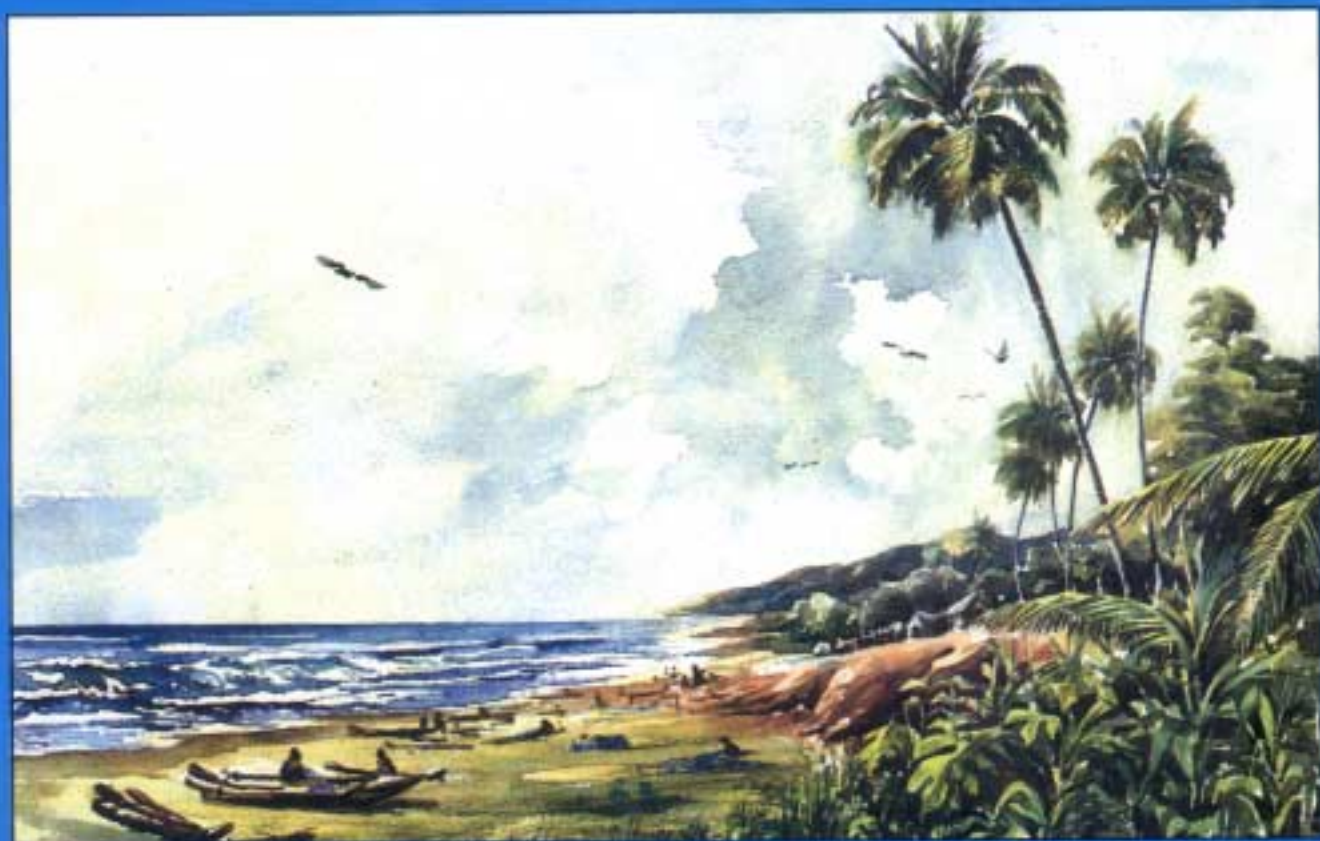


Report of the 24th Meeting of the Advisory Committee



INTEGRATED COASTAL FISHERIES MANAGEMENT

REPORT OF THE TWENTY-FOURTH MEETING
OF THE ADVISORY COMMITTEE

13-16 October, 1999
Phuket,, Thailand

BAY OF BENGAL PROGRAMME
Chennai, India
1999

PREFACE

This report documents the discussions and recommendations of the 24th Meeting of the Advisory Committee of the Bay of Bengal Programme (BOBP). The meeting was held from 13 to 16 October, 1999, in Phuket, Thailand.

The report contains a “State of the Programme” that reviews the Programme’s work during its Third Phase (1995-1999). It also contains a Progress Report, including Project Factsheets that chronicle activities carried out in each country, year by year, under the Coastal Fisheries Management Project of the BOBP.

The report includes as annex a list of Problems and Concerns relating to Coastal and Marine Fisheries Development and Management in the Bay of Bengal region, and reproduces the Phuket Resolution, which urged the establishment of an inter-governmental organization in the Bay of Bengal region.

An Annexure to the report summarizes the findings of the two-member Mission on the Documentation of Learnings from the Third Phase, and reproduces two articles that analyse the future of the Programme after 1999.

The BOBP’s Advisory Committee is composed of member-countries, agencies funding BOBP projects, and the FAO. The Committee usually meets once a year by rotation in member-countries.

The BOBP is sponsored by the Governments of Denmark and Japan. The executing agency is the FAO (Food and Agriculture Organization of the United Nations).

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REPORT OF THE 24th MEETING OF THE ADVISORY COMMITTEE

Opening of the Meeting

1. The Advisory Committee of the Bay of Bengal Programme for Coastal Fisheries Management (BOBP) held its Twenty-Fourth Meeting from 13 to 16 October 1999, at the Metropole Hotel, Phuket, Thailand. Appendix A contains a list of participants and observers.
2. Dr Sitdhi Boonyaratpalin, Deputy Director-General of the Department of Fisheries of the Royal Government of Thailand, inaugurated the meeting.
3. The meeting was chaired by the outgoing Chairperson, Mrs. N. Mohottala, Additional Secretary (Administration), Ministry of Fisheries and Aquatic Resources Development, Government of Sri Lanka.

Election of Chairperson

4. The Advisory Committee unanimously elected Mr. Somsak Chullasorn, Senior Expert in Marine Fishery, Department of Fisheries, Royal Government of Thailand, to hold office until the end of the Third Phase Project of the BOBP.

Adoption of the Agenda

5. The Advisory Committee adopted the agenda for the meeting, incorporating the recommendations of the members (as in Appendix B). The documents made available to the Committee are listed in Appendix C.

Coastal Fisheries Management

6. The Committee recognized that awareness of the need for, the benefits of and the methods of coastal fisheries management has considerably increased in the region, due to the efforts of the third phase of the BOBP. This is particularly evident amongst senior and policy-making levels of government fishery agencies, and has resulted in the evolution of policies, plans, legislation and specific budget allocations in support of fisheries management efforts.
7. The Committee commended and recorded its appreciation of the efforts by FAO, BOBP and the Member-Countries during the Third Phase of the project and of its benefits to fisheries development and management in the region.
8. The Committee, concerned with increasing degradation of coastal and marine ecosystems and habitats by land and sea-based pollution, sewage disposal, destructive fishery practices, coastal construction and a variety of other coastal activities, which are becoming a threat to the sustainability of fisheries, recommended that Member-Countries need to address these concerns and take them into consideration in their policies and programmes.
9. The Committee expressed its concern at the lack of good, timely and reliable information on fisheries resources and habitats, a vital tool for conservation and fisheries management. It cautioned against complacency with existing statistics, pointing out that there are enough indicators to suggest that several fish stocks are close to over-exploitation and are stressed. The need for a precautionary approach to conservation and fisheries management was stressed, and concerted action at national and regional levels to develop practical and reliable fisheries management information systems was strongly recommended.
10. Concern was expressed by the Committee that an increasing amount of fish being landed is being diverted for uses other than human consumption. This trend could have implications not only for food security but also for the sustainability of fishery resources.

11. The Committee was appreciative of the findings of the two-member Mission to Document the Learnings of the 3rd Phase of BOBP.
12. The Member-Countries requested that the report of the Mission to Document the Learnings of BOBP should be circulated to them as soon as possible to enable them to comment on the findings and recommendations.

GEF/World Bank - SIDA Sustainable Management of the Bay of Bengal Large Marine Ecosystem (LME) Project

13. The Indian delegation informed the Committee that in-principle agreement, subject to specified conditions, had been received from the Government of India for the GEF-supported Block "B" Activity, "Sustainable Management of the Bay of Bengal Large Marine Ecosystem", and that the Government of India would convey their decision to the FAO through appropriate channels.
14. The Committee reaffirmed its support for the GEF-supported effort and emphasized that the activity will enable a logical evolution of BOBP's efforts into the next millennium, looking at fisheries as a critical issue but looking at it holistically by considering ecological, social, economic and other related aspects, to ensure the sustainability of the ecosystem.

Future Directions

15. The Committee recognized that it was becoming increasingly obvious that there is a need to consider the Bay of Bengal Large Marine Ecosystem as a whole with common and shared problems and suggested that the countries around the Bay should work together in a concerted fashion to address their concerns and problems and to give direction to the future.
16. The Committee appreciated that issues and concerns about conservation of aquatic ecosystems and resources management for sustainability were being increasingly addressed at the global level – resulting in several useful instruments, laws and conventions, and the Code of Conduct for Responsible Fisheries. However, in recognition of the difficulties faced by the Member-Countries in translating these issues and concerns into policies and actions at the national and local level, the Committee felt that there was an urgent need for regional mechanisms such as the BOBP to facilitate and enable such efforts.
17. The Member-Countries listed the more important problems and issues confronting fisheries development and management in the Bay of Bengal region (as shown in the Annex, pages 4-5), pointing out that while fisheries is essentially a national effort, several of the problems could be addressed more appropriately and efficiently through regional mechanisms.
18. Consensus was reached amongst Member-Countries and they strongly endorsed the need to continue the Bay of Bengal Programme or to evolve a new regional mechanism, which has the ability, as the BOBP did, to address critical and important issues and concerns relating to fisheries development and management, both at the policy and implementation levels.
19. The Member-Countries recommended that the exact nature, mandate, constitution and cost-sharing of such a regional mechanism be evolved through consultation and negotiation among representatives of concerned agencies of the Member-Countries, with assistance and support from the FAO.
20. Realizing that the process to evolve a new regional mechanism would necessarily take time, the Committee requested the FAO to extend the third phase of BOBP, until such time as availability of funds would permit, to enable BOBP to better complete its on-going activities, to provide a bridging function during the interim period and to assist the Member-Countries in the process of evolving a new regional mechanism.

- 21 The Delegation of Sri Lanka, subject to clearance of the Government of Sri Lanka, graciously offered to provide facilities and host the new regional mechanism into the new millennium.

Matters Relating to the Closure of BOBP

22. With the GEF-supported activity. "Sustainable Management of the Bay of Bengal Large Marine Ecosystem" expected to come on-stream in the very near future, and recognizing that the activity will depend on and build upon the foundation created by BOBP, the Committee concurred with the Project Document (GEF), that the Library, Photograph/ Negative/Slide/Videotape Collection, equipment and vehicles of the BOBP be taken over by the GEF-supported activity and retained for the benefit of the region.

Other Matters

- 23 The Committee recommended that the end-project evaluation of the BOBP, as required by the Project Document (BOBP) is unnecessary and need not be undertaken. This conclusion was driven by the fact that the Mid-Term Evaluation had pointed out that documentation of the learning of the third phase of BOBP towards the end of the project would prove more useful than an evaluation and that such a documentation had been undertaken recently and reported on.
24. The representative of NACA, commending and appreciating the efforts of the Member-Countries, FAO and BOBP. felt that the Member-Countries' decision to evolve a regional mechanism to collectively address the needs and concerns of fisheries development and management was vitally important and would complement the efforts of NACA in the aquaculture sector. He expressed NACA's support of the intent and efforts of the Member-Countries to evolve a regional mechanism and its interest in working closely and in close co-operation with such a regional body.

Adoption

25. The Committee adopted the Report, as above, on Saturday, the 16th day of October 1999.
26. Delegates of Member-Countries adopted the Phuket Resolution (page 6)

Annex: Problems and Concerns Relating to Coastal and Marine Fisheries Development and Management in the Bay of Bengal Region

1. Over-fishing of stocks is increasingly becoming visible, indicated by declining catch-per-unit-effort, reduction in average size of species, changes in catch composition and increasing levels of landing of trash fish.
2. Conflicts between commercial fishers and small-scale fishers and amongst small-scale fishers are on the increase.
3. Destructive practices of fishing, which excessively target juveniles or gravid females and are non-selective, are on the increase and not only affect fishery resources but also, more importantly, damage habitats.
4. There is concern about excess capacity in fisheries, resulting in economic hardship amongst fishers and undermining the economic viability of fisheries.
5. Excessive fishing effort, destructive forms of fishing, land reclamation and a variety of coastal activities are degrading and reducing the areas of rich biodiversity, spawning and breeding grounds such as coral reefs, sea-grass beds, mangroves and lagoons.
6. Several of the more important and detrimental impacts on aquatic resources and habitats result from other sectors which are beyond the purview, control and jurisdiction of fishery agencies.
7. Tourism, and even eco-tourism, is poorly managed and the detrimental effect on aquatic environments from this sector is increasing.
8. Coastal and marine eco-systems are being increasingly affected by industrial effluents, sewage from human habitations and coastal activities.
9. Stakeholders and the public are generally not aware of conservation and resource sustainability issues, resulting in actions that are detrimental to the coastal and marine environment.
10. Rational management of coastal and marine resources and habitats is severely hampered by conflicts of interest arising out of highly specialized and compartmentalized administration by a large number of mostly un-coordinated agencies, with varied and often overlapping interests and objectives.
11. Non-tariff trade barriers are increasingly being applied to fish and the fish-product trade, resulting in lowered earnings and unfair trade relations.
12. Approaches, methods and techniques are often inadequately developed to address the needs of:
 - Rehabilitation of natural resources and habitats;
 - Monitoring, EIA and risk assessment of coastal aquaculture and mariculture;
 - Management of aquatic protected areas and sensitive specialized habitats;
 - Development and management of environment-friendly coastal eco-tourism;
 - Prevention and control of pollution and contamination of conservation areas and protected areas.
13. Lack of availability of sound, timely and reliable information on aquatic resources, their habitats and utilization affects the quality of decision making in management.
14. Fisheries and related policy is often not geared to give direction to actions and address new and emerging concerns and requirements of:
 - Coastal, particularly small-scale, marine resources management;
 - Management of coastal aquaculture, particularly shrimp farming;
 - Management and sustainable utilization of mangroves;
 - Rational classification of coastal areas for conservation, fisheries and other uses;

- Management of marine fisheries;
 - Management of mariculture.
15. Fisheries and related legislation has not kept pace with developments and are often not geared to support, regulate and give direction to new and emerging activities relating to:
 - Management of coastal and marine fisheries;
 - Management of coastal aquaculture, mariculture and mangroves;
 - Conservation and sustainable utilization of critical aquatic habitats;
 - Practical enforcement procedures to promote compliance;
 - Prevention and control of pollution from land – and sea-based sources of coastal and marine eco-systems.
 16. Poorly developed marketing channels for fish and fish products result in wastage and fishers receiving unfair prices.
 17. Poor quality assurance of fish and fish products, especially in the large unorganized small-scale sector, may jeopardize earnings of fishers and trade in the region.
 18. Fishery agencies, while often well equipped in terms of technical expertise, often have inadequate capacity to address the increasingly multi-disciplinary and complex issues they face. Rational and long-term human resource development is a neglected area in most fishery agencies.
 19. While several excellent fisheries research and training institutions exist in the region their distribution is uneven.
 20. Mechanisms to promote sharing of knowledge and experience and to collectively understand and address common and shared problems are inadequate and often inaccessible.

THE PHUKET RESOLUTION

Conscious of the importance of fisheries and aquatic resources as an essential sector of development of nations surrounding the Bay of Bengal and the unique and relatively high dependence of millions of fishers and coastal peoples on the ocean and coastal environment for their food and livelihood security;

Realizing that the fisheries sectors of the countries around the Bay of Bengal have to in the future

- 1) increase or, at least, stabilize fisheries production to ensure food and livelihood security for a large number of people,
- 2) ensure quality fish and fish products in order not to jeopardize trade, which earns valuable foreign exchange,
- 3) protect themselves from non-trade tariff barriers on fisheries,
- 4) fulfil requirements of agreed-to Conventions and Codes, and
- 5) better manage their fisheries and conserve their aquatic environments to provide sustainability;

Recognizing that, while fisheries is primarily a national concern driven by a country's needs, there are a large number of issues in fisheries that can be more appropriately and efficiently addressed in a regional context through collective action;

Recognizing that the Bay of Bengal Programme of the FAO of UN has provided valuable and noteworthy services to the countries in the Bay of Bengal region in enabling and facilitating the development and management of small-scale fisheries over the last 20 years and the fact that the project is coming to an end in December 1999;

Realizing that that there is a need for technical and management advisory services in the areas of fisheries development and management, conservation of aquatic resources, quality assurance of fish and fish products, fair and free trade of fish, fish marketing development, human resources development and building the capacity of national fishery agencies and that the promotion and success of such services can be facilitated through regional co-operation;

Considering that the said co-operation can best be achieved through the establishment of an inter-governmental organization in the Bay of Bengal region carrying out its activities in collaboration with countries, organizations and commissions that may be able to provide financial and technical support;

We, the Representatives of the Fishery Agencies of the Governments of Bangladesh, India, Indonesia, Malaysia, the Maldives, Sri Lanka and Thailand, having met in Phuket, Thailand, 13-16 October 1999 for the 24th Meeting of the Advisory Committee of the Bay of Bengal Programme of the FAO of UN, now therefore:

***Resolve* to come together to consider the establishment of an Intergovernmental Organization for Technical and Management Advisory Services for Fisheries Development and Management in the Bay of Bengal Region.**

***Request* the Food and Agriculture Organization of the UN for advisory and financial support in the formulation and establishment of such an intergovernmental organization.**

***Suggest* that senior representatives of the fishery agencies of the Member-Countries of the Bay of Bengal Programme of the FAO of UN meet at their earliest convenience to design and develop the constitution and by-laws of the proposed Intergovernmental Organization, specifying its mandate, its management and staffing, its fund requirements, and evolve mechanisms and guidelines for cost-sharing.**

Adopted in Phuket, Saturday the 16th day of October 1999.

Appendix - A

LIST OF PARTICIPANTS

Bangladesh

Md. Abdul Matin

**Director-General
Department of Fisheries, Dhaka**

Asad Uddin Ahmed

Deputy Chief,
Ministry of Fisheries and Livestock, Dhaka

FAO

Hongskul, Veravat

Senior Fishery Officer
RAPA, Bangkok

India

Yadava, Y S

Fisheries Development Commissioner
Ministry of Agriculture
**Government of India
New Delhi**

Chaturvedi, N

Principal Secretary
Fisheries Department
Government of West Bengal
Calcutta

Indonesia

Md. Ichtadi

**Chief, Sub-Directorate of Mariculture,
Directorate of Production,
Directorate General of Fisheries
Jakarta**

M. Ramlan Matondang

**District Fisheries Service, South Tapanuli
North Sumatra Provincial Fisheries Service,
Medan**

Malaysia

Ahamad Sabki bin Mahmood

**Director of Corporate Planning
Department of Fisheries
Kuala Lumpur**

Ahmad Azahari Ahmad

**Fisheries Officer (Marine Parks)
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Department of Fisheries
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Thubthimsang, Wannakiat

Chief, Technical Unit
Marine Fisheries Division
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Bangkok

Observers

NACA

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Information Specialist
Network of Aquaculture Centres in Asia-Pacific
Bangkok

SEAFDEC

Poknpatimakorn, Somnuk

Administrative and Finance Coordinator!
Information Program Coordinator
SEAFDEC
Bangkok

BOBP Secretariat

Chong, Kee-Chai

Programme Coordinator

Roy, R.N.

Senior Communications Adviser

Verghese, C. (Ms)

Secretary

Appendix - B

AGENDA

Wednesday, 13th October 1999

9.00 a.m. Inauguration of the Meeting

Election of Chairperson

Adoption of Agenda

Report *1995-1999* – Coastal Fisheries Management Project (BOBP-FAO)

- State of the Programme (*1995-1999*)
- Project Report (*1995-1999*)

Report of the Mission to Document the Learnings of the BOBP's Third Phase

Thursday, 14th October 1999

9.00 a.m. **Report on the Status** of the GEF Proposal

The Future of BOBP? – The need for a regional inter-governmental body for fisheries management and development in the Bay of Bengal region. Matters relating to the closure of the Bay of Bengal Programme:

- Possible extension of BOBP
- Destination of BOBP Library
- Destination of BOBP Photograph/Negative/Slide/Video Tape Collection
- Disposal of equipment and vehicles
- Post-project period responsibilities

Other matters

Friday, 15th October 1999

9.00 a.m. Field Trip to Phang-Nga Bay/DOF BOBP Pilot Project Site

Saturday, 16th October 1999

9.00 a.m. Adoption of Report

Closing Ceremony

Appendix - C

LIST OF DOCUMENTS

1. Provisional Agenda
2. List of Documents
3. List of Participants
4. State of the Programme Report
5. Report 1995-99 – Coastal Fisheries Management Project (BOBP-FAO)
6. Report of the Mission to Document the Learnings of BOBP's Third Phase
7. Future of BOBP: An Insider's View
 - (a) After 1999: Some thoughts on BOBP as an inter-governmental agency. (Kee-Chai Chong)
 - (b) Where do we go from here? (Rathin Roy)

Appendix - D

STATE OF THE PROGRAMME

(1995-1999)

Introduction

BOBP today stands at the crossroads. Coincidentally, the world itself is on the threshold of a new millennium. It is for the delegates to the 24th AC Meeting to determine where BOBP should go. The task is difficult and the responsibility grave. It's a time for hard reflection – particularly because both wills and wallets have toughened in recent years.

Background

During the last 20 years (1979-1999) in general, and the last five years (1995-1999) in particular, the FAO, with the strong financial support and commitment of external donors and member countries, has sought to concentrate certain resources for problem-solving through the BOBP. The donor community comprises Sweden (SIDA), Denmark (DANIDA), Japan, AGFUND, IMO, UNDP and UK (ODA/DFID). The member countries are Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka and Thailand.

All through this period, BOBP has chosen to focus on small-scale fisheries and on fisheries stakeholders as its target client. It has stuck faithfully to this client group, and followed a logical phase-by-phase process of intervention in the fisheries sector and the coastal environment. While the first and second phases had an R&D orientation, the third is largely management-oriented.

Besides these core programme thrusts – fisheries, coastal environment, management – BOBP is also fortunate to have received donor support for post-harvest fisheries technology, cleaner fisheries harbour management and seafood quality assurance. The preparatory work to establish BOBP way back in the 1970s with the generous support and active participation of donors and member countries, led to a well-conceived and well-formulated programme, which is comprehensive, systematic and well-integrated.

BOBP has been both responsive and pro-active in meeting requests from Member-Countries and in following the advice of its Advisory Committee. From the beginning, the Advisory Committee has consisted of senior government officials of member and donor countries, as well as FAO. Some other interested countries, as well as international and regional institutions active in fisheries and the coastal environment, have also attended BOBP's AC meetings.

Figure 1 traces BOBP's three-phase evolution, from technology to people to management (or sustainability). The evolution has been so logical, with each phase dovetailing into the other, that Member-Country colleagues and counterparts have not been able to distinguish one phase from another. To them, BOBP is an integrated and holistic regional Programme, with fisheries and aquatic resources and fishing communities being its key constituency. Figure 2 provides an overview of the AC's role in formulating the Programme's policy and work plans.

Cost Effectiveness

As per the Project Document or PRODOC, the Project was provided with only a Programme Coordinator for five years and a Communication Adviser for three years. Recognising the critical role of human resources for successful implementation, BOBP took steps to overcome its staff limitations.

Through a combination of cost-saving and cost-cutting measures, disciplined implementation of the spirit of national execution and cost-sharing with member governments, the Programme was able to achieve the objectives of the Programme's Third Phase.

Figure - 1

Bay of Bengal Programme (BOBP)

- 1st PHASE – Development of Small-Scale Fisheries in the Bay of Bengal (1979-1986)
- 2nd PHASE – Small-Scale Fisherfolk Communities in the Bay of Bengal (1987-1994)
- 3rd PHASE – Coastal Fisheries Management in the Bay of Bengal (1995-1999)

• **SEVEN COUNTRIES**

- **BANGLADESH**
- **INDIA**
 - Andhra Pradesh
 - Orissa
 - Tamil Nadu
 - West Bengