhra Pradesh and Orissa on the theme "Care for the Seas and the Seas Will Care for Us".

42. BOBP in cooperation with the local missions of UNICEF and UNHCR organised the 50<sup>th</sup> UN Anniversary Celebration with a public forum, exhibition of posters and photographs, including light entertainment, presented by the Madras Musical Association at the Alliance Francaise, Madras, India.

#### *POST-HARVEST FISHERIES PROJECT*

43. The second largest project under BOBP umbrella deals with post-harvest fisheries and is executed by the Natural Resources Institute (NRI) of the United Kingdom (UK) supported by the Overseas Development Administration (ODA) of UK at a level of US\$2.25 million over a five year period (1993-1997). The project activities are restricted to Bangladesh, India and Sri Lanka with a view to enhance incomes of artisanal fishing communities and petty fish traders, to increase the diversity of fish products marketed by these communities and to strengthen the ability of NGOs to replicate and secure sustainable benefits from project activities.

44. With the overall thrust of BOBP in enabling and facilitating fisheries management, post-harvest fisheries activities take on growing importance by showing the way to adding value to raw materials. Such post-harvest activities will help fisherfolk to earn more incomes. While the main Project and the post-harvest fisheries project aim to generate synergy by working together, as the Advisory Committee pointed out during the last AC Meeting, there is a need to further identify operational mechanisms by which post-harvest inputs can be made available to member countries who are not involved in the BOBP/ODA project ambit.

#### *CLEANER FISHERY HARBOUR PROJECT*

45. Awareness-building to promote cleaner fishery harbours in the Maldives and Sri Lanka is the last of a series of pilot activities supported by the International Maritime Organisation (IMO) in the Bay of Bengal region, with a budget of US\$90,000. Awareness campaign materials have been developed in both countries and will be put into use during 1996, the last year of the project.

46. Given the demand for similar activities, particularly from the governments of Bangladesh and Indonesia and IMO's inability to continue support beyond the present activities, BOBP looked into other sources of support. A proposal for an activity in Bangladesh has been submitted to the World Bank and discussions are in progress with the regional IMO/UNDP project on the Prevention and Management of Marine Pollution in East Asian Seas for possible cooperation.

47. While the discussions show promise, it is still too early to be certain whether these initiatives would lead to actual activities. Given the increasing emphasis of importing countries on the wholesome quality of seafood imported and on the environmental conditions in which or where seafood is captured, cultured, landed, handled and stored, there is clearly a definite need to support quality assurance efforts of member countries. Promoting and facilitating cleaner fishery harbours will play an important role.



48. It is encouraging that the IMO has made available a grant of US\$50,000 to share the learnings of the Cleaner Fishery Harbour project through the preparation of a manual which will be undertaken during 1996.

**CONCLUDING**      REMARKS

49. As with any project, the ultimate success of the project depends on the commitments and active participation of our colleagues in the member countries.

50. Integrated Coastal Fisheries Management (GCP/RAS/150/DEN and 151/JPN), supported by the Governments of Denmark and Japan, is a five year activity with a total budget of US\$3 million or US\$600,000 a year. With the agreement of member countries on the problems prioritised in their respective situation analyses, BOBP set about close consultation and preparatory activities. The preparatory activities which included but were not necessarily limited to the following activities — identification of stakeholders, stakeholder analysis, stakeholder perception and attitudes, and communication systems — have led to improved understanding of the problems and needs of the target beneficiaries.

51. BOBP's year-long activities during 1995 with member institutions and staff produced detailed workplans and implementation modalities and strategies, indicative budgetary outlays for 1996 and to a small degree for the remaining period of the Project.

52. Lastly, it is to the credit of the member countries that in spite of human power and budget limitations, Project activities were implemented by member institutions with little or no assistance from BOBP, implying that member countries are committed to national execution.

53. BOBP can provide the mechanism and forum through which well-balanced discussion, including debate on regional interests consistent with national priorities, can take place among member countries.

## Appendix E

### COASTAL FISHERIES MANAGEMENT IN THE BAY OF BENGAL (GCP/RAS/150/DEN & 151/ JPN) INFORMATION SERVICE (GCP/RAS/117/MUL)

#### Annual Report 1995 and Workplan 1996

#### *INTRODUCTION*

01. This report briefly describes the inception and initiation of activities of the Bay of Bengal Programme (BOBP) core project "Coastal Fisheries Management in the Bay of Bengal" to better manage their coastal fisheries and coastal aquaculture; and the activities of the Information Service during 1995.

#### *COASTAL FISHERIES MANAGEMENT IN THE BAY OF BENGAL (GCP/RAS/150/DEN AND GCP/RAS/151/JPN)*

02. The new Third Phase set about brainstorming and formulating mechanisms to bring about greater consultative and participatory management of fisheries and coastal resources. Its efforts were based on the results of workshop discussions held in Rome on the implementation strategy of the Third Phase; a workshop held in Madras on the Situation Analysis completed for each country; extensive site visits; consultations with government planners, policy-makers, and fisheries officers dealing with management, enforcement and extension.

03. The discussions explored ways and means on how to bring in and actively involve fishermen and other stakeholders into the management processes of coastal fisheries and coastal aquaculture. While awareness-building and education on the need for, benefits of and methods and practices of fisheries management is a beginning, the introduction, implementation and practice of more consultative and participatory fisheries management is a long-term process and investment.

04. Although the primary mandate of the member governments is to intervene in the fisheries sector, BOBP and its member countries cannot limit their work to the fisheries sector alone. They need to work in all relevant sectors which impact on the socio-cultural-economic development of the fishing communities. BOBP can help to coordinate with the other sector agencies to bring about more integrated management of the coastal resources. By doing so, it can enlarge and expand the fishing communities' opportunities and options for improving their livelihood security and thus their standards of living and quality of life.

05. Given the increasing similarities of the issues and problems as well as opportunities faced by the fisheries sectors in the member countries and the region, the BOBP in close consultation with the member-countries has drawn up a comprehensive programme of work which not only addresses national concerns but at the same time tackles the growing

regional competition in multi-use of shared resources. Along this line, efforts have been made to facilitate sharing experiences and learnings between and among the countries.

06. A regional comparative survey and study of the “Values, Perceptions and Attitudes of Fishermen and Other Stakeholders Towards Fishing, Fisheries Management and Resource Sustainability” is being planned for 1996. The results of this regional comparative survey will guide member governments on the content and types of awareness-building and education campaign materials to be produced to influence and bring about desired changes in the fishermen and stakeholders’ behaviour as producers and consumers. Such producer and consumer behavioural changes will hopefully result in more responsible development, management and production of natural resources to benefit the respective national economy and the country as a whole.

07. Similarly, a regional workshop on the “Precautionary Approach to Fisheries Management” is also scheduled for 1996. Other initiatives are also being actively looked into: such as a regional workshop on “Low Input Sustainable Aquaculture - LISA”.

08. Community learning centres and travelling roadshows and seminars are excellent means to bring Third Phase messages and ideas to the target end-users and beneficiaries. Putting practical and usable information in the hands of the end-users will be a major thrust of BOBP’s Third Phase activities. Awareness and educational programmes materials can be designed by the community learning centres equipped with simple inexpensive multi-media kits.

09. An example of how the community learning centre can be utilised is provided by the annual exercise in some countries of renewing fishing licences and fishing boat registration. Such an exercise can be profitably combined with a fishermen field day where relevant and cost-effective messages can be put across through exhibitions and displays of products and services, including slide and video shows on responsible fishing, etc.

10. The annual reports for 1995 and the proposed workplans for 1996, by country and project, are detailed below for the consideration and approval of the Advisory Committee.

### ***Bangladesh***

11. Obiectives: Enable and facilitate improved management of the estuarine set-bag net and push net fisheries in the coastal areas of Bangladesh.

12. Status 1994: The Department of Fisheries’ Marine Wing undertook a situation analysis of coastal fisheries of Bangladesh to identify and prioritize problems and to propose possible areas of cooperation between BOBP and the Government of Bangladesh during the Third Phase. The Situation Analysis was discussed at a regional meeting in Madras, and proposed that the Government of Bangladesh improve the management of the estuarine set-bag net (ESBN) and push net (PN) fisheries with the assistance of BOBP. The recommendations of the Workshop were submitted to the Advisory Committee of BOBP for its consideration at the last Advisory Committee Meeting held in Jakarta.

13. The ESNB is a traditional fishery which provides livelihood to a large population, most of whom live below the poverty line and have few alternate sources of income. The fisheries provides a sizeable proportion of the marine and brackishwater capture fisheries production and, more importantly, provides animal protein to the rural poor. Studies undertaken by BOBP during the second phase clearly showed that the ESNB fisheries, which interacts with at least seven major fisheries, is an extremely destructive fishery, which could lead to growth and recruitment overfishing of several important marine and brackishwater species.

14. The PN fisheries is of more recent origin, having evolved to provide *Penaeus Monodon* fingerlings to Bangladesh's rapidly developing coastal aquaculture sector. The fisheries provides seasonal income to a large number of rural poor, most of whom are women and children. The fisheries is extremely destructive, because over 90% of its catch consists of by-catch, which is destroyed. The Government of Bangladesh would like to consider participatory approaches to improving the management of these two fisheries, which would conserve and protect the fisheries resources of the country and develop means to improve the quality of life of those dependent on these fisheries.

15. Progress 1995: BOBP staff undertook site visits to Bangladesh to visit the coastal areas, hold discussions with government counterparts and meet selected stakeholders of the ESNB and PN fisheries. The Government of Bangladesh has designated the Department of Fisheries' Marine Wing as the agency responsible for implementing BOBP activities and working in collaboration with the Fisheries Research Institute, which would provide research support. The staff of the Marine Wing of the DOF and the Marine Survey, Management and Development Project of the DOF were specifically designated to implement the activities.

16. Simultaneously, the DOF began preparing the Technical Assistance Plan Proforma to seek clearance for the Project and ensure staff and fund allocations to support national execution. A five-year Technical Assistance Plan Proforma (TAPP) was developed and has been submitted to the Ministry of Fisheries and Livestock, Planning Commission and the External Resources Division of the Ministry of Finance for clearance. In anticipation of the clearance, the Ministry of Fisheries and Livestock made a budget allocation of Taka 300,000 to support the preparatory activities during 1995.

17. Thirty-five (35) staff of the DOF and FRI were given orientation on the BOBP activity, focusing on the participatory nature of the exercise. They were trained to undertake stakeholder identification, stakeholder analysis and stakeholder perception and communication analysis. The staff then designed, planned and undertook field work in six sample areas representative of the ESNB and PN fisheries, over a two-month period, and presented their findings at a workshop in Chittagong.

18. The DOF/FRI staff identified the problems, prioritized them, analyzed them and in the context of the stakeholder studies developed activities which could address the problems and pave the way to improved management. The recommendations of the staff were then discussed with senior staff of the DOF and the Ministry of Fisheries and Livestock, and a 1996 workplan as detailed below was agreed to in principle, subject to approval of the TAPP. The Ministry and the Department agreed to the initiation of project activities in anticipation of TAPP clearance. The Department of Fisheries and the Ministry of

Fisheries and Livestock also agreed to the implementation modalities and to allocate the necessary budgets to facilitate national execution of the Project.

19. Given the focus on building awareness of the need for, benefits of and methods of fisheries management, BOBP joined forces with the FAO and Overseas Development Administration of United Kingdom to support the Government of Bangladesh initiative to hold a National Workshop on Fisheries Resources Development and Management. The Workshop brought together policy-makers, planners, administrators, fishery professionals, fisher-folk and fishery industry representatives, technical assistance agencies, NGOs and donors to discuss the status of the fisheries sector of Bangladesh and to give direction to its future.

20. The recommendations of the Workshop reflected the commitment of the sector to management and gave valuable guidelines to pave the way to a sustainable future. The workshop proceedings will be published for wider dissemination of its guidelines.

#### Indicative Workplan for 1996

##### SECTOR: ESTUARINE SET BAGNET FISHERIES

- Goals:
- a. to reduce the destructive impact of ESNB fisheries on fisheries resources
  - b. to attract ESNB fisherfolk out of the sector to reduce fishing effort

Awareness Building and Stakeholder Consultations - Awareness-Building and Consultations with Stakeholders on:  
- status of fishery, impacts of fishing, need for management, methods of management

- need for, benefits of and methods for seasonal reductions of ESNB fisheries in selected locations
- alternative fishery and non-fishery income sources for ESNB fishers

Studies/Research - identification and documentation of seasons and locations to recommend seasonal closures of ESNB fisheries  
- set up study on identification of alternate non-fisheries income options, including opportunity analysis, economic and social feasibility studies, and development of promotion strategy

Technical Assistance - initiate identification and promote alternate fishery income options for ESNB fisherfolk through development of TCP proposal for submission to FAO on exploratory fishing, economic and technical feasibility study identification of options, development of promotion strategy and extension  
- planning and initiation of pilot activity on seasonal closures of ESNB fisheries in selected locations

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## SECTOR: PUSH NET FISHERY

- Goals:
- a. to reduce mortality of non-target species in the PN fisheries
  - b. to reduce mortality of *P. Monodon* and improve quality of *P. Monodon* fry in PN fisheries
  - c. to increase earnings of fry collectors
  - d. to reduce dependence of aquaculture sector on wild-caught fry
  - e. to facilitate development of a sustainable aquaculture policy

Awareness Building and Stakeholder Consultation - Awareness building and consultations with stakeholders on: state of fishery, impact on resources, and options for management

- fishing seasons and locations based on abundance of *P. Monodon* fry
- need for, benefits of and method of reducing mortality and improving quality of fry
- promote development of policies for sustainable aquaculture through awareness-building among policy-makers by holding national consultations

Studies/Research

- study of local variations of push net to determine impact on resources
- review of methods and techniques to improve fry handling and transport and identification of optimal method through techno-socio-economic feasibility studies

Technical Assistance

- initiate group formation of fry collectors for savings/credit and collective marketing of fry
- initiate promotion and extension of fry nurseries among fry collectors to increase holding capacity, improve quality of fry and price received for fry
- develop strategies and initiate action to facilitate availability of broodstock of *P. Monodon*
- initiate development of training programme for trawler and trammel net crews for improvement of on-board handling and transport of broodstock to improve broodstock quality and survival
- develop training programmes for hatchery operators to improve broodstock survival in hatcheries

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## SECTOR: GENERAL

Goal:

- a. to increase institutional capacity of fishery agency in management of fisheries

Studies/Research

- training needs analysis of DOF/FRI with long-term

- perspective to develop capacity building programme
  - review fisheries management and related legislations and regulations and recommendations to Government for improvements/modifications to better support management efforts
- 

## ***India***

- Objectives:
- 1 . Enable and facilitate improved management of coastal fisheries and trawl fisheries in the States of Tamil Nadu and Orissa, through pilot efforts in selected locations
  2. Enable and facilitate improved management of coastal aquaculture to ensure its sustainability in the States of Andhra Pradesh and West Bengal, through pilot efforts in selected locations

Status 1994: The Central Marine Fisheries Research Institute, at the request of the Government of India, undertook a Situation Analysis of coastal fisheries along the east coast of India, identified and prioritized the problems and proposed that BOBP assist the Governments of Tamil Nadu and Andhra Pradesh in improving the management of coastal fisheries, trawl fisheries and coastal aquaculture, with the participation of fisherfolk. The Situation Analysis was discussed at a regional meeting held in Madras and the recommendations of the analysis were proposed to the Advisory Committee of BOBP for their consideration.

Progress 1995: The BOBP staff undertook discussion with the Government of India early in the year, and the GOI confirmed that the focus of the Third Phase BOBP activity in India should be on improving the management of coastal fisheries and coastal aquaculture. However, the GOI suggested that the activity be not restricted to the States of Tamil Nadu and Andhra Pradesh but cover the four States along the east coast. It was agreed that representatives of the GOI and the Departments of Fisheries of the States of Tamil Nadu, Andhra Pradesh, Orissa and West Bengal would meet at a workshop organized by GOI/BOBP to discuss and finalize the content, implementation modalities and budgetary commitments for BOBP activity in India.

At the Workshop, it was agreed that BOBP would assist the Governments of Tamil Nadu and Orissa in improving the management of coastal fisheries and trawl fisheries, and the Governments of Andhra Pradesh and West Bengal in improving the management of coastal aquaculture. National execution of the activities, implementation modalities such as staff allocation and liaison, pilot area locations and project foci were discussed and tentative workplans were drawn up. The GOI communicated the proceedings of the workshop to the State Governments, seeking their support and commitment, and requesting them to build the proposed activities and State Government budget contributions into State plans and budgets.

At the request of the GOI and in anticipation of positive responses, BOBP staff visited the four east coast states and had discussions with their counterparts in government, visited

pilot areas which had been proposed and met with selected stakeholders in the fisheries and aquaculture sectors. Out of these discussions emerged a better understanding of the problems that the State Governments hoped to address with the assistance of BOBP. The State Governments have committed staff for the implementation of the activities. Budgets to cover staff travel have also been committed. In principle the State Governments have agreed to build into their future State budgets contributions to support the activity, though they felt that they would need the assistance of GOI and BOBP to do justice to the tasks. The ‘discussions also evolved workplans for 1996, which are described below by State, pilot area and project focus.

### **Indicative Workplans for 1996**

#### *1. Kanyakumari District, Tamil Nadu: Coastal Fisheries Management*

- |  |  |
|--|--|
| Awareness Building and Stakeholder Consultations | <ul style="list-style-type: none"> <li>- identification of stakeholders</li> <li>- stakeholder analysis</li> <li>- stakeholder perception analysis</li> <li>- awareness building and consultation among stakeholders on:               <ul style="list-style-type: none"> <li>needs, benefits and methods of fisheries management</li> <li>alternative fishery options</li> <li>offshore fishery options</li> <li>participatory fisheries management and enforcement through:                   <ul style="list-style-type: none"> <li>- establishment of community learning centres</li> <li>- travelling roadshows</li> <li>- meetings with fishermen and stakeholders</li> <li>- awareness building materials development and distribution</li> </ul> </li> </ul> </li> </ul> |
| Technical Assistance                             | <ul style="list-style-type: none"> <li>- plan and initiate selected activities relating to:</li> <li>- promotion/facilitation of seasonal and area closures for mechanized fleet and trawlers</li> <li>- promotion/facilitation of offshore fishing access through demonstration of SRL-15 craft</li> <li>- promotion of pelagic fishing among non-mechanized and small mechanized fleet</li> <li>- promotion of cod-end mesh size regulation in non-mechanized and small mechanized fleet</li> <li>- promotion of improved management for spiny lobster fishery</li> <li>- reduction of night fishing using bottom-set gillnets</li> </ul>  |
| Capacity-Building through Training               | <ul style="list-style-type: none"> <li>- orientation of extension staff to fisheries management</li> <li>- training of extension staff in fisheries management</li> <li>- training of extension staff in communications</li> </ul>   |



## ***2. Madras District, Tamil Nadu: Trawl Fishery Management***

- Awareness Building and Stakeholder Consultations - identification of stakeholders  
- stakeholder analysis  
- stakeholder perception analysis  
- awareness building and consultation among stakeholders on:  
needs, benefits and methods of fisheries management  
alternative fishery options  
offshore' fishery options  
participatory fisheries management and enforcement  
through:  
- establishment of community learning centres  
- training of extension staff in communications
- 

## ***3. East Godavari and Krishna Districts, Andhra Pradesh: Coastal Aquaculture Management***

- Awareness Building and Stakeholder Consultation - identification of stakeholders  
- stakeholder analysis  
- stakeholder perception analysis  
awareness building and consultation among stakeholders on:  
needs, benefits and methods of sustainable aquaculture  
culture of alternative species  
improved water quality management  
disease prevention and management  
participatory aquaculture management and enforcement  
through:  
- establishment of community learning centres  
- travelling roadshows  
- meetings  
- materials development and distribution
- Capacity-Building through Training - training of extension staff and BFDA staff in sustainable aquaculture practices and management  
training of extension staff and BFDA staff in communications and participatory management approaches  
development of training programme for BFDA staff in water quality management in farm clusters
- Technical Assistance - promotion of culture of alternative species through technical consultancy inputs on improved tilapia culture(TCDC)  
promotion of backyard hatcheries/nurseries through technical consultancy inputs on practices and management (TCDC)

- facilitation in development of EIA and SIA methodologies for coastal aquaculture through technical consultancy inputs
- facilitation in development of farm cluster level, water quality management methods and practices through technical consultancy inputs (TCDC) and field testing of water/soil test kits
- planning and initiation of programme to promote alternative employment opportunities for displaced landless farmers through group enterprise, development of aquaculture support services such as contract pond bottom cleaning and preparation, harvesting, maintenance of water supply and drainage canals.
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#### *4. Baleshwar and Cuttack Districts, Orissa: Coastal Fisheries Management*

- |  |  |
|--|--|
| Awareness Building and Stakeholder Consultations | <ul style="list-style-type: none"> <li>- identification of stakeholders</li> <li>- stakeholder analysis</li> <li>- stakeholder perception analysis</li> <li>- improved understanding of problems of coastal fisheries through stakeholder consultations</li> <li>- awareness building and consultation among stakeholders on:               <ul style="list-style-type: none"> <li>needs, benefits and methods of fisheries management</li> <li>alternative fishery options</li> <li>offshore fishery options</li> <li>participatory fisheries management and enforcement through:                   <ul style="list-style-type: none"> <li>- establishment of community learning centres</li> <li>- travelling roadshows</li> <li>- meetings</li> <li>- materials development and distribution</li> </ul> </li> </ul> </li> </ul> |
| Capacity-Building through Training               | <ul style="list-style-type: none"> <li>- orientation of extension staff to fisheries management</li> <li>- training of extension staff in fisheries management</li> <li>- training of extension staff in communications and participatory fisheries management approaches</li> </ul>   |
| Technical Assistance                             | <ul style="list-style-type: none"> <li>- plan and initiate economic and technical feasibility of diversification of inshore fisheries and offshore fisheries through demonstration of alternative fishing practices and exploratory fishing with fisherfolk participation</li> </ul>   |
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5. *Midnapur and South 24-Parganas Districts, West Bengal:*  
*Coastal aquaculture management*

- |  |  |
|--|--|
| Awareness Building and Stakeholder Consultations | - identification of stakeholders<br>- stakeholder analysis<br>- stakeholder perception analysis<br>- awareness building and consultation among stakeholders on: needs, benefits and methods of sustainable aquaculture culture of alternative species<br>improved water quality management<br>disease prevention and management<br>participatory aquaculture management and enforcement through:<br>- establishment of community learning centres equipped with multi-media kits<br>- travelling roadshows<br>- meetings with stakeholders<br>- materials development and distribution |
| Capacity-Building through Training               | - strengthen DOF training of seed collectors in eco-friendly collection practices through training of trainers and materials development<br>- strengthen DOF training of fish farmers in improved culture practice through training of trainers and materials development<br>- training of extension staff and BFDA staff in sustainable aquaculture practices<br>- training of extension staff and BFDA staff in communications and participatory fisherie management approaches  |
| Technical Assistance                             | - promotion of backyard hatcheries and nurseries to facilitate seed availability through technical consultancy inputs on hatchery/nursery practices and management (TCDC)<br>- identification of consultants to provide technical assistance and training in artemia culture (TCDC)<br>- promotion of water quality management through field-testing of water/soil quality test kits   |
- 

6. *Midnapur and South 24-Parganas Districts, West Bengal:*  
*Coastal Fisheries Management*

- |   |  |
|---|--|
| Awareness Building and Stakeholder Consultation | - stakeholder identification and analysis to better understand the problems of coastal fisheries |
|---|--|

- state-level consultation to determine the status of marine stocks and fishery development and to promote precautionary management
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7. *Tamil Nadu, Andhra Pradesh, Orissa and West Bengal States:  
Coastal Fisheries Management*

Skill Gap Analysis and Training Needs Assessment to build capacity of State fishery agencies in fisheries management

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***Indonesia***

Objectives: Enable and facilitate improved management of mariculture, anchovy lift-net fishery and small-scale fisheries in the Tapanuli Bay area of North Sumatra, Indonesia.

Status 1994: The Provincial Fisheries Service (PFS) of North Sumatra with support from the Directorate General of Fisheries (DGF) undertook a situation analysis of coastal fisheries of North Sumatra to identify and prioritize problems and to propose possible areas of co-operation between BOBP and the Government of Indonesia during the Third Phase. The situation analysis was discussed at a regional meeting in Madras, and proposed that the Government of Indonesia develop model management schemes for coastal fisheries and coastal mariculture using participatory, community-based approaches which conserve and sustain resources and improve the livelihood of fishers with the assistance of BOBP. The intention was to evolve and test methods and approaches in the Tapanuli Bay area of North Sumatra and based on the success of the pilot efforts extend the learnings to other parts of the country.

In the Tapanuli Bay area of North Sumatra, inadequate management measures and enforcement mechanisms have resulted in conflicts between groups of fisherfolk, further aggravated by multi-resource users of sub-sectors in fisheries. The recent and rapid development of mariculture of groupers in cages has created new problems such as wild-seed collections, sometimes using destructive methods of capture, unmanaged development of fisheries to provide feed for cage culture operations, and pollution of the Bay. Fisherfolk incomes are low, and there is concern about the quality of fish and fish products. The Government of Indonesia hopes to address these problems using participatory approaches to managing the resources, and hopes that the exercise will provide a model which could then be replicated in similar situations in other parts of the country.

Progress 1995: BOBP staff undertook several visits to Indonesia to hold discussions with their government counterparts, both at country and province levels, visited the pilot area and had discussions with selected stakeholders of the fisheries. The Government of Indonesia has designated the Provincial Fisheries Service of North Sumatra Province and the District Fisheries Services (DFS) of Sibolga and North Tapanuli as the agencies responsible for implementing BOBP-assisted activities. Co-ordinators at the national and provincial levels

have been appointed. The Directorate General of Fisheries, in order to support national-execution of the Project, has incorporated fund allocations into their annual budget to cover necessary expenses beyond the assistance available from BOBP.

BOBP assisted the DGF in designing and developing a project proposal for submission to the UNDP, which would supplement and support the BOBP-assisted efforts in the Tapanuli Bay area. The proposal was well received by UNDP, and would have gone a long way in supplementing the rather meager resources of BOBP in its Third Phase, but UNDP was unable to support the project in its present cycle of funding and hopes to consider it during its next funding cycle.

Based on the discussions BOBP staff had with their counterparts and with selected stakeholders of the fisheries a preliminary workplan as developed and circulated, and reactions and comments were received from PFS and DGF, on the basis of which the workplan was suitably modified. This workplan was further modified and finalized based on discussions with stakeholders and on stakeholder studies undertaken by the DGF/PFS/DFS staff.

One DGF staff, 6 PFS staff and 10 DFS staff were trained to undertake stakeholder identification, stakeholder analysis and stakeholder communication and perception studies. The training included a one-day meeting with selected stakeholders from the mariculture, anchovy lift-net fishery and small-scale fisheries sectors. Subsequent to the training the staff undertook one month of fieldwork in the Tapanuli Bay area to undertake stakeholder studies, the findings of which were presented at a workshop. The DGF/PFS/DFS staff, on the basis of the findings, identified problems of the three sectors, prioritized them, analyzed them and in the context of the stakeholder analysis developed activities to address the problems and needs of the sectors. Out of the deliberations of the workshop emerged a workplan for 1996, and an agreement on budget allocations and implementation modalities.

Details of the 1996 workplan are presented in the attached matrix.

**DGF/BOBP Coastal Fisheries Management Project**  
**“Taipan Nauli Bay Proposed Workplan, Indonesia (1996)”**

No	Sector	Activity	Feb	LLM		HED	LLE					
				May	Jun		Aug	Sep	Oct	Nov	Dec	
	Mariculture	<b>AWARENESS/CONSULTATION</b>										
		a. Awareness/consultation of stakeholders on Bay Environment Quality										
		h. Awareness on factors that affect sustainability/profitability on mariculture			—	—	—					
		<b>TRAINING/WORKSHOP</b>										
		a. Workshop on optimal culture practices										
		b. Training/Demo on culture practices										
		c. Training on site selection										
		d. Training on improved seed capture and handling										
		<b>STUDIES</b>										
		a. Monitoring water quality					—	—	—	—	—	
		b. Analysis of ODA data										
		c. Feasibility of alternate feed (initiated)										
		d. Analysis of seed capture practices										
		<b>TECH. ASSISTANCE/EQUIPMENT</b>										
		a. Water quality test kit										
		b. TCDC for future practices										
2	Anchovy Lift Net Fishery	<b>AWARENESS/CONSULTATION</b>										
		a. Quality/earning relationship awareness										
		b. Motivate group processing (start)										
		c. Consultations to better understand conflict and solution options and need for fishery management										
		<b>TRAINING/WORKSHOP</b>										
		a. Training/demo on improved handling of boats										
		b. Training/demq on use of ice										
		<b>STUDIES</b>										
		<b>TECH.ASSISTANCE/EQUIPMENT</b>										
		TCDC (Malaysia) for anchovy processing (onshore)										

No	Sector	Activity	ILM ESC HE U													
					Mar	Apr	May	Jun	Jul	Aug	Sep		Nov	Dec		
3	Small-scale	<b>AWARENESS/CONSULTATION</b>														
	Fisheries	a. Consultation with stakeholders to better understand conflict and solution														
		<b>TRAINING/WORKSHOP</b>														
		a. Workshop on group formation, savings and money management									—					
4	General	<b>AWARENESS/CONSULTATION</b>														
		a. Ongoing stakeholder status and consultation														
		b. Preparation for future activities														
		<b>TRAINING/WORKSHOP</b>														
		a. National workshop on CBM														
		b. National workshop on precautionary approach to fisheries management														
		<b>STUDIES</b>														
		Review of regulation/legislation (start)														
		<b>OTHERS</b>														
		a. Preparation for Advisory Meeting														
		b. Advisory Meeting in Malaysia														

**WORKSHEET FOR DGF/BOBP THIRD PHASE WORKPLAN FOR INDONESIA**

NO	DESCRIPTION OF ACTIVITIES	DGF	PFS	CRFH	AARD	BAPPEDA	KANWIL	AAET	HNSI	IAAT	NGO	OTHERS	Estimated Budget			
													GOI	BOBP	TOTAL	
	<b>ESTABLISH COMMUNITY-BASED MANAGEMENT (CBM) STRUCTURE</b>															
	Define area and community for involvement in management system															
2	a. Rapid aerial photography survey of Bay															
	b. Survey of local management systems in place															
	Local workshops to build capacity at community level															
3	a. Develop CBM skills through consensus-building, transfer of CBM methods, consensus on problems/issues, objectives and strategy															
	Revolving fund for community-based management of small-scale fisheries															
II	<b>BUILDING AWARENESS AND PUBLIC OPINION AND TRANSLATION OF SAME INTO PRODUCER/CONSUMER BEHAVIOUR CHANGES</b>															
4	Type and Content of Awareness															
	a. The sea and its future as seen through the eyes of children"— national drawing contest															
	b. Folk song cassette/video on responsible fishing and fisheries management															
	c. Comic book and playing cards on responsible fishing and fisheries management															
	d. Apply key findings of scientific assessments (PFS/BAPPEDNODA) to content of awareness materials															
5	Development of participatory monitoring, control and surveillance (MCS) of small-scale fisheries (using ASEAN/FAO TCP on MCS model)															
III	<b>RESEARCH STUDY</b>															
6	Perception/stakeholder analysis of small-scale fisheries															
7	Exploring opportunities to attract small-scale fisherfolk out of the fisheries															
8	Diversification of income sources for small-scale fisheries															
9	Legal/institutional review of fisheries management laws, rules and regulations															
IV	<b>TRAINING</b>															
10	Regional workshops															
	a. Community-based fisheries management system															
	b. Grouper cage culture technology & economics															
11	Training of fisherfolk in marketable occupational skills															
12	Dramatization/adult theatre on responsible fishing for small-scale fisherfolk															
13	Skill gap and training needs analysis of DGF/PFS															
14	Conceptualization/formulation/preparation of mass multi-media materials on awareness building on responsible fishing and fisheries management															
V	<b>TECHNICAL ASSISTANCE</b>															
15	Demonstration of best management of small-scale grouper cage culture technology and disease prevention															
16	Reef habitat recolonization and artificial reef rehabilitation															
17	Application of GIS for seafarming planning															
18	Improving status of women in coastal fishing communities															
	a. Add value before fish changes hands from fishers to market intermediaries															
	b. Local workshop designed by and for women in post-harvest technology & cottage industry															
19	Model fishing village proposal (UNDP support)															
VI	<b>RECOMMENDATIONS AND IMPLEMENTATION</b>															
20	Review of findings/recommendations/management measures															
21	Review of policy conclusions															
22	Implementation of recommendations, including policies, strategies and management measures															



## *Malaysia*

Objectives: Implement a Special Area Management Plan (SAMP) to carry out local-level integrated coastal area management (ICAM) in Palau Payar Marine Park on habitat enhancement for the conservation and sustained production of the area reef fisheries resources, as well as other multiple use of Marine Park resources such as ecotourism.

Status 1994: Like the other six member countries, Malaysia also undertook a situation analysis of their fisheries and coastal resources in 1994. Based on the situation analysis, DOF had singled out a chain of four islands off the coast of Kedah to experiment with local-level integrated coastal area management under a SAMP framework as a model or prototype to be extended to other parts of the country.

Progress 1995: Preliminary work has been initiated in establishing the profile and management framework for the Pulau Payar Marine Park based on a legal and institutional analysis of the existing fisheries policies, legislations, rules and regulations, as well as institutions and agencies presently involved in fisheries and coastal resources development and management.

The results of the legal and institutional analysis helped to determine the structure and composition of the local and national level management framework for integrated coastal resources management and development.

The SAMP management process is consultative and participatory; it focusses on efforts of coastal resource users and other stakeholders to develop their own solutions or strategies to address problems and issues to ensure successful adoption. Solutions are developed by identifying and observing cause and effect factors and relationships within the Marine Park's geographical, ecological and institutional scope of concern.

The DOF is approaching the SAMP development through a two-tiered process: Tier I and II committees. During the first tier, the DOF is developing a consensus-based preliminary draft SAMP. This preliminary draft will be used as a platform for discussion during the second tier when all the key agencies with jurisdiction in the coastal zone will be brought together, through consensus, to develop the detailed SAMP with consultations at each step in the process with fisherfolk and other resource users and stakeholders.

The DOF is drawing all the resources (expertise, data, experience) at its disposal to complete the SAMP task: Aquatic Ecology Research branch, Marine Parks branch, Sector Planning branch, Resource Management branch and other non-DOF expertise. Information from ongoing monitoring programmes of DOF and universities are being incorporated into the consensus-building SAMP management process.

A simple status and trend analysis of key indicator species of the reef's health and productivity and grassroots indicators will be continued during 1996.

SAMP information, especially the beneficial impact of the Marine Park written in non-technical language will be shared with area communities and widely disseminated. Once

the fisherfolk understand and accept the need for and benefits of habitat conservation, they will take part in the conservation and maintenance of the Marine Park as the local stewards of Nature's resources.

The joint Malaysia/BOBP project will be monitored to observe whether the Marine Park under the fisheries ecotourism management regime can increase or sustain fisheries resources in the protected areas. The results of this work and others will be built into a broader ICAM framework at the national level.

Other lessons expected to come out of the local-level activities which will feed into the formulation of national policies are approaches towards promoting consistent economically and ecologically sustainable land-use activities on the islands and mainland both within and surrounding the marine protected areas, zoning, ecotourism as an alternative employment for the fishing community, visitor-carrying capacity as well as the distributional impacts of these zoned allocations.

The joint Malaysia/BOBP workplan is regularly being reviewed and revised in light of new developments and findings from its work in the park area began in 1995. This is to accommodate changes of activities and time-frame after more closely examining institutional arrangements for the SAMP action plan formulated earlier, to reflect new implementation strategies.

Preparations have been initiated for local workshops to provide training in integrated coastal zone management to resource managers with coastal fisheries management duties and responsibilities, and stakeholders. This is to prepare them to improve their job performance in their coordinating roles as representatives in the Tier II Committee at the national level.

Schedules and terms of reference for convening the SAMP Committee and completion of Committee SAMP drafts have been worked out and are being implemented. The SAMP methodology integrates awareness-building and community outreach activities with interagency planning using a consensus-based approach.

Tier I committee is comprised of national level DOF representatives who have been working closely with State level agencies and key stakeholders through the SAMP process.

Tier II committee composition comprises of national and state government agencies of Kedah and Perlis, as well as representatives from EPU, Environment, Forestry, Universities (UPM and USM), fisherfolk, NGOs and WWF. All the necessary terms of reference for the SAMP Committee have been reviewed and changes made.

A socio-economic baseline survey and study for the SAMP geographic area has been initiated with the design and preparation of a survey instrument. The questionnaire will gather local knowledge, grassroots indicators, fishing practices, environmental conditions, fish landings, price ratios of inputs and outputs (terms of trade), incomes, etc from the communities surrounding the Marine Park to help determine conditions before and after (with/without) SAMP implementation.

DOF extension staff will conduct the field survey after field work orientation and training

in the survey objectives, interview techniques and sampling methodology/frames, interpretation of the various questions found in the survey instrument.

To provide DOF staff with a refresher and familiarization exposure on priority-setting methodology, a small seminar on research priority setting for fisheries was also organized in 1995.

Indicative Workplan for 1996 follows.

## *Maldives*

Objective: Enable and facilitate participatory, atoll and island community-based, integrated reef resources management through awareness building and consultation, and development of approaches and methodologies in a pilot exercise focusing on Vaavu, Meemu, Faafu and Dhallu Atolls.

Status 1994: The Marine Research Section (MRS) of the Ministry of Fisheries and Agriculture (MOFA) of the Republic of Maldives undertook a situation analysis of the coastal fisheries of the country to identify and prioritize concerns and problems that could be addressed through activities with the assistance of BOBP during its Third Phase. The Situation Analysis was discussed at a regional workshop held in Madras, and proposed that BOBP assists MOFA in promoting and enabling participatory, island and atoll community-based, integrated reef resources management through a pilot exercise in four atolls. The findings and recommendations of the regional workshop were submitted to the Advisory committee of BOBP for its consideration.

The people of Maldives depend on their reefs not only for livelihoods to a certain extent but also for their very security against the forces of nature. In the past without the benefit of management the people have seen their reef resources being stressed and over-exploited, particularly in the cases of the giant clam and beche-de-mer fisheries and through extraction of corals and sand for construction purposes. The government and, more importantly, the island dwellers, are very concerned about developments and possible conflicts among users of reef resources, and have expressed interest in participating in exercises to come up with mechanisms that would enable sustainable development. In the cases of new and developing fisheries, such as the grouper fishery, the private sector and the government are keen that there be a shift away from wild capture to more manageable mariculture, provided such development is preceded by EIAs and accompanied by sound management.

The government has in the recent past begun an exercise to promote participatory integrated management of its reef resources and, given the interest and commitment of the people to such efforts, feel that it will be possible to develop approaches which in time could be extended to the whole country.

Progress 1995: BOBP staff undertook several visits to the Maldives for discussions with their counterparts, to visit the pilot project areas and to undertake preparatory exercises. The National Development Plan of the Republic of Maldives is committed to evolving an integrated reef resources management programme and implement it by the year 2000. The government wishes to consider BOBP assistance during the Third Phase in the context of its overall strategy for integrated reef resources management. MOFA has designated the Marine Research Section as the agency responsible for implementing the BOBP-assisted activity, and firm fund allocations have been made in the ministry's budget to support national execution. A team of staff have been identified and allocated to be responsible to implement activities.

Four staff of the MRS were trained in undertaking stakeholder identification, stakeholder analysis and stakeholder communication and perception analysis. During an extended field trip to the four pilot atolls, MRS staff, a representative of the Voice of Maldives (Radio), and BOBP's Communications Adviser, had an opportunity to have detailed discussions

with island dwellers, island-and atoll-based government staff, fishers and other stakeholders. The stakeholder studies were initiated, which will be refined as the project progresses, and a better understanding was developed of the problems and concerns of reef resources development and management.

The BOBP-assisted activity in the Maldives, it was decided, would, in the context of the National Integrated Reef Resources Management Programme, focus on the problems and concerns of the following priority areas in a comprehensive manner:

1. Reef-fish fisheries and mariculture options to conserve wild stocks
2. Live bait fishery for the tuna pole and line fishery, and ornamental fish collection
3. Mining of corals
4. Tourism-fisheries interactions and conflicts.

The primary strategy of MOFA is to hold a National Workshop on Integrated Reef Resources Management early in 1996 which will bring together MOFA staff, senior representatives of all concerned government departments, stakeholder representatives and selected experts from all over the world to deliberate and come up with a strategy and with methods and approaches by which the country could evolve an integrated reef resources management programme. BOBP assisted MOFA in designing and developing the National Workshop, and partially sponsored it. The assistance included developing a prospectus and agenda, the base documentation to give direction to the meeting, and in identifying resource persons to provide well-balanced expert input through their papers and participation.

The workplan for 1996 for the BOBP-assisted activity will emerge from the deliberations of the National Workshop on Integrated Reef Resources Management, and the Integrated Reef Resources Management Programme Strategy which was evolved at the National Workshop, subject to appropriate government clearances. A worksheet indicating possible directions for the activity is attached.

**WORKSHEET FOR MOFA/BOBP THIRD PHASE WORKPLAN FOR MALDIVES**

NO	DESCRIPTION OF ACTIVITIES	MRS	MOFA	ATOLL ADMINISTRATION	DIVERS	FISHERFOLK	COLLECTORS/ EXPORTERS	VESHI	CAGE/CULTURE PRODUCERS	OTHERS	Estimated Budget		
											GOM	BOBP	TOTAL
	<b>ESTABLISH PROFILE AND MANAGEMENT FRAMEWORK</b> Legal/institutional review to determine institutions and agencies currently involved in reef fisheries												
2	Use results of legal/institutional analysis to determine composition and structure of management framework												
3	Select geographical areas in need of special management based on abundance and diversity of reef fish species												
4	Establish marine reserves/sanctuary												
5	Formulate coral mining guidelines												
II	<b>BUILDING AWARENESS AND PUBUC OPINION AND TRANSLATION OF SAME INTO PRODUCER/CONSUMER BEHAVIOUR CHANGES</b> Type and content of awareness												
	a. Folk song cassette on responsible fishing and fisheries management												
	b. Comic book and playing cards on responsible fishing and fisheries management												
	c. National art competition on the theme "The sea and its future as seen through the eyes of children"												
	d. National story-telling competition on Maldivian sea folklore												
2	Reef Base (in collaboration with ICLARM) and up-dating of water-resistant identification handbook for reef fisheries of Maldives and adjacent countries (see Sri Lanka workplan) of Maldives												
3	Development of participatory monitoring, control and surveillance (MCS) of Maldivian fisheries												
4	Protection of key endangered species of reef fish												
5	Diversification of income sources for small-scale fisherfolk												
III	<b>RESEARCH STUDY</b> Rapid horizontal transect and agro-eco system analysis of reef resources and fishing communities												
2	Random questionnaire survey of coral reef health by tourist divers												
3	Impact of new reef fisheries exploitation on tuna fisheries												
IV	<b>TRAINING</b> MRS/MOFA-BOBP/FAO Workshop on Integrated Reef Resources Management												
2	Skill gap analysis and training needs assessment												
3	Dramatization/adult theatre on responsible fishing for small-scale fisherfolk												
4	Safety-first for divers												
5	Post-harvest live handling of reef fish for export												
6	On-farm preparation of grouper fish feed												
V	<b>TECHNICAL ASSISTANCE</b> Low-impact grouper cage culture technology development												
2	Rapid aerial colour photography assessment of reef fisheries fishing ground/habitats												
	Status of Maldivian reef fisheries: an analysis of existing data, habitat Status and trends (Biological)												
VI	<b>RECOMMENDATIONS AND IMPLEMENTATION</b> Review of findings/recommendations												
2	Review of policy conclusions												
3	Implementation of recommendations, including policies and strategies												
4	Review current species categorization for management purposes using economic and biological criteria												

## ***Sri Lanka***

Objective: Develop profile and management framework to enable and facilitate improved management of the fishery targeting ornamental fish for live export, along the west, south and east coasts of Sri Lanka, in order to conserve and protect environmentally-sensitive habitats and to improve the livelihoods of the stakeholders.

Status 1994: The Department of Fisheries and Aquatic Resources Development (DFARD) with assistance from the National Aquatic Resources Agency (NARA) undertook a situation analysis of coastal fisheries of Sri Lanka in order to identify and prioritize fisheries concerns and problems the management of which could be considered with the assistance of BOBP during the Third Phase period. The situation analysis, which proposed that the management of the fishery targeting ornamental fish for live export be improved with the assistance of the BOBP, was discussed at a regional workshop in Madras and with appropriate modifications submitted to the Advisory Committee of BOBP for its consideration.

In Sri Lanka, not enough is known of the biology or population dynamics of the concerned ornamental fish species. But several environmental agencies in government and in the NGO sector have expressed concern about the fishery and about the impacts the fishery may have on ecologically sensitive habitats such as coral reefs, estuaries, seagrass beds, lagoons and mangroves. Further, the Association of Live Tropical Fish Exporters of Sri Lanka are concerned about the viability of their sector given the regulations brought into effect by the Department of Wildlife Conservation during 1994. The government, concerned about the environment and about an industry which both provides employment to large numbers of people and earns valuable foreign exchange, has committed itself to improving the management of the fishery, and the Ministry of Fisheries and Aquatic Resources Development is in the process of developing rules and regulations to better manage the fishery, which it hopes to include in the fisheries ordinance during 1996.

The Government of Sri Lanka expressed its interest in evolving and promoting management measures which have the support and participation of the stakeholders. It also wished to improve its understanding of the biology and the population dynamics of the concerned species, and economic structure of the industry and to develop a participatory monitoring system to assist in the management process.

Progress 1995: BOBP staff undertook several visits to Sri Lanka to hold discussions with their government counterparts and with selected stakeholders of the fishery. MFARD designated DFARD and NARA as the primary agencies responsible for the implementation of the BOBP activities. In support of national execution, the BOBP-assisted activity has been incorporated into the National Fisheries Development Plan of Sri Lanka 1995-2000, and the government has allocated a budget into the Fisheries Budget to facilitate implementation.

Detailed discussions were held with key stakeholders in government, in the industry and amongst NGOs, to get a better understanding of the problems of the fishery and of the perceptions of the various stakeholders. Four staff from NARA were trained to undertake stakeholder identification, stakeholder analysis and stakeholder perception and communication studies. Preparatory work was initiated to develop a water-proof illustrated identification

ornamental fish guide, including locally used names to facilitate identification, regulation and management. However, partly due to the existing situation in Sri Lanka and partly due to the preoccupation of the concerned staff with other government priorities not much progress was achieved in these activities and they will be taken up in 1996. The FAO/ICLARM FISHBASE CD ROM disc has been purchased and will be made available to DFARD and Customs Department and others if sufficient interest is expressed to have such a programme installed.

BOBP organized a one-day workshop for selected NGOs who are concerned with the ornamental fish sector to better understand their concerns and perceptions. One important outcome of the workshop was an in-principle agreement by the NGOs to actively participate in processes to facilitate improved management of the sector. Detailed discussions, partly through correspondence and partly through participation in a NARA-organized workshop, were held with the Marine Conservation Society (MCS) and the Darwin Initiative of UK. Both, in collaboration with NARA, are already undertaking activities to facilitate improved management of the ornamental fish sector, with particular emphasis on the marine fishery. Given the emphasis on research and on establishing a database of the MCS activity, it was agreed that fruitful collaboration was possible between the BOBP and MCS-supported efforts — each contributing to the other, both benefiting the country.

On the basis of the several meetings and discussions with GOSL counterparts, BOBP and selected stakeholders, a preliminary workplan was drawn up and this went through several refinements, and resulted in the 1996 workplan appended below. The workplan will be further refined, based on the detailed stakeholder studies to be undertaken in 1996. Discussions were held on budget allocations and implementation modalities, and while in-principle agreements have been reached these will be revised and updated as the project progresses in 1996. BOBP's counterpart agency will be the Division of Fisheries Management and Welfare of DFARD, with NARA providing the R&D Support.

The Coastal Zone Management Advisor of BOBP assisted Dr M Hotta of the FAO in developing a project proposal on "Development of Integrated Fisheries Resources Management in Sri Lanka". The proposal was a follow-up to the National Workshop on Community-Based Fisheries Management held in Colombo in 1994. The Programme Coordinator was invited to hold a one-day workshop on Research Prioritization in Fisheries, and the workshop brought together participants from MFARD, DFARD and NARA.

Indicative Workplan for 1996 follows.











## ***Thailand***

Objectives: Enable and facilitate the introduction and implementation of community-based fisheries management system in Phang-Nga Bay, Thailand.

Status 1994: The Phuket Marine Biological Centre (PMBC) and the Andaman Sea Fisheries Development Centre (ASFDC) of the Department of Fisheries completed a situation analysis which prioritised a community-based fisheries management system as a possible model to be experimented in the Phang Nga Bay.

Progress 1995: Thailand's BOBP Third Phase activities will strengthen the initial community-based fisheries management efforts currently under way in approximately 11 coastal villages along the eastern side of the Bay. Existing efforts included a community-initiated ban on pushnets in the designated areas. In addition, community-based management had been started in Trang Province along the western side of the Bay, and DOF/BOBP project activities will coordinate lessons learned between the two areas.

The Third Phase activities are planned in accordance with Thailand's programming cycle. The DOF/BOBP Community-Based Fisheries Management Workshop was held in Phuket from 14-16 February 1996. The Workshop agenda went through several revisions to accommodate the thrusts and views of Workshop organisers and stakeholders. This is to build awareness and a common understanding among the key stakeholders (fisherfolk leaders, village leaders, and NGOs) and coastal resource managers in DOF, universities, as well as BOBP that will be involved in the Community-Based Fisheries Management project in Phang-Nga Bay, on the need, importance, benefits and constraints, roles and responsibilities, and the need for flexibility in undertaking the new approach of "partnership in management".

Careful planning has been undertaken to design the Workshop in such a way that it will generate acceptance and commitment of key stakeholders -- for the roles and responsibilities they will need to play for effective partnership in management under the community-based fisheries management project, and consensus of stakeholder participants on the DOF/BOBP workplan. On the second day of the workshop, fisherfolk presented the views of stakeholders and described their own initiatives to control harmful fishing practices in the fishing grounds that the community-based management project will build upon. The third day was allocated to combine the participants, views and key findings and conclusions into DOF/BOBP workplan components. These were discussed in a closing session of the workshop, and included problems, issues and objectives for management, and roles and responsibilities for effective partnership in management, and a general guideline for activities. The outputs and results of the Workshop serve as the platform for future development of management strategies to address the problems and issues.

The workshop also obtained the consensus of fisherfolk on recommended "early actions" for consideration by DOF implementation. Activities in the Awareness Outreach Strategy as part of the DOF/BOBP workplan have been initiated at the project site. The Workshop also recommended that the Japanese Government be requested to support a study tour to Japan to provide Thai officials a first hand exposure and hands-on training experience on the Japanese model and experience on community-based fisheries management system.

In follow-up to the DOF proposal to UNICEF for coordinating assistance to the community-based management project by developing a potable water project at the site, it was found that funds are not available for the project, as UNICEF's priorities have shifted to northern Thailand. In the meantime, coordination has been initiated with other programmes including "Development Workshop, Canada" which works primarily in the sectors of water supply, and the CORIN Institute of Songkla University's drinking water programme, for leveraging smaller amounts of UNICEF assistance available with potential CORIN resources.

Another area of interest is to conduct an impact assessment of the FMO/BOBP/IMO Cleaner Fisheries Harbour project in Phuket with a view to introduce the model to other fishing ports in Thailand.

The 1996 Indicative Workplan details follow.



### First year workplan for Thailand's BOBP Phase III Project: Community-Based Fisheries Management

Activities	Method	Duration	Target group	Expected advantage
<p>I Rehabilitation &amp; management of resources</p>				
<p>Seeds releasing</p>	<p>-Seeds provided by DOF hatcheries</p>	<p>-Rotation within the target areas</p> <ul style="list-style-type: none"> <li>- <i>P. merguensis</i> 1.5 million</li> <li>- <i>P. monodon</i> 1.0 million</li> <li>- <i>P. monodon</i> 0.5 million</li> <li>- <i>P. merguensis</i> 2.0 million</li> <li>- <i>P. merguensis</i> 2.0 million</li> <li>- <i>P. monodon</i> 1.0 million</li> </ul>	<p>-Project fishing villages</p> <ul style="list-style-type: none"> <li>- Ban Laem Sak</li> <li>- Ban Ko Yao</li> <li>- Ban Pa Kiok</li> <li>- Ban hin Rom</li> <li>- Ban Ao Makhm</li> <li>- Ban Had Sai Pluck Hov</li> </ul>	
<p>-Plantation of mangrove tree</p> <p>-Zoning of conservation area (Prohibit some fishing gear in some fishing pushnet, beachnet dynamite, drugs grounds) and all kinds of fishing in seaweed</p>	<p>- Select area for 50 Raieach village</p> <p>- Free from trawlers, light fishing, and</p>	<p>- Present in the next meeting</p> <p>- Present in the next meeting</p>	<p>- Project fishing villages</p> <p>- Protect fishing villages</p>	
<p>beds.</p>				
<p>2 Training for livelihood</p>				
<ul style="list-style-type: none"> <li>- Boat engine repairing</li> <li>- Fishing gears assembling</li> <li>- Fish processing</li> <li>- Coastal aquaculture</li> <li>- Training of fisherwomen</li> <li>- Training of fishery youth</li> </ul>	<p>- Contact specialized trainers to manage training courses of 30 persons each.</p>	<p>- 3 days for each group</p>	<p>- Project fishing villages</p>	
<ul style="list-style-type: none"> <li>- Study tours</li> </ul>	<p>- Select fisherfolk from each village to be the representative for study tour.</p>	<p>- Will begin in the second year</p>	<p>- Project fishing villages</p>	



	Activities	Method	Duration	Target group	Expected advantage
3	<p>Conservation and surveillance</p> <ul style="list-style-type: none"> <li>- Provision of speedboat for surveillance</li> <li>- Organize sea protection training course by Third Fleet Royal Thai Fleet</li> </ul>	<p>Request from the Project or allocate in the fiscal year budget</p> <p>Contact with Third Fleet Royal Thai Fleet</p>	<p>Third Fleet will fix duration</p>	<p>- Project fishing villages</p>	
4	<p>Conservation campaign and awareness building</p> <ul style="list-style-type: none"> <li>- Exhibition, posters, video and movie shows etc</li> <li>- Radio transmission of fishery news from Phang-Nga Bay</li> <li>- Distribute fishery news and technology to target fishing villages</li> </ul>	<p>Co-ordinate with Fisheries Conservation Unit</p> <p>Prepare posters and video films and distribute to target villages</p> <p>Villages report updated fishery information to the project office of AFDEC for transmission.</p> <p>Publish a newsletter distributed to target fishing villages</p>	<p>Throughout the project</p> <p>Throughout the project</p> <p>Throughout the project</p>	<p>- Project fishing villages</p> <p>- Project fishing villages</p> <p>- Project fishing villages</p>	
5	<p>Follow up and evaluation</p> <ul style="list-style-type: none"> <li>- Meeting of target village committees</li> <li>- Annual meeting for project follow-up</li> <li>- Project evaluation</li> </ul>	<p>Rotate to every target fishing village</p> <p>The meeting will include fisherfolk, instructors DOF officers, NGO &amp; BOBP representatives</p> <p>Conclusion and evaluation of the project</p>	<p>Two month interval</p> <p>End of every fiscal year</p> <p>- Last year of the project</p>	<p>- Project fishing villages</p>	



***Information Service***  
***(GCP/IRAS/117/MUL)***

The Member Countries continued to support the Information Service through cash contributions (of US \$ 90,000 a year). The Information Service is formally attached to the core project, Coastal Fisheries Management (GCP/RAS/150/DEN & 151/JPN), as a separate project (GCP/RAS/117/MUL), but services the entire Programme. The activities of the Information Service, including editorial support, artwork and illustration, printing, management of BOBP's Library and information dissemination system was contracted out to Madras Editorial Services (MES), a Madras-based company. This move, as an alternative to in-house staffing, proved not only cost-effective but also made available to BOBP a needed service to undertake their information needs and tasks. In the Third Phase of BOBP, given the emphasis on awareness-building and communication to facilitate participatory management, the Information Service has an important role to play in producing materials for Member Countries, and at some stage helping Member Countries to build up their capacity in such tasks.

The *Bay of Bengal News*, a quarterly publication of the Programme, was resumed when the Project became fully operational. Two issues of the BOBN were brought out in 1995/1996.

Given the preparatory nature of activities of the BOBP during 1995, the only reports that emerged from the Information Service were the report of the 19th Advisory Committee Meeting, held in Jakarta, Indonesia, early in January 1995 and the report of the BOBC Subgroup titled, *Towards Sustainability: Needs and Concerns of Aquatic Resources and Fisheries in the Bay of Bengal Region and Project Ideas to Facilitate their Sustainable Management*, published under the authority of the IOFC/BOBC Secretariat. The Information Service also produced a colour brochure describing the objectives, strategy and activities of the Third Phase, a poster to promote consultative and participatory management (which will be translated into the languages of the region), and a planning diary for 1996 which includes awareness materials on fisheries management subjects.

The Information Service is assisting the Government of Bangladesh in editing and printing the proceedings of the GOB/BOBP-FAO/ODA National Workshop on Fisheries Resources Development and Management and has completed editing of a report titled, *Fisheries Planning Model for Indonesia* by Dr Kee-Chai Chong.

The Service helped to organize a Workshop on Emerging Needs for Information Services in Fisheries on 12 April 1995, in Madras, which brought together fisheries and information professionals, and which utilized the presence in Madras of Ms Jean Collins who heads the Fisheries Library in FAO, Rome. MES also helped to organise the Workshop on Geographical Information Systems (GIS) for the Management of Coastal Aquaculture and Fisheries on 3 May 1995.

All available documents of the BOBP Library were re-catalogued after a complete stock taking. Based on the recommendations of Ms Jean Collins of the Fisheries Branch Library, FAO, the bibliographical details of the BOBP Library's holdings are being entered into REPDOG, an application of Micro CDS/ISIS system for building up and managing FAO Representation or FAO Regional Office Library databases. The mailing list of the Information

Service is in the process of being updated, given the new thrusts of the BOBP in its Third Phase. Requests for publications, video tapes and audio tapes, brought out during the first and second phases of BOBP, continue to come in and are being met from the stock.

#### CONCLUDING REMARKS

For 1996 and beyond, we are even more determined and committed to implement our programme of work more actively and rigorously. We hope our member countries are equally up to the challenges of 1996 and beyond.

As with any project, the ultimate success of the project depends on the commitments and active participation of our colleagues in the member countries. It also calls for regular and periodic review of the project document with a view to study and further understand its broad mandate and objectives and how it can be effectively implemented to deliver outputs and services to our beneficiary stakeholders.

From the above discussion, it is obvious that fisheries management calls for true partnership between and among all the different stakeholders hnth in the public and private sectors

Such partners in management will go a long way towards improving the cost-effectiveness of our collective efforts.

It must be recognised that to promote fisheries resources conservation and management, economic diversification and creation of gainful employment to attract fishermen out of overcrowded and overcapitalised fisheries is also necessary. Solutions to fisheries problems must not only be found within fisheries but also outside of fisheries.

## *PROJECT INPUTS AND THEIR UTILIZATION*

1. GCP/RAS/150/DEN : Coastal Fisheries Management  
Donor DANIDA  
Budget US \$ 1500,000 from 1994 to 1999

The estimated expenditure for the period May 1994 - December 1995 was US \$ 494,837. The Programme Coordinator/Sr. Fisheries Management Adviser joined the Project in December 1994. The Sr. Communications Adviser joined the Project in January 1995. To supplement the Project activities concerned with Coastal Zone Management, the Environmental Protection Agency (EPA) of the USA agreed to fund the cost of a Coastal Zone Management Adviser, who joined the Project in October 1994, initially for a period of one year. The EPA has extended the assignment for a further one year.

Project expenditure covered by GCP/RAS/150/DEN includes 50% of the cost of the Programme Coordinator, costs of other Personnel and Duty Travel only. Details of the Project's expenditure are reflected in Table 1. The estimated expenditure for 1996 is US \$ 326,734, leaving a balance of US \$ 678,429.

2. GCP/RAS/ 151/JPN : Coastal Fisheries Management  
Donor Japan  
Budget US \$ 1,500,000 from 1994 to 1999

The estimated expenditure for the period May 1994 - December 1995 was US \$ 58,361. Project expenditure covered by GCP/RAS/151/JPN includes 50% of the cost of the Programme Coordinator and other expenditures such as contracts, operating expenses, supplies, equipment and fellowships & training. The Project activities during 1994 were limited to the Member Countries preparing Situation Analyses (by nominated national implementation agencies) of coastal fisheries needing management intervention and the conduct of a regional workshop to discuss the findings: The Project's activity during 1995 included detailed discussions with Member Country counterparts and preparatory studies and exercises which led up to the preparation of detailed workplans, budgets and implementation modalities for the remaining Project period. In some Member Countries activities based on the agreed to workplans were initiated. The details of the Project's expenditure in reflected in Table 2. The estimated expenditure proposed for the year 1996 is US \$ 269,801, leaving a balance of US \$ 1,171,838.

3. GCP/RAS/117/MUL :	Information Service
Donor	Member Countries
Budget	US \$ 90,000 per year

The Information Service during 1994 completed all remaining reports and working papers on projects and subprojects of the second phase of BOBP. Early in 1995 the management of the BOBP Library, the execution of BOBP's information dissemination service and editorial and materials development activities were contracted to the Madras Editorial Services. This ensured considerable cost savings (compared to these services being managed by in-house BOBP staff) and made available to BOBP a wider range of expertise. The activities during 1995 consisted of publication of two reports, two issues of *Buy of Bengal News*; assistance to the Government of Bangladesh in editing a report of a national workshop organized by the FAO, the ODA and the Government of Bangladesh; and the design and production of a BOBP brochure. As a part of BOBP's mandate to develop and build awareness of the need for, the benefits and methods of fisheries management, the Information Service produced a poster and a planning diary for 1996 which incorporated an awareness component.

Tables 4, 5 and 6 give details of BOBP publications in 1994 (post 18th AC meeting), professional staff and consultants and support staff.

**Table 1 GCP/RAS/151/JPN - BUDGET AND EXPENDITURE (US \$)**

Code	Object of Exp.	Budget 1994-98	Est.Exp. 1994-9s	Est.Exp 1996	Balance
10	Personnel	346,000	67,003	65,762	
30	Contracts	210,000	16,000	45,000	
40	Gen.Ope. Exp.	161,435	26,884	20,000	
50	Supplies	150,000	(56850)	20,000	
60	Equipment	100,000	(2,701)	8,000	
80	Fellowship/Training	360,000	1,311	80,000	
	Subtotal	1,327,435	51,647	238,762	
90	Servicing cost	172,565	6,714	31,039	
	Grand Total	1,500,000	58,361	269,801	1,171,838

**Table 2 GCP/RAS/150/DEN - BUDGET AND EXPENDITURES (US \$)**

Code	Object of Exp.	Budget 1994-98	Est.Exp. 1994-95	Est.Exp 1996	Balance
10	Personnel	1,079,928	392,005	254,145	
20	Duty Travel	162,000	45,904	35,000	
	Subtotal	1,241,928	437,909	289,145	
90	Servicing cost	161,450	56,928	37,589	
	Unspecified	96,622			
	Grand Total	1,500,000	494,837	326,734	678,429

**Table 3 GCP/RAS/117/MUL - BUDGET AND EXPENDITURE (US \$)**

Code		Deposits 1987-95	Expenditure 1987-94	Est. Exp. 1995	Balance 1996
10	Personnel		415,305	Nil	
20	Duty Travel		5,412	Nil	
30	Contracts		27,655	24,400	
40	Gen.Ope.Exp.		12,804	216	
50	Material		8,238	160	
	Subtotal		469,414	27,175	
90	Servicing cost		23,471	1,358	
	Grand Total	*671,873	492,885	28,533	150,455

\* The status of contributions for 1955 from Bangladesh, India, Malaysia, Sri Lanka and Thailand, is due from FAO Rome. Arrears due from Bangladesh, Malaysia, Maldives, Sri Lanka and Thailand have not yet been cleared.

**Table 4 List of BOBP Publications issued in 1995****Reports**

BOBP/REP/70 Report of the Nineteenth Meeting of the Advisory Committee, Jakarta, Indonesia.

BOBP/REP/71 Towards Sustainability: Needs and Concerns of Aquatic Resources and Fisheries in the Bay of Bengal Region and Project Ideas to Facilitate their Sustainable Management.

**Table 5 Professional Staff - 1995 - (GCP/RAS/150/DEN,  
GCP/RAS/151/JPN, GCP/RAS/117/MUL)**

**International Officers**

		Name of Incumbent (country)	Date of (month/year)	
			Arr.	Dep.
1.	Programme Coordinator	Chong, Kee-Chai (Malaysia)	12/94	
2.	Project Manager a.i.	Ravikumar, R (India)	05/94	03 /95
3.	Communication Adviser	Roy, R (India)	01/95	
4.	Coastal Zone Management+ Adviser	Nickerson, D J (Ms) (USA)	11/94	

**International Consultants**

			w/m
1.	Fishery Harbours	Ravikumar R (India)	1.0

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+ Costs covered by EPA of US



**Table 6 Supporting Staff 1995 - GCP/RAS/150/DEN,  
GCP/RAS/151/JPN, GCP/RAS/117/MUL)**

Name of Incumbent

**Administration**

1. Sr. Admin Assistant Scurville, (Ms) S
2. Sr. Driver Sivashanmugam, P M

**Information Service \* \***

**Secretarial Service**

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\*\* Costs covered by GCP/RAS/117/MUL — Contractual Staff provided by Madras Editorial Services.

**Table 7 Training Activities 1995 (GCP/RAS/151/JPN)**

No.	Subject	Duration Days	Venue	No of Participants					
				BGD	IND	INS	MAL	MDV	SRL
<b>Training Activities</b>									
1.	Conduct of Stakeholder, Identification Stakeholder Analysis, and Stakeholder Communication & Perception Studies for DOF/NGO staff	4	Chittagong	42					
2.	Conduct of Stakeholder, Identification Stakeholder Analysis, and Stakeholder Communication & Perception Studies for DGF/PFS/DFS staff	4	Siholga			17			
3.	Conduct of Stakeholder, Identification Stakeholder Analysis, and Stakeholder Communication & Perception Studies for NARA staff	2	Colombo					4	
4.	Conduct of Stakeholder, Identification Stakeholder Analysis, and Stakeholder Communication & Perception Studies for MRS/MOFA staff	2	Male						

No.	Subject	Duration Days	Venue	No of Participants						
				BGD	IND	INS	MAL	MDV	SRL	THA
<b>Workshops, Consultations and Seminars</b>										
1.	Findings of Stakeholder Studies and Planning of BOBP activities	3	Chittagong	28						
2.	Findings of Stakeholder Studies and Planning of BOBP activities	2	Medan			12				
3.	Content and Modalities of BOBP Activity in India	1	Madras			23				
4.	Emerging Needs for Information Services in Fisheries	1	Madras			20				
5.	GIS as a Tool for Management of Fisheries and Aquaculture	1	Madras			40				
6.	Seminar on Priority Setting for Fisheries Research	1	Kuala Lumpur					45		
7.	Seminar on Priority Setting for Fisheries Research	1	Colombo							35
8.	Seminar on Priority Setting for Fisheries Research	1	Male						35	
9.	National Workshop on Fisheries Resources Development and Management	4	Dhaka	80						
10.	National Workshop on Community-Based Fisheries Management	4	Phuket							106
11.	National Workshop on Integrated Reef Resources Management	4	Male						85	

## Appendix F

### POST-HARVEST FISHERIES PROJECT (ODA)

#### Annual Report 1995

#### *INTRODUCTION*

The Post-Harvest Fisheries Project is funded by the Overseas Development Administration (ODA<sup>1</sup>) of the United Kingdom and managed through the Natural Resources Institute (NRI). The Project was initiated in August 1987 and the third phase commenced in April 1993 and is scheduled for implementation for five years.

Three Bay of Bengal Programme (BOBP) member countries are included in this Project: Bangladesh, India and Sri Lanka. The principal objectives of the Project are:

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

#### *SUMMARY OF MAIN ACTIVITIES*

##### *Regional*

##### **Post-Harvest Overview Studies**

Post-harvest overview studies have been completed for India, Bangladesh and Sri Lanka. These consist of descriptions of the current activities in the post-harvest sector of those countries. These overview studies provide an initial baseline of information concerning activities, institutions and constraints facing post-harvest fishery aspects. It is the first stage of an ongoing process which will gradually build up a better understanding of post-harvest problems and constraints in the target countries.

The Overview Study for Bangladesh was conducted by a local consultant using a methodology developed as an output of the consultancy carried out by Integrated Marine Management (IMM) on behalf of the project. The report was reviewed by IMM and their suggestions and comments passed onto the local consultant. The studies for Bangladesh and Sri Lanka will require further inputs and revision before they can be generally distributed. The study for India has been revised and updated and was distributed to relevant organisations active in the post-harvest fisheries sector for their comments. These were incorporated into the

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<sup>1</sup> A list of abbreviations and acronyms is given in Appendix 3 on Page 88

final report and the Post-Harvest Overview Study for India was then published as five distinct reports covering India, Andhra Pradesh, Orissa, Tamil Nadu and West Bengal. These reports were distributed as widely as possible to development organisations and state government agencies working in, and having an interest in, post-harvest fisheries. As the collection of data for these Overview Studies is an ongoing process, the various target organisations are being encouraged to add to, or comment on the report to increase their accuracy and effectiveness. As more information is gathered, these studies will provide a concise and detailed document that will be made available to policy makers, governmental and NGOs, private sector and international agencies to inform them of the problems and prospects within the post-harvest fisheries sector.

### **Training Programme**

The training programme continues to address the needs of NGOs, government agencies and fishing communities in order to increase their ability to take up initiatives in the post-harvest fisheries sector. The project has been instrumental in organising several training courses where participants from both non-government and government organisations have attended. This has led to a greater understanding of the constraints and difficulties faced by the respective organisations which will help to facilitate collaborative activities between them in the future.

Training has also continued for community groups but the emphasis is also on development organisations undertaking this training and a 'train the trainers' programme has been implemented this year. This programme is working with core staff of two NGOs in developing a unit which will carry out the training at the field level. This is seen as an essential step in working with the communities towards achieving sustainability. The focus has been on increasing their communications skills and ability to promote the social and economic development of the fishing communities and acquiring the technical capacity in teaching basic fish handling and processing.

### **ODA Post-Harvest Newsletter**

One of the areas that the project has been concentrating on is in communicating the output of post-harvest work so as to generate greater awareness within the various organisations **and** end-users working in this sector. The most appropriate and cost-effective means of achieving this was by producing a newsletter aimed at target organisations which would also be instrumental in raising the profile of post-harvest fisheries. The first issue was distributed in January 1995 and the newsletter has now successfully entered its second year of publication. The format has recently been changed to incorporate suggestions and comments that have been received during the last year. One of the most important changes is the inclusion of articles in the local languages along the east coast of India. The first article has been translated into Tamil, Telugu and Bengali and was included as an insert and targeted at those states. In the later editions the project will also include articles in all six languages in which the project operates.

### **Advisory Leaflets**

The project has produced eight leaflets which are all available in English. Several of the leaflets have also been translated into the local languages — Tamil, Telugu, Oriya and Malayalam (India), Bengali (India, Bangladesh) and Sinhalese (Sri Lanka). They are a very cost effective way of disseminating and providing information for fishing communities

and development organisations working with these communities. They were produced in consultation with the target group and follow a simple style with easily understood illustrations. They are widely distributed to fisherfolk and development organisations and provide an important link between the project and the target group. Other publications, papers and leaflets produced by the project are listed in Appendix 1.

### **ODA Post-Harvest Fisheries Research Programme**

The project has been actively involved in liaising with the ODA Post Harvest Fisheries Research Programme. It was recently involved in organising and participating in a needs assessment exercise in collaboration with the Mangalore College of Fisheries, India which was commissioned by the ODA-PHFRP. The information was collected using participatory rural assessment (PRA) methodologies with fishing communities, and other groups and organisations involved with these communities. The objective was to determine researchable constraints to development or development opportunities in the post-harvest sector, after consideration of the social and economic issues. A key output was the preparation of a series of concept notes following the guidelines in the ODA post-harvest fisheries research programme. These formed the basis for discussions at a two-day workshop held in Madras late 1995 with participants from local NGOs, community representatives, ODA-PHFP staff and field manager and the manager of the ODA-PHFRP. A key output from the workshop was that the post-harvest fisheries project and the post-harvest research programme should strengthen their links and that the Madras office would be considered as a target institution that will take up the products from the research programme to benefit the target groups.

## **INDIA**

### **Fish drying and marketing**

Activities have focused on five main areas comprising of five subprojects. The fish drying and marketing subproject has focused on diversifying its product base and upgrading the traditional drying and marketing of various fish species through improved processing methods to optimise incomes. Work continued with the NGO Kanyakumari District Fishermen's Sangams Federation (KDFSF) and the complete stock of dried anchovies was sold and the accounts finalised for the financial year 1994/95 and audited by KDFSF's auditors. The manager of the anchovy drying project resigned in March 1995 and a meeting was held with KDFSF to determine the next course of action. It was agreed that KDFSF would take on the responsibility of recruiting a new manager before the next fishing season starts and interviews would be jointly conducted by the South Indian Federation Fishermens Sangam (SIFFS), KDFSF and ODA. Although KDFSF has taken on the responsibility of recruiting a local manager there has been little progress in identifying anyone. The project has adopted a passive role whilst still maintaining links with KDFSF. However, the emphasis is now with KDFSF to demonstrate that they have the capability, commitment and capacity to undertake this type of marketing development activity with support and backstopping from the project.

Drying rack technology is now beginning to establish itself along the Indian coast with organisations involved in the fisheries sector undertaking its promotion. The Department of Fisheries in Orissa, India, has sanctioned funds for the setting up of drying racks along the coast with the target individuals being selected by NGOs. In Kanyakumari, where the anchovy drying project was initiated, a few small-scale traders have encouraged fisherfolk

to adopt drying racks through the provision of credit. The repayment is to be in the form of the processed product, which at the moment commands fairly high prices on account of the extremely poor landings. Outside the project area SIFFS has conducted workshops amongst fisherfolk residing along the Kerala coast which has promoted the use of drying racks. Consequently, a few fishing communities have set up drying racks and have taken up marketing of the product on their own account. The NGO Santhidan is actively working with various women's groups in a number of villages in Kanyakumari in producing dried fish, and drying racks have been erected in a number of villages. The local women have formed themselves into groups and have undergone training in basic fish handling and processing implemented by the NGO.

### Fish smoking

The subproject on utilising tuna to produce smoked-dried masmeen (or Maldive fish) was appraised by the social and economic unit. Certain technical constraints and doubts about the continuity of supply emerged and it was considered unwise to proceed with this activity. However, the production of masmeen involves a smoking stage and the current method of smoking fish results in a poor-quality product. Therefore, the scope of the activity was changed to investigate the potential for introducing an improved smoking kiln to reduce the losses that occur, using the traditional kiln in this area. However, concern was expressed that the expansion of shrimp farms in this area could affect the long-term sustainability of this activity. Discussions were held with senior ODA management and it was agreed that the activity should proceed in a cautious manner; the question of long-term sustainability would be built into the logframe in the form of risks/assumptions with the social and economic unit assessing the situation.

As a result of the above, the emphasis was changed to improve the quality of smoked fish products through the pilot-scale introduction of an improved smoking kiln. The kiln was designed on the basis of a series of discussions held with local processors, which took into account the practices that were being employed. These pilot-scale trials would enable the project to predict the social and economic acceptability of the intended outputs for the kiln. The response to the kiln has been good, and the advantages are that it has reduced the processing time and consumption of firewood. The women have directly benefited as the difficult working conditions of remaining for long hours inside the traditional kiln are avoided. In addition, the reduction in processing time has enabled the women to get involved in other household activities.

Several government agencies have expressed a growing interest in providing funds for these kilns, and several requests for the kilns were received at the regional office in Kakinada. The project has been assisting officials in the implementation of government schemes to supply these kilns to the fisherfolk communities by facilitating inputs from the various agencies and SO kilns were supplied in October 1995. The government agencies were planning to increase this total to 200. They have now accepted that this should be undertaken only after an in-depth study to assess the social, economic and environmental impact of the kilns and determine their suitability and acceptability to the end user. The project is therefore planning to study the impact of this activity in February 1996 before any further developments are considered.

## Use of ice

There has been a great deal of interest in the use of ice and ice boxes recently, either as an income-generating activity or to improve the quality of the catch (particularly for shrimp and high value fish species). The provision of ice at the beach level is becoming increasingly important, possibly due to the increase in fresh fish and prawn prices on account of the relatively poor landings, at the artisanal level, along the east coast of India. This has led to a demand from fishing communities and petty fish traders to increase the supply of ice to villages. This demand has begun to stimulate interest in portable insulated ice boxes for storage of ice and also for fish marketing.

This subproject has concentrated on the development and promotion of simple low-cost insulated ice boxes for use on shore and on non-motorised craft, especially by catamaran craft fishermen in southern Tamil Nadu and Andhra Pradesh. This involves undertaking field trials with suitable insulated containers and monitoring their effectiveness prior to any large-scale implementation.

The project continues to work alongside Department of Fisheries (DOF) officials in implementing of government schemes to supply insulated boxes to fishermen by facilitating inputs from various agencies. The DOF in Andhra Pradesh has supplied and distributed ice boxes to fishermen through a local NGO, Visakha Jilla Nava Nirmana Samiti (VJNNS) and agreed that the NGO would implement a scheme for managing the repayment of the ice boxes, although the DOF would still be responsible for financial liability. Ice boxes have also been lent to another NGO and to cycle traders in Jaggampeta to assess the feasibility of storing fish overnight and marketing them the next day.

Trials on the use of low-cost ice boxes for catamarans have been conducted at Manapad in southern Tamil Nadu and Konarak in Orissa in collaboration with the DOF. The response of the fishermen has been very positive, and the demand for ice boxes is high as the fishermen can see the advantages of using the boxes, particularly during the shrimp season. They appreciate the importance and benefits of using ice; the shrimp season provides them with a good income for the remaining year and any reduction in spoilage consequently leads to an increase in their earnings. Another benefit is that the fishermen firmly believe that shrimp kept in ice boxes gain weight compared to the control group. Although there is nothing to substantiate this the shrimp are kept in ice water in the boxes and will not dry out as much as those shrimp kept in 'bags' onboard catamarans.

The insulated boxes were constructed out of local materials to make a lightweight box. Initial seaworthiness trials were very positive but with these extended trials it became apparent that the exposed environment onboard the craft has led to problems with the outer canvas cover which is slowly losing its protective waterproofing. However, Sintex<sup>2</sup> has been approached with a view to using their insulated boxes which, as the fishermen do not require a drainage plug, could possibly be used onboard the catamarans.

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<sup>2</sup> Sintex is a national manufacturer and distributor of high density poly-ethylene insulated boxes for the pharmaceutical, food and soft drinks industry.

## **NGO support/government links**

This subproject aims at building up the capacity of NGOs and Government officials to work more effectively at the community level in order that interventions may be effectively implemented. This approach is designed to develop the fishing communities socially and economically and address the problems and needs of these vulnerable groups, particularly in gaining access to credit, transportation to market and improved fish handling and processing.

At the beginning of the year, a preliminary meeting was held with the Joint Secretary of Fisheries, Fisheries Division, Ministry of Agriculture, Delhi, and representatives from the DOF in Tamil Nadu and Andhra Pradesh, to discuss the activities of the project and post-harvest issues generally. This position has been consolidated, and contact is regularly made with senior fisheries officials in Tamil Nadu, Andhra Pradesh and Orissa, and to a lesser extent in West Bengal, as the scope for post-harvest interventions in that state is limited.

The project has also been very active in liaising and strengthening its links with other government agencies involved in working with fisherfolk communities. The District Rural Development Agency, Backward Classes Corporation, the Andhra Pradesh Fishermen's Central Cooperative Society, Orissa Rural Development and Marketing Society, Orissa State Fishermen's Cooperative Federation, the Apex Federation in Tamil Nadu, National Agriculture Bank for Rural Development and the National Cooperative Development Corporation have all had contact with the project within the last year. The project has taken on an increased facilitation role in linking up development agencies with the various sources of government funds that are available from these organisations. However, although the Government of India's policy is to reduce subsidies, their previous availability has created an expectation by members of the fishing communities to receive a subsidy when a new technology is introduced. The institutional and administrative capacity of the various government agencies to ensure that loans are repaid is also very weak. This means that other members of the community do not expect to repay loans taken out with banks, or through NGOs, and this issue will have to be addressed if activities are going to be sustainable.

At the field level several training courses have been conducted for government officials. The focus is on fish handling and processing techniques although the social and economic issues are incorporated through the use of relevant case studies. In Andhra Pradesh, the Director of Fisheries specifically requested that the project conduct a short orientation course for extension officers in post-harvest issues and problems to make them more aware of the potential in this sector. A further course was organised for DOF and NGO staff that was funded through the District Rural Development Agency (DRDA), and similar courses have been held in Orissa.

The project has previously been providing support to a number of NGOs and Memoranda of Understanding were signed based on proposals submitted by the following NGOs:

- \* Rural Organization for Social Work (ROSA), Tranquebar;
- \* Coastal Poor Development Action Network (COPDANET), Madras
- \* Shantidan, Kanyakumari District in Tamil Nadu;
- \* Visakha Jilla Nava Nirmana Samiti (VJNNS) in Andhra Pradesh.

These MOUs finished last year and a review of the NGO support subproject was undertaken by two local consultants. They assessed the progress and organisational ability of the



NGOs in managing the inputs, considered the project's wider role and relationship in providing further support, and what action should be taken in the development of these NGOs. Although the review recommended that the project continue to support all the NGOs it also highlighted differences in approach and commitment between those whose relationship is associated and closely linked with fishing communities and those where the relationship is purely professional. Therefore, with these NGOs the project may simply restrict itself to consolidate the work that is already ongoing with the communities.

The implementation of activities will basically remain the same although the focus will be on three key areas; training, post-harvest activities and institutional strengthening with administrative support. The responsibility for completing the MOUs has been placed solely with the NGOs as an exercise in developing and designing well-planned proposals. Limited support has been provided in the interim period to ensure continuity and allow the NGOs to complete the tasks from the previous MOUs. However, the emphasis is now on the NGOs to submit them to the project and an institutional framework has been provided to ensure that activities and administrative support fully reflect the level of funding that is required.

Credit is an important input required by fisherfolk for consumption and production purposes and it plays a crucial role in their livelihood. Fisherfolk have difficulties in accessing formal sources of credit due to various factors related to administrative procedures and transaction costs. The availability of credit and the conditions under which it is supplied to the small-scale fisheries sector will directly influence the ability of fisherfolk to take up post-harvest initiatives. Therefore, the project takes a very pro-active facilitation role in working with government and banking organisations to assist fisherfolk communities to access formal credit sources.

The project has completed a study to assess the current demand for credit by fisherfolk in Andhra Pradesh and Orissa. This study identified the strengths and weaknesses of the various credit delivery systems that are in operation in order to assist in improving opportunities for enhancing access of credit provision to fisherfolk communities by the formal and informal sector. A report on the study has been finalised for distribution to senior officials in the government, non-government and banking sectors. Two workshops are planned for 1996 in the two states to disseminate the findings of the report and highlight some of the difficulties in getting funds released by banks because of regulations, administrative requirements and differences between policy implementation at the senior and branch level.

One of the consistent demands from fisherfolk communities has been the need to obtain information about the various credit and loan schemes that exist and which they could access through governments and financial institutions. To address this demand, the project has collected information on the credit schemes in operation and a booklet has been printed. This highlights the schemes presently available and the restrictions, regulations and procedures that must be followed in order to access them. These booklets cover Tamil Nadu, Andhra Pradesh and Orissa and have been disseminated to NGOs working with fishing communities. It has not been possible to obtain information on all the schemes available, particularly from the banking sector, and this must be considered as the beginning of an ongoing process that will be continued by the project. However, the feedback will make it easier to update the information once the first booklet has been distributed amongst the target groups and other interested organisations.

The project continues to provide support to the NGOs in identifying and accessing formal sources of credit and in setting up suitable credit schemes with the support of local financial institutions. Credit channels are also being established for women's self help groups in several villages to mobilise savings. Links have also been established with the Indian Bank, the National Bank for Agricultural Rural Development (NABARD) and with the women saving under the self-help group scheme of NABARD.

This project has been actively working in the development of the East Coast Fisherfolk Forum in facilitating, organising and supporting the group which is being partly financed by OXFAM. The original aim was to establish a network that would focus on post-harvest issues but this was too limited for the members. It has now been expanded to cover fisheries issues affecting fisherfolk communities. The project continues to have a role in ensuring that post-harvest issues and problems are considered. The next stage is to develop a structure for the Forum that will help in organising and coordinating any future activities.

The Woman in Development (WID) officer presented a paper on the project's experiences with credit services amongst coastal fisherfolk in India and Bangladesh at the conference on 'Finance against poverty: Challenges and advances in banking with the poor' held at Reading University, UK. The Conference was opened by the Minister of Overseas Development and attended by participants from international donors, NGOs and multilateral agencies. It was sponsored by ODA, World Bank and the Norwegian Agency for International Development (NORAD). The officer also attended a two-day workshop on "women's struggles in fisheries" at Cochin organised by, the National Fishworkers Forum (NFF). The second day focussed on the issues and problems of women engaged in post-harvest fisheries and it was proposed that an action group be established to represent women's interests in fisheries. Links have been established with the International Collective in support of Fishworkers. (ICSF) to raise the profile of women working in the fisheries sector.

### **Market support**

This subproject started to implement the marketing strategy, and associated activities, that was drawn up in late 1994. Demand for market-oriented activities continues to expand although the institutional capacity of development organisations to take up marketing development is very weak. As a first stage the project has been interacting with other organisations and discussing marketing development issues in the post-harvest fisheries sector.

A marketing workshop was held in Madras in March 1995 to discuss the experiences, needs and constraints of organisations working in the small-scale fish marketing sector and to explore the issues related to artisanal and small-scale production and marketing systems. Participants from India and Sri Lanka attended the workshop, which was targeted at people in development organisations (government and non-government), donor agencies and market research organisations. The project's marketing strategy was explained to the participants and discussions were held on addressing the needs of the target groups and how to collaborate activities in the field. Although the workshop proved stronger on identifying problems and constraints rather than solutions, it was useful in focussing the attention of the organisations on their requirements for undertaking or managing marketing development projects in a long-term sustainable manner.

A series of workshops was organised by the Tamil Nadu DOF and the Apex Federation for fisherfolk representatives to discuss various issues related to their requirements for undertaking marketing activities. The major issues were: price controls at the landing centre, infrastructural facilities and provision of credit. The project was invited and this gave an opportunity to explain the project's activities to all the participants including the Commissioner of Fisheries, Tamil Nadu.

## BANGLADESH

### **Institutional support for set bagnet fishery communities**

The situation prevailing in **Bangladesh** has meant that there has been some slippage in the implementation of the project activities. However, the project continues to support NGOs working with coastal fishing communities and in understanding the specific problems of set bagnet communities. Activities have focused on the specific problems faced by these communities. This fishery is a major contributor to the livelihood of the coastal communities which are amongst the poorest sections of the population. Concern has also grown over the possible effects of Government legislation to outlaw set bagnets which are seen as destructive and therefore pose a threat to the sustainability of the fishery resource upon which many coastal fisherfolk depend for a livelihood.

This subproject began at the beginning of the year, as a result of the 14-month micro-level social and economic study of the set bagnet communities. Two local staff have been recruited -- a woman in development officer to oversee women-specific activities and to ensure the incorporation of women's concerns into all project activities; and, a community organiser to oversee the development of the three institutional models of working with these set bagnet communities. The participation of the communities is paramount if poverty alleviation mechanisms are to be sustainable. Therefore, the initial stages will be directed towards actively involving the communities in identifying their needs, prioritising them and determining ways to address them.

The institutional models being developed require taking three distinct approaches based on the type of partner organisation involved. The first phase focuses on enhancing the capacity of the development organisations to work with these communities and on community-level activities, particularly the development and implementation of training programmes to enhance the skills and capabilities of the set bagnet communities in participation with the partners' organisations. The second phase will concentrate on the replication of models developed during the first phase.

The project has also been liaising with the Bay of Bengal Programme (BOBP) which is working with the Government of Bangladesh at the macro-policy level towards formulating policies and strategies regarding the management of the estuarine set bagnet fisheries. Project staff have participated in a number of workshops with officers from the Department of Marine Fisheries to exchange experiences and views which have led to a free flow of information at the micro and macro level. This culminated in a national workshop on 'Fisheries resources development and management in Bangladesh' that was held in Dhaka in late October. This meeting recognised that it is essential that the key organisations cooperate, share information and interact in order to enhance the capacity of the Government of Bangladesh to address the specific needs of the set bagnet communities.

## **Sustainable income enhancement in small-scale fishing communities**

A series of training workshops have been conducted to strengthen the capacity of NGOs who work with small-scale fishing communities to address the needs of these coastal fisherfolk communities and promote and support sustainable income-generating activities. These resulted in various income generation activities being identified, using participatory techniques with the fisherfolk communities. The project has provided some seed capital to the NGOs to support the income-generating activities as a continuation of the capacity-building and institutional strengthening exercise for enhancing their capability to act as development agents within the coastal fishing communities. This funding was released in January and the various income-generating activities have been implemented, although some NGOs experienced delays because they had to obtain permission from the NGO Bureau to operate the accounts.

A total of forty-one groups has now been formed (14 males, 27 females) amongst the coastal fishing communities. The first stage was to initiate a savings programme with the communities that have generated savings. The money generated by the programme has been used in the promotion of alternative income generating activities for both men and women. Training has been an integral part of the project and the ODA-PHFP has provided training to NGOs in community management issues, post harvest fisheries and monitoring and evaluation. The NGOs have used this training to increase awareness among group members about their problems and potential solutions, promote leadership capabilities and develop occupational skills. A variety of activities have been undertaken by group members in a number of areas, covering both post-harvest fisheries and non fisheries related topics such as vegetable cultivation and poultry rearing. The realisation that credit alone is not sufficient to alleviate poverty and that it is essential to expand the scope of income-generating activities amongst the fisherfolk communities in coastal Bangladesh has led the NGOs and fishing communities to devise a number of alternative income-generating activities.

A workshop involving the key participants from the NGOs and community groups was held in Chittagong in November. The discussion focussed on sharing experiences, achievements, failures, problems and future requirements with respect to implementing the income-generating activities undertaken to address their livelihood and human development needs. A review of the progress of the income-generating activities is being submitted by the NGOs and this will form the basis of discussions for any future project involvement. These workshops have led to an informal network of NGOs working with coastal fishing communities being formed. Discussions at the workshop supported the establishment of a representative network of NGOs which would strengthen their ability to interact with the government on issues concerning coastal fishing communities. This is currently being appraised by the project.

### **SRI LANKA**

The project's activities in **Sri Lanka** have continued to support and address the problems of small-scale itinerant fish traders in recognition of the important role played by them in fish marketing throughout the island and improving the quality of fish available for human consumption.

## **Co-operative development in the post-harvest fisheries sector**

At the previous annual committee meeting in April 1994, the post-harvest overview was discussed with the Director of Fisheries who requested the project to work on developing the capacity of cooperatives in the post-harvest sector. A survey was carried out at the beginning of the year to identify fisheries co-operatives involved in the post-harvest sector and assess the post-harvest needs at the artisanal level. Three districts were put forward by the Department of Fisheries, Hambantota, Puttalam and Gampata, and from each district certain co-operatives were selected through which the Department of Fisheries and the project would work, based on certain criteria drawn up by the project in consultation with the DOF.

The survey identified that the scope for meaningful post-harvest interventions was limited. The main demand was in the small-scale fish marketing sector where bicycle and motorbike traders expressed considerable interest in the ice boxes for distributing wet fish. There is a clear demand for insulated ice boxes from both motorcycle and bicycle traders and the experiences gained from working with these groups in Colombo and Negombo will be fed into this work. There is a growing demand for good quality insulated ice boxes for the 18-24 foot boats although certain issues relating to the demand, dimensions, cost and portability of the box need to be clarified before implementing this particular activity. The concept of carrying ice onboard the 18-24 foot boats is quite recent and some boats are now carrying small quantities of ice in Styrofoam boxes. However, these boxes are not very durable and several fishermen have enclosed the box in a wooden frame.

The project's focus is on working with, and assisting, the fishing cooperatives in implementing selected pilot-scale post-harvest activities with fisherfolk communities. These must demonstrate the economic and social feasibility of such activities in order that they will be incorporated into, and be funded by the government, financial institutions and other external donors. The success of these activities would always be dependent on linking them up to other programmes and the interest expressed by the ADB Fisheries Sector Development programme and the NORAD Integrated Rural Development Programme is being actively followed up by the project. This approach was supported by the Director of Fisheries with regard to supporting cooperative development in the post-harvest sector.

### **Itinerant fish traders**

The work with the cycle **vendors** continues to be supported by the collaborating organisation, Innovations and Development Networks (IRED). The membership of the cycle traders at St. John's market has increased to 138 and the annual general meeting (AGM) was held in May 1995. One major constraint that was expressed at this meeting was the need to have a base from which the traders could operate. Subsequently, the Minister of Fisheries was approached and a meeting was arranged which resulted in the project being offered some office space at the market through the auspices of the Ceylon Fisheries Corporation.

Several proposals were accepted at the AGM which increased the limits of both short and long term-loans. Also, a proposal was accepted to establish a welfare section for trader's families. One constitutional amendment that was passed was the extension of membership to the society to headloaders. Various schemes are now being implemented by the traders which include the provision of daily/long-term loans and life and accident insurance. The formation and strengthening of the cycle traders association has increased their ability to enter into discussions with the government and other financial institutions on securing loans for their members. The

Hatton National bank has been very positive and has agreed to grant self-employment loans to members of the association under the Gemi Pubuduwa loan scheme.

The St. John's Market cycle traders association has reached a critical stage in its development and the project, in conjunction with IRED, will slowly start to withdraw support to this activity. The training programme is focussing on developing the administrative and leadership capabilities of the traders so that they are in a position to take over the management of the association. The office space at St. John's market will benefit the traders in carrying out the various administrative duties related to running the association.

This activity has been expanded to work with the **cycle traders from Negombo** which is geographically close to Colombo and has a large cycle trader population. The objective was to form an association but the traders in Negombo are having difficulties in registering themselves due to legal implications as the traders at St. John's market have included Negombo in their jurisdiction. The Cooperatives Act is being carefully studied to determine the exact situation and what course of action should be taken. Although the society is able to operate savings and credit schemes, it is not able to secure loans from banks or other institutions as it is not registered. There is also the question of office space from which the society can function and a general meeting was arranged at the end of the year to discuss these matters. These are issues that the society at St. John's market has faced and successfully resolved over the last few years and the project, through its partners' organisation, will draw on those experiences in setting up and establishing the cycle traders' association.

## **SOCIAL and ECONOMIC UNIT**

The project is essentially a process project, and social and economic data gathering is often carried out as subprojects evolve, this is an essential part of ongoing project planning and is very closely linked to monitoring functions. Therefore, the internal and monitoring unit was changed to the **social and economic unit (SEU)** this year. This reflects their role without emphasising the monitoring function which led to some resistance from certain development agencies. The unit is responsible for carrying out in-depth appraisals of subprojects prior to implementation, followed by output and impact monitoring and reporting back to field staff and project management. Emphasis is placed on identifying practical, cost effective and timely means of verifying the impact of project inputs, as well as assessing progress against set targets. Some of the activities undertaken by this unit are highlighted below.

Monitoring the process of institutional strengthening formed an important part of the activities carried out this year. In order to achieve long-term sustainability of post-harvest activities being implemented at the grassroot level it is essential that they form strong, self-reliant and cohesive groups. The groups formed by the various partner NGOs working with the project were assessed. Formal meetings were conducted with these groups to understand the group character and the stage they have reached in the process of group formation. Discussions were also held with the animators during which the need for recording qualitative information at the field was stressed. A format for recording this kind of data was evolved in consultation with the animators. This format focuses on recording events and changes at the field level in order to bring about a better understanding of the process of change. The format designed also has the provision to record the professional growth of the animator as perceived by him/her and is presently being tested at the field level. The entire process of institutional strengthening was looked at in an individual context taking into account the

specific field situations and problems faced by the NGOs and grassroots level institutions. The project is working with groups formed at the village level in directing efforts towards a greater involvement in post-harvest activities and the SEU has been monitoring the training programme given to the animators, as a part of this effort.

An appraisal study was conducted on the introduction of a van hire transportation system in the villages of the NCO ROSA. One important aspect highlighted was the potential problems fisherwomen could face if such a system was implemented and then withdrawn. The difficulties that fisherwomen may face if they were to return to public transport, the interaction between the fisherwomen and the village community, the kind of support that could be expected from the villagers in the management of the new transport system and the extent of backing from the community to cope with the situation in case of its withdrawal were all studied. The study showed that the NGO would find it difficult to manage a hired transport (van) system at the field level. Also, there is a lack of available transport for hire on a regular basis. It was agreed that a simple motorised tricycle would be operationally easier to manage. As a result of this information the NGO has drawn-up a proposal which has been submitted to the British Partnership Scheme at the High Commission, Delhi.

A study of fish markets in and around the town of Nagercoil in the Kanyakumari district of Tamil Nadu was undertaken at the request of the NGO Santhidan. The focus was on assessing the sociological aspects relating to fish retailers and the physical conditions of the fish markets with the objective of identifying areas for intervention. One of the important findings from the study was the lack of adequate storage facilities available for fresh fish. Consequently, the vendors would either sell their fish as distress sales or, be forced to dry them at the end of the day. The possibility of installing ice boxes at the market places for use by the fish vendors was one option. The project has already given two onshore iceboxes for trial use by two groups of fish vendors in two villages in the district. Discussions held with Santhidan revealed that the boxes have been used by the groups very effectively to reduce their distress sales. The possibility of replicating the intervention at the marketplace to include other fish vendors is being investigated and a more in-depth study looking into the various aspects is being planned by the unit.

A visit was made to West Bengal to assess the scope and feasibility for undertaking post-harvest activities and, to identify suitable institutions through which project interventions could be channelled. Discussions were held with various government and non-government officials on working in the marine post-harvest fisheries sector. The major focus in West Bengal is in inland fisheries and aquaculture and interventions in the post-harvest sector are fairly limited in scope. Most fish are sold in the fresh state and the extension of using low cost icing systems is one potential area where the project could target its activities. One NGO has been identified as a possible organisation through which the project could operate. OXFAM is also funding this NCO and may provide some financial support with the project restricting itself to providing technical support, advice and pilot scale demonstrations. However, discussions with the NGO and OXFAM (Calcutta) have to be held before finalising any inputs into West Bengal. The initiative of targeting interventions through this NGO in West Bengal in collaboration with OXFAM is seen as the most effective way of achieving long-term sustainability as well as raising the profile of post-harvest fisheries with other organisations working with fisherfolk.

The third phase of the project has now been operational for two years and the SEU reviewed project activities in India to assess the actual impact at the village level and to provide a base for conducting a cost benefit analysis exercise. Following on from discussions with the ODA Economist in Delhi two of the subprojects were selected. The valuation of benefits was completed using imputed price decided in consultation with officers involved in the projects. The costs are based on the information contained in the financial database and cover expenditure of each subproject by the various account codes. The calculations were essentially of a “quick and dirty” nature, and several difficulties and constraints emerged during this exercise; these have been detailed and the final report has been sent to Delhi for comments on the methodology used before applying it to the rest of the subprojects.

The SEU is also looking at assessing the potential impact through using indicators based on the transfer and replicability of project interventions to other organisations and communities and the facilitation role played by the project. The ability of grassroots organisations/NGOs to attract funding from other development institutions is one such example which will be instrumental in ensuring the long-term sustainability of the activity in question.

The unit has established a three-tier system of collecting information covering the following areas. The reports that have been issued since 1993 are listed in Appendix 2.

- \* Census studies that determine the social and economic structure of target communities;
- \* Baseline studies which focus directly on those groups involved in the project activities;
- \* Perception studies which are sociologically oriented and focus on the perception of those individuals concerned on how they feel they have benefitted from project inputs.

At the field level the SEU is reorientating itself to a more managerial role in supervising the field level staff of the NGOs to collect data for monitoring and socio-economic purposes in India, Bangladesh and Sri Lanka. Plans are also being made to discuss with the NGOs/communities the role of monitoring, responsibilities for the collection of data and assisting NGOs to monitor their own progress towards carrying out activities. This latter activity will be addressed by conducting various training courses for NGO staff in project planning and developing procedures for project monitoring that can be used at the field level.

The SEU has been most closely involved with the “needs assessment” exercise for the research programme and has facilitated and assisted in drawing up the concept notes. The officers assisted in the PRA exercises in southern Tamil Nadu and in North Kerala and contact was also made with other institutions involved in the post-harvest sector.

Further details of the subprojects and related activities follow:

## **REGIONAL**

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### ***Subproject: Overview Study (REG 1)***

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#### **OBJECTIVES**

To provide a planning framework for development interventions within the post-harvest fisheries sector and to raise the profile of post-harvest issues in the Bay of Bengal region.



STATUS 1994

Study completed in India and a methodology developed for implementation in Bangladesh. Study undertaken in Bangladesh and a draft report completed and sent for appraisal by project management.

Targets 1995

Achievements

Publication and dissemination of information to targeted organisations active in the post-harvest sector

Indian Overview study published as five distinct reports: India, Andhra Pradesh, Orissa, Tamil Nadu and West Bengal and distributed to officials in the government and non-government organisations active in post-harvest fisheries.

Assessment

The Overview will help to develop institutional communication concerning key problems in the post-harvest sector and will benefit as a planning tool to those organisations active in this sector in the region.

*Targets I 1996*

Distribution and dissemination of the Sri Lankan and Bangladesh Overview Studies.

Government, non-government and organisations active in the post-harvest sector encouraged to add to, correct or modify existing data to enhance the accuracy of the information of the documents.

*Future*

As more information and feedback is received the Overview Studies will provide a detailed document on the post-harvest fisheries sector. It will have application to policy makers, governmental and non-governmental organisations, private sector and international agencies to inform them of the constraints and future options within the post-harvest sector.

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*Subproject: Training and support to GOs/NGOs (REG 2)*

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OBJECTIVES	<p>To strengthen the effectiveness of GOs/NGOs and intermediary development institutions in supporting the development of target groups.</p> <p>To increase revenue of fishing communities through increasing skills and awareness in post-harvest fishing aspects and uptake of alternative income generation schemes.</p>
STATUS 1994	<p>Several training courses conducted in basic fish handling, processing and marketing and also communities issues. A review of the training programme was carried out and in order to strengthen the training capacity of the selected development organisations, a 'train the trainers' programme is being initiated.</p>
Targets 1995	Achievements
Conduct and develop a 'train the trainers' package to build up the capacity of NGO staff to address technical and social issues related to post-harvest fisheries.	Training has been carried out in communication skills, technical aspects of post-harvest fisheries, the role of thrift and credit and organisation/management of women sangams and PRA techniques.
Target groups in fishing communities trained in basic fish handling, processing and marketing.	21 courses conducted for 320 participants from non-government and government organizations
Awareness and promotional activities conducted for NGOs and fishing communities.	3 activities carried out in Orissa and Andhra Pradesh
Target groups in fishing communities trained in community issues.	15 courses carried out for 366 participants in communications skills, role of thrift and credit, management and organisation of women sangams and use of street theatre by project and NGO staff, bank officials and staff from the State Resource Centre
Training of PRA skills at the village level.	11 courses conducted for 330 participants by Outreach and NGO staff.

### *Assessment*

The training activities have been developed as a result of dialogues with the participatory organization and fishing communities. These have now been reviewed and the feedback incorporated into the next phase. This will now Several training courses conducted in basic fish handling, processing and marketing and also communities issues. A review of the training programme was carried out and in order to strengthen the training capacity of the selected development organisations a “train the trainers” programme is being initiated.

### *Targets 1996*

Continue to develop the ‘train the trainers’ package and evaluate the progress made by the core staff in the NGOs

Assess the scope for undertaking training for NGOs and GOs in marketing development issues.

Continue to encourage the participation of government and non-government officials in the training courses.

### *Future*

Consolidation of the training programme with the eventual formation of a cadre of personnel from the government and non-government sectors who are able to deliver appropriate training courses which will ensure the long-term sustainability of this activity.

## **INDIA**

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### ***Subproject: Fish Drying and Marketing (IND 3A)***

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OBJECTIVES	To assess the market potential for expanding the utilization of low-valued fish species by identifying novel marketing strategies which enhance their value both as processed and value-added products.
STATUS 1994	Stocks of processed anchovies sold and all loans repaid and a business, market and development plan prepared to support requests for funds to operate the anchovy drying project on a commercial basis. Formation of an advisory committee which would be responsible for implementing decisions affecting the outcome of the project.
Targets 1995	Assessment
To increase marketing efforts to sell and promote dried anchovy products.	The manager of the anchovy drying project resigned in March and KSFSF agreed to recruit a new manager. The project is adopting a passive role and it has been made clear to KDFSFS that the project will no longer

directly manage this activity although it will still provide support.

Expansion and promotion of sing drying racks continued.

Drying rack technology is beginning to become established along the Indian coast. The NGO Santhidan is actively involved in producing a variety of dried fish products, the DOF in Orissa has provided funds to set up racks; even outside the project area other organisations are promoting drying racks.

### *Assessment*

There has been considerable progress in extending the use of drying racks throughout the coast of India and some organisations are now actively promoting them. The anchovy drying project has suffered due to the poor fishing season and the lack of commitment from KDFSFS to recruit a local manager. However, even though the activity is not operational it has proved to be a catalyst and a few small traders have encouraged fisherfolk to adopt drying racks through the provision of credit.

### *Targets 1996*

Keep a watching brief on the anchovy drying project and provide support when KDFSFS indicate their willingness to take it up again

Wider dissemination of improved rack drying technology and supporting marketing infrastructure in the region.

Expansion and diversification of the utilisation of different types of low-value species of fish for marketing as dried fish.

### *Future*

The project has demonstrated that low-value fish can have their value increased through product development and there is scope for marketing these products commercially, although securing working capital is still an issue that is difficult to resolve. The need for product diversification is essential although the unreliability of the fishing season is always going to create problems in the initial stages of development.

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### ***Subproject: Fish smoking (IND 3B)***

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#### **OBJECTIVES**

To investigate the potential for introducing an improved smoking bin to improve the quality and reduce losses that occur using the traditional method.

The subproject on utilising tuna to produce smoked-dried masmeen (or Maldivian fish) was appraised by the social and economic unit. Certain technical constraints and doubts regarding the supply of tuna emerged and it was considered unwise to proceed with the activity.

However, the current processing method of producing smoked-dried products resulted in a poor quality product and the scope for introducing an improved smoking kiln was investigated.

#### Targets 1995

Demonstration trials initiated to develop a suitable prototype.

Data collection on the technical, social and economic aspects

Social and economic study undertaken prior to full-scale production taking place.

Pilot-scale production trials initiated.

#### Achievements

Prototype model built with the full participation and collaboration of the fisherwomen processors.

Data collection completed and report submitted.

Study indicated that the social and economic aspects were positive although the question of long-term sustainability was still an issue. This had been discussed with senior ODA management and it was agreed that the activity could proceed bearing in mind this issue.

Various government agencies have provided funds for producing the kilns and pilot-scale production began in late 1995.

#### *Assessment*

The future potential of this project is promising although the intervention of the Government may have a negative effect on the actual outcome and impact.

#### *Targets 1996*

Social and economic study to assess the success of the introduction of the kilns in February 1995 and a full report to be sent to the Government. This study will determine the future of the project, the direction it should take and the impact of the government on uptake and sustainability.

#### *Future*

This will depend upon the outcome of the study and the response to any recommendations directed at the Government.

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*Subproject : Use of Ice by fishing communities (IND 4)*

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OBJECTIVES	To improve the quality and value of fish landed by / artisanal fishing craft through the promotion of the use of ice on board and insulated boxes made from low-cost material.
STATUS 1994	Development, designs and initial field trials of simple low-cost insulated ice boxes implemented in Tamil Nadu in collaboration with Tuticorin College of Fisheries. A simple PUF ice box constructed in collaboration with the Andhra Pradesh Fisheries Development Cooperative and field tested. Initial trials successful and further boxes constructed for a more in-depth study.
Targets 1995	Achievements
Trials completed in Tamil Nadu and Andhra Pradesh.	Trials finished in Tamil Nadu which demonstrated that the insulated boxes reduced losses and led to an improvement in quality of the catch landed. The trials in Andhra Pradesh could not take place due to the poor fishing season and the trials are now taking place in Konarak, Orissa and will be completed in March 1996.
Assess pilot-scale trials for use of 250L insulated boxes as portable ice boxes.	Several trials initiated in Tamil Nadu, Orissa and Andhra Pradesh with the possibility of initiating further work with these boxes in West Bengal. Initial results indicate that the boxes are being used for marketing purposes but that the returns are quite low and the use of these boxes may not be cost-effective in the long term.
Provide advice to NGOs and state GOs on the use of ice and insulated ice boxes.	An extension leaflet on "ice adds value to your catch" has been printed. Local manufacturers being approached to determine their capacity and commitment to construct ice boxes. The industrial manufacturers (Sintex) have also been approached for the provision of ice boxes.

*Assessment*

The benefits of using ice are reflected in the demands of fishing communities for the provision of ice at the beach level and ice is increasingly seen as an essential commodity by traders and fishermen alike. Future initiatives will be directed at enabling these groups to gain access to ice through the provision of insulated ice boxes for storing ice and for marketing purposes. However, any initiatives must still demonstrate the technical and economic advantages of using ice and insulated boxes. There are considerable social,

institutional and financial constraints in using PIBs. In view of these difficulties the project will have to very carefully assess any proposal for constructing them. The focus will be on using 250 L insulated ice boxes instead that are portable, cheaper and more manageable by the community.

***Targets 1996***

Complete field trials of low-cost ice boxes for catamaran raft fishermen in Orissa.

Continue to provide advice and training to NGOs and state DOFs on use of ice and insulated ice boxes for handling and storing of fish.

***Future***

The use of insulated ice boxes is becoming more acceptable and the demand for ice is increasing. However, there have to be suitable production systems in place to supply these ice boxes at an acceptable price and quality. At the moment this is generally not in place in India and the project must encourage local manufacturers whilst at the same time approach the industrial sector who are building insulated boxes but not for the specific needs of fishermen.

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***Subproject: NGO Support (IND 6)***

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OBJECTIVE	To increase the incomes of fisherfolk through better transport links to market, reduction in post-harvest losses, value-addition through improved processing and better access to credit.
STATUS 1994	The project has continued to assist NGOs in identifying and accessing formal sources of credit, establishing informal credit schemes and assisting with technical and marketing activities and issues in the post-harvest fisheries sector.
Targets 1995	Achievements
Review of the NGO support project by local consultants.	Review completed and submitted to the project and NGOs. Workshop held in July to discuss and disseminate the findings and consider the project's wider role and support to partner NGOs.
Study on credit availability for marine fisherfolk in Andhra Pradesh and Orissa.	Study commissioned and completed in June 1995. Report in final stages of printing.
Increased networking and support to NGOs.	Post-Harvest newsletter started in 1995 and sent to NGOs and fishing communities set-up. Project continues to support East Coast Fisherfolk Forum.

Produce information on the various credit and loan schemes that exist for fisherfolk communities and which they could access through government and financial institutions.

Collection of information and produced in a booklet for Tamil Nadu, Orissa and Andhra Pradesh for dissemination to NGOs working with fishing communities.

#### *Assessment*

The programme is slowly building up the institutional capacity of NGOs and the project continues to assist NGOs, directly or indirectly, in a wide range of issues in the post-harvest sector. The review of the project's partner NGOs and subsequent discussions has highlighted the differences between those NGOs that have an established relationship with the fishing communities and those that have a purely professional relationship which could affect the implementation of project activities.

#### *Targets 1996*

Dissemination of the report on credit availability in Andhra Pradesh and Orissa through two one-day workshops.

Prepare the booklet on types, sources and criteria for availing of credit in Tamil, assess the scope for translating the other booklets into Telugu and Oriya.

Continue to support networking and information flow to fishing communities and NGOs. Determine the scope for producing newsletter articles into the local languages.

Develop contact with the Women in Fisheries programme and maintain links with other programmes with an interest in women in fisheries.

#### *Future*

Stronger grassroots level organizations in fishing communities and increased capabilities of NGOs are essential if the transfer and dissemination of proven technologies are to be achieved and sustainable benefits are to be secured from project activities.

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### ***Subproject: Government Links (IND 7)***

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#### **OBJECTIVES**

To increase awareness, understanding and knowledge of this sector so that they are included in policy/development plans at the state government level.

#### **STATUS 1994**

This was previously included in the subproject NGO support and GO links but is now being developed as a separate subproject.



## Targets 1995

## Achievements

Distribution of the Post Harvest Overview.

Study distributed to key figures in Central and State government agencies.

Increased contact with officials active in the post-harvest sector.

Meetings held with Joint Secretary of Fisheries and other senior officials.

Increase project's role in liaising with and strengthening links with government and international agencies.

Several government agencies have developed links and have been in contact with the project. This has increased interest in possible collaborative activities being planned by the project. Attendance at the regional FAO/APRACA meeting on institutional credit for the fisheries sector.

## Assessment

Support to strengthen the profile and awareness of post-harvest fisheries in the government is essential, if the specific needs of the fisherfolk communities are going to be addressed at the field level and also in the government's policy and development plans.

## Targets 1996

Continue to play a facilitative role on linking development organisations with government agencies working in the post-harvest sector and provide advice to government agencies in order that post-harvest issues are included in policy and development plans.

## Future

Although the project is working with NGOs and development organisations it is the government that provides direction for the development of the post-harvest sector's development through its policies, plans and support. Therefore, they must seek to inform and influence the government if it is to have a significant part to play in this sector.

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### ***Subproject: Marketing Support (IND 8)***

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#### OBJECTIVES

To increase incomes in the small-scale fisheries marketing sector through provision of advice and support to strengthen capacity and facilitate greater cooperation between organisations working in this sector.

#### STATUS 1994

A marketing strategy was developed and formulated according to which the focus of project support should be to increase the ability of development organisations to manage marketing development projects. Three types

of activities were highlighted: non-specific market information, project appraisal and other project-related activities and collaboration between the different organisations working in the post-harvest fisheries sector.

#### Targets 1995

Workshop to discuss the needs and constraints of working in the small scale fish marketing sector.

Continuation of the fish marketing database.

Continue market support to KDFSFS.

Study to analyse the market systems, structure and performance of the traditional products sector.

#### Achievements

Workshop held in March with 30 participants (2 from Sri Lanka) from the public and private sector, government and non-government organisations.

Several organisations approached and there has been no interest shown in using the outputs. This view was confirmed at the workshop when participants agreed that this type of information would only be of general interest and not specific enough for their purposes.

The manager resigned in March and KDFSFS have not yet identified a replacement

Study completed in Orissa and Andhra Pradesh.

#### *Assessment*

The principal strategy for marketing development support to local partners is based around the traditional processed product sector although other viable marketing initiatives will also be considered. Effective marketing is essential if income-generating schemes in the post harvest sector are to be successful and the entire strategy of marketing of small enterprise's products will be of crucial importance. The focus is towards institutional strengthening and building up the capacity of organisations to manage marketing of fish and fish products. This will be addressed through provision of market studies at the local and national level; advice on marketing systems and provision of training in enterprise management.

#### *Targets 1996*

The project has been receiving many requests for assistance in marketing of fish products which tend to be product-led with little, or no, attention to the markets. Therefore, a methodology and guidelines are being developed that can be used by development organisations to determine and assess the market situation. This will take the form of a series of 'bench marks' that must be considered before the next organisation can move on to the next stage. The objective will be to increase the organisation's awareness of the marketing issues that must be addressed before entering into production.

Dissemination of market report and continue network with other organisations involved in the post-harvest fisheries sector that have an active interest in marketing.

*Future*

The marketing strategy is focused on addressing the needs of local NGOs, government agencies who are, or going to be, involved in marketing development who can benefit from the support and assistance provided by the project. This will take the form of institutional development rather than direct involvement in marketing by the project.

**BANGLADESH**

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***Subproject: Sustainable income enhancement in small-scale fishing communities in Bangladesh (BGD 10)***

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OBJECTIVES	To increase the incomes of artisanal fishing communities through income-generating activities.
STATUS 1994	The project has been supporting seven NGOs through the provision of a series of workshops on sustainable income-generating activities as part of an institutional strengthening exercise for enhancing the capabilities of the NGOs to act as development agents within the coastal fishing communities.
Targets 1995	Achievements
Review of activities undertaken by NGOs and fishing communities.	NGOs have initiated a number of IGA for the group members, organised training programmes to develop the skills and capabilities of the fisherfolk and addressed certain social issues affecting the communities.
Preparation of case studies of female group members who have obtained credit from the respective NGOs	Case study completed in July, information will be used to feed into the subproject on set bagnet fishery communities.
Implementation, management and monitoring of IGA by communities and NGOs.	Field visits and observation of fishing communities continued throughout 1995 depending on the political situation prevailing at the time.
Dissemination of information and experiences gained to other NGOs working with coastal communities.	Workshop held in November with 23 participants from NGOs and fishing communities which was coordinated with the work being done with the set bagnet communities.
Review of activities being submitted by NGOs for detailed analysis.	Two NGOs have yet to submit their reports and the final report will be completed in early 1996.

### *Assessment*

The prime objective is to increase the capacity of NGOs as development agents within these communities by implementing income-generating activities using techniques learnt through participating in the workshops. The initial response has been very encouraging and indications are that it has improved the overall situation especially for women who were unable to access any credit previously. However, a more detailed and comparative analysis will be undertaken when all the reports are received which will give a more comprehensive outline of the activities. This will then form the basis for discussions for any future project involvement.

### *Targets 1996*

Complete the training modules that were delayed due to problems in getting permission to use the money from the NGO Bureau.

Complete and report on the analysis of the activities undertaken.

### *Future*

To enhance the capacity of NGOs working with coastal communities to mobilise and organise fisherfolk communities to undertake activities to improve their socio-economic conditions through implementation of viable income-generating activities.

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### ***Subproject: Set bagnet Fisheries (BGD 11)***

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OBJECTIVES	To enhance the sustainability of livelihood strategies amongst the set bagnet communities and reduce the pressure from economic exploitation of the marine resources in Bangladesh
STATUS 1994	A 14-month study by a local consultant to investigate the long-term social and economic activities related to set bagnet fisheries. A workshop held to disseminate the findings to government, non-government officials and representatives of donors. Results of study findings incorporated into a proposal project for further inputs over four years.
Targets 1995	Achievements
Recruitment of staff, managerial and administrative framework drawn-up for project implementation.	‘Woman in development’ officer recruited in January to oversee women-specific activities.
Annual visit by Social Development Adviser	Visit in January to discuss long-term inputs with staff and implement a six-month work programme.

Community involvement in identifying, prioritising needs and determining ways of addressing them.

Regular field visits made to all three communities although these have not always been possible due to the political situation.

Interaction with Government of Bangladesh and FAO-BOBP.

Participation at three workshops organised by FAO for government officials and at the national workshop held in Dhaka in November.

### *Assessments*

The aim is to address the specific needs and constraints of the set bagnet communities. This will be achieved through enhancing the skills base of development agencies and government to work with these communities by addressing post-harvest fisheries concerns in particular and also the linked issues of credit and marketing.

### *Targets 1996*

Incorporate post-harvest skills training into a broader-based human resource development programme.

Address the needs of access to credit and issues of marketing within the communities

Monitor the end-use of loans to provide information on community priorities.

Continue to collaborate and interact with the FAO-BOBP funded programme and GOB initiatives in this sector.

### *Future*

Any viable activities identified following the study will depend on establishing positive support from the communities. However, the formation of groups can serve as a catalyst for a broader range of social and economic development. The linkages with the FAO-BOBP activity will ensure that networking and cooperative action between the two projects is maintained.

## *SRI LANKA*

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### ***Subproject: Itinerant Fish Traders (SRL. 14)***

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#### OBJECTIVES

To increase the revenue of small-scale fish traders through reduction of losses, improved handling and accessing available credit.

#### STATUS 1994

Continued support to IRED in the area of fish marketing and institutional strengthening of the cycle traders. Savings and loans schemes implemented which have allowed traders to repay old debts, obtain credit for

marketing purposes and for longer-term loans,-  
motorbikes.

#### Targets 1995

#### Achievements

Implementation of savings and  
loan schemes.

Daily loans provided for marketing purposes, long term  
loans for purchase of bicycles/motorbikes from the  
savings fund and the Hatton National Bank. Society  
also is providing life and accident insurance to its  
members.

Secure office space for cycle  
traders at St. John's market.

Meeting held with Minister of Fisheries and office  
space allocated to traders by Ceylon Fisheries  
Corporation.

Investigate the possibility of  
construction of ice boxes being  
undertaken by local artisans or  
by the traders.

Proposal for establishing a workshop for the cycle traders  
to submitted to the British Partnership Scheme through  
the High Commission in Sri Lanka.

Continue support to cycle  
traders at Negombo.

The membership now stands at 46, loans have been  
obtained from Hatton National Bank for the purchase  
of five bicycles and six insulated boxes. Efforts to  
locate an office have not been successful.

#### ***Assessment***

This activity has focussed on understanding the operational dynamics of the cycle traders within the marketing system whilst introducing an improved technology in the form of an insulated box for them. This has involved the project in the social, economic, marketing, institutional and technical aspects of the traders livelihood working in the post-harvest sector.

#### ***Targets 1996***

Plan a phased withdrawal of support for the cycle traders at St. John's market.

Investigate the possibility of securing some office space for the traders at Negombo, assist them to promote the benefits of the association and general awareness campaign, initiate training in financial management and leadership skills and support them in accessing other sources of funds

#### ***Future***

To withdraw support and enable the cycle traders at St John's market to managing their own affairs with the longer term goal of self-sustainability. The activities in Negombo will draw upon these experiences and replicate the success with the cycle traders operating in that area.

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***Subproject: Co-operative development in post-harvest fisheries (SRL 15)***

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OBJECTIVES	To support and build up the capacity of cooperatives in managing fish marketing activities through institutional strengthening and provision of advice on marketing strategies.
STATUS 1994	Three areas identified by the DOF. Review of support and development of cooperatives started in late 1994 to assess the scope for post-harvest activities and appraise the institutional capabilities of the cooperatives.
Targets 1995	Achievements
Review completed	Review carried out by staff from the DOF and the project and completed in early 1995. Report distributed to UK and fisheries officials in Sri Lanka.
Preparation of baseline and field visits to undertake focus group interviews.	Questionnaires prepared in consultation with DOF officials. Cycle traders, boat owners and fisheries officials encouraged to discuss the needs and demands with regard to the use of ice and insulated ice boxes.
Assess scope for collaborating with other donor agencies.	Official links with the ADB Fisheries Sector Development Project established.

***Assessment***

Fishing cooperatives have tended to focus on the production and supply side of fisheries and the Sri Lankan government has recognised this by recently introducing a policy to assist cooperatives in undertaking a greater role in fish marketing and enhancing the value of both fresh fish and fish products. Although the scope of the survey recognised the limited scope for post-harvest activities there is a demand for insulated ice boxes by small-scale fish traders and the 18-24' boat owners.

***Targets 1996***

Study visit to India to observe post-harvest interventions through development agencies

Determine the extent and scale of demand for insulated ice boxes on 18-24' craft, whether this is for a fixed/portable box and how the type of fishing gear will affect the use of the box and identify local manufacturers to design and construct boxes and begin trials of prototypes.

***Future***

This will depend on the outcome of the technical, social and economic appraisal of the trials.

## **Appendix 1**

The ODA Post Harvest Fisheries newsletter continued uninterrupted publication during 1995. Four issues, totalling 50 pages, were released. Details of the other publications and papers brought out 1994 are listed below:

### ***Leaflets***

1. *Permanent Ice Box: Construction specifications* in English, Tamil, Telugu and Bengali.
2. *Insulated fish Boxes: Types, specifications and usage* in English, Tamil, Telugu, Oriya Bengali.
3. *How to use ice box on navas* in English, Tamil, Telugu and Oriya.
4. *How to make high-quality dried anchovies* in English, Tamil, Telugu and Malayalam.
5. *A new and better fish marketing container* in English, Tamil, Telugu and Oriya.
6. *Improved credit system for a better quality of life* in English, Tamil, Telugu and Oriya
7. *Ice Boxes add value to your catch* in English

### ***Papers***

1. Credit Services, women and empowerment in coastal fishing communities: Case studies from Tamil Nadu and Bangladesh. Paper presented at the Conference on finance against poverty, challenges and advances in banking with the poor held at the University of Reading, UK, 27-28 March 1995.
2. ODA's role in working with the small-scale fishing communities in the Post-Harvest sector in India. Paper presented by Duncan King, Project Field Manager at the National Symposium on Technological Advancements in Fisheries and its impact on Rural Development held at Cochin, India, 5-7 December 1995
3. Introduction of an improved smoking kiln in Andhra Pradesh. Paper presented by Venkatesh Salagrama, Field Liaison & Extension Officer, Andhra Pradesh/Oriya at the National Symposium on Technological Advancements in Fisheries and its impact on Rural Development held at Cochin, India, 5-7 December 1995
4. Women in Fisheries: The impact of introducing new technologies for women in Post-Harvest Fisheries. Paper presented by Mrs A Kamila, WID Officer and Venkatesh Salagrama, Field Liaison & Extension Officer, Andhra Pradesh/Oriya at the National Symposium on Technological Advancements in Fisheries and its impact on Rural Development held at Cochin, India, 5-7 December 1995.
5. Credit Groups as an Instrument of Change: Case of the Women of Pudupettai and Kuttiyandiyur. Paper presented by Duncan King at the National Symposium on Technological Advancements in Fisheries and its impact on Rural Development held at Cochin, India, 5-7 December 1995.



### ***NRI Reports***

1. Caught in their own nets: A social study of set bagnet fishing communities in Bangladesh. R2199(C) by M E Blowfield and N Haque.
2. Mission to India to develop a strategy for the Bay of Bengal project to support fish marketing in India by M Pritchard.
3. Socio-Economic methodologies for coastal fishing communities. The example of set bagnet communities in Bangladesh by N Haque and M Blowfield. (In draft)

### ***Other Reports***

1. Availability of ice for artisanal fisherfolk in Kanyakumari district by V Illango - report of the Management Traineeship Segment - I, Institute of Rural Management, Anand.

### ***Publications***

1. ODA Post-Harvest Fisheries Project - India Post-Harvest Overview, India, July 1995. Information Bulletin 1
2. ODA Post-Harvest Fisheries Project - India Post-Harvest Overview, Tamil Nadu, July 1995. Information Bulletin 2.
3. ODA Post-Harvest Fisheries Project - India Post-Harvest Overview, Andhra Pradesh, July 1995. Information Bulletin 3
4. ODA Post-Harvest Fisheries Project - India Post-Harvest Overview, Orissa, July 1995. Information Bulletin 4.
5. ODA Post-Harvest Fisheries Project - India Post-Harvest Overview, West Bengal, July 1995. Information Bulletin 5.
6. ODA Post-Harvest Fisheries Project - Credit Availability for Marine Artisanal Fisherfolk in Andhra Pradesh and Orissa, December 1995. Information Bulletin 6.
7. ODA Post-Harvest Fisheries Project - Fishermen Welfare and assistance schemes, Andhra Pradesh.
8. ODA Post-Harvest Fisheries Project - Fishermen Welfare and assistance schemes, Orissa.
9. ODA Post-Harvest Fisheries Project - Fishermen Welfare and assistance schemes, T Nadu.

## **Appendix 2**

The ODA Post-Harvest Fisheries Social and Economic Unit have issued the following reports since 1994 with the details listed below:

### ***Baseline Series***

1. Cycle Traders of Jaggampeta, Andhra Pradesh
2. Cycle Traders of Kakinada, Gollaprolu and Jaggampeta, East Godavari District, Andhra Pradesh.
3. Beneficiaries of Racks for Drying Anchovies, Kanyakumari District - Villages: Keezha Manakudy, Kovalam & Pallam.
4. Beneficiaries of Racks for Drying Anchovies, Kanyakumari District - Villages: Keezha Manakudy, Kovalam and Pallam.
5. Beneficiaries of Racks for Drying Anchovies, Kanyakumari District - Villages: Keezha Manakudy, Kovalam & Pallam. This report seeks to provide an account of the anchovy drying project during the current season (May to December 1993) in Kanyakumari.
6. Headloaders of Copdanet Sangams, Chengai MGR District - Villages: Kadalore Alikuppam & Kadalore Periakuppam.
7. Beneficiaries of Racks for Drying Anchovies - Kanyakumari District. Villages: Keezha Manakudy, Kovalam & Pallam.

### ***Census Series***

1. Census of Flake Makers in Kanyakumari - Villages : Keelmanakudy, Kovalam and Keepallam.
2. Census of Members of the Women's Sangam.
3. Head Loaders Of Rosa Sangams - Quaid-E-Millet District : Villages - Kuttiyandiyur, Pudupettai & Tranquebar

### ***Perception Series***

1. Perception of itinerant fish marketing women of a new fish container.
2. Credit requirements of women headloaders, Tranquebar, Nagai, Quaid-e-Millet District.
3. The fishing community at Uppada, East Godavari District, Andhra Pradesh. Hamlet: Suradupeta
4. Fighting for space - A study of fish markets in Kanyakumari.

### *Appraisals*

1. An appraisal of Smoking activities. Districts: East & West Godavari.
2. Transport System in ROSA. Villages: Pudupettai, Kuttiyandiyur, Tranquebar and Chandrapadi.
3. Review of support and development of Fisheries Cooperatives in the Post Harvest sector in Sri Lanka. Draft for discussion.
4. New project initiatives in Orissa. Districts: Puri and Cuttack.
5. New project initiatives in Orissa. Districts: Balasore, Puri, Cuttack and Ganjam.
6. Seaworthiness Trials - Ice Boxes for Kattumarams, Amalinagar, Thiruchendur, Dist. Chidambranar, August 1994.

## Appendix 3

### Abbreviations and Acronyms

BOBP	Bay of Bengal Programme
COPDANET	Coastal Poor Development Action Network
DOF	Department of Fisheries
DRDA	District Rural Development Agency
ICSF	International Collective in Support of Fishworkers
IMM	Integrated Marine Management
IRED	Innovations and Development Networks
KDFSf	Kanyakumari District Fishermen's Sangams Federation
MOU	Memorandum of Understanding
NABARD	National Agriculture Bank for Rural Development
NGO	Non-government organisation
NFF	National Fishworkers Forum
NRI	Natural Resources Institute
ODA	Overseas Development Administration
ODA-PHFP	ODA Post Harvest Fisheries Project
ODA-PHFRP	ODA Post Harvest Fisheries Research Project
PRA	Participatory Rural Appraisal
SIFFS	South India Federation Fishermens Sangam
VJNNS	Visakha Jilla Nava Nirmana Samiti
WID	Woman in Development

## Appendix G

### CLEANER FISHERY HARBOURS (IMO)

#### Annual Report 1995

Objective: The development objective of the pilot project is to promote participatory pollution mitigation by the various stakeholders connected with the operations of selected fishery harbours in the Maldives and Sri Lanka.

The immediate objective of the pilot project is to create an awareness among the various stakeholders of the need for, benefits of and methods of achieving a clean harbour environment and sanitary handling of fish landed at selected harbours in the Maldives and Sri Lanka.

Status 1994: The third in the series of pilot projects supported by the International Maritime Organization (IMO) to promote cleaner fishery harbours commenced in the Maldives and Sri Lanka. All project activities were coordinated and implemented by national agencies nominated by the respective governments with support from BOBP. In the Maldives the nominated agency was the Marine Research Section (MRS) of the Ministry of Fisheries and Agriculture (MOFA) and in Sri Lanka it was the National Institute of Fisheries Training (NIFT) of the Ministry of Fisheries and Aquatic Resources Development (MFARD). The project budget was US \$ 90,000.

In Sri Lanka the location of the pilot project was changed from the Galle Harbour to the Negombo Harbour at the request of MFARD. Under contract, NARA undertook a baseline study to better understand and collect information on the activities in the fishery harbour, the types and levels of pollution, the sources of pollution and existing facilities for reception and disposal of wastes. NIFT, with the assistance of the District Fishery Extension Office, the staff of the fisheries training centre in Negombo and the local fisheries cooperative society, conducted a knowledge, attitude & practice (RAP) study using focus groups among the various stakeholders.

In the Maldives the preparatory work for implementing the awareness campaign started with an inter-ministry meeting called by MRS/MOFA in order to apportion responsibility and inputs required to achieve a cleaner harbour environment. To augment this integrated approach MRS entered into an agreement with a local NGO, VESHI--Volunteers for Social Harmony and Improvement, which will actively involve itself with the awareness campaign. While the study (KAP) to determine the perception of the stakeholders was designed and scheduled for 1995, the national CLEAN-UP DAY, in September, was used to kick off the campaign. A clean-up campaign involving the public removed floating and submerged garbage from the Male harbour, leaflets were distributed and billboards put up to convey the cleaner fishery harbour message.

Progress 1995: In Sri Lanka the counterpart staff member in NIFT left service, and given the preoccupation of the other staff, BOBP contracted the Information Unit of NARA to continue the project activities in formulating and preparing the awareness building materials. NARA staff began preparations and the content of the awareness campaign in Sinhala was completed. However, there were problems in finding artists who could illustrate the materials,

and the BOBP Consultant had to spend time working with NARA staff to select artists and brief them. The security situation in the country and the non-availability of counterpart staff further delayed the development of the planned picture book, exhibition panels, posters and stickers. It is expected that work will resume early in 1996 and the awareness campaign will be executed later in the year.

In the Maldives, the project made relatively better progress. Billboards were prepared and set up in Male and in a few selected fish landing sites in the outer atolls. The design and development of other campaign materials were completed by MRS utilizing the services of the NGO, VESHI. The execution of the awareness campaign including posters, billboards, leaflets, radio scripts and video footage will be handled by MRS and VESHI within the framework of the Small Island Harbour Development Programme of the PWD and is expected to be undertaken early in 1996.

The IMO informed the BOBP that this would be the last of the pilot projects that they would be able to support, due to fund constraints. However, keeping in mind the importance of the activity to the region, and in order to share the learnings of the three pilot activities, the IMO made available a further allotment of US \$ 50,000 to develop a manual, a video supplement to the manual to promote cleaner fishery harbours and to hold a small sub-regional meeting to discuss the manual's recommendations.

The recommendations of the 19th Advisory Committee Meeting of the BOBP to further develop the cleaner fishery harbours programme and, in particular, to develop activities in Bangladesh and Indonesia could not be adequately addressed due to fund constraints. However, there are possibilities that need to be followed up: in Bangladesh, the World Bank expressed interest in supporting a cleaner fishery harbour activity and a preliminary proposal was developed in cooperation with the Bangladesh Fisheries Development Corporation; discussions have been held with the UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas, and there is a possibility that some activity may emerge to address the need for cleaner fishery harbours in this context in the Malacca Straits. Further efforts in 1996 may generate some activities if these requests mature fruitfully.

The workplan for 1996 is detailed below.

#### *Workplan 1996*

Completion of awareness campaigns in the Maldives and Sri Lanka.

National Workshops in the Maldives and Sri Lanka to discuss the learnings of the pilot activities and to consider possible replication and extension through national efforts.

- Design, development and production of a manual for pollution mitigation and integrated management of fishery harbours.
- Design, development and production of a video film to supplement the manual and to promote cleaner fishery harbours.

Sub-regional workshop to discuss the manual's recommendations and regional and national efforts in the future to promote cleaner fishery harbours.



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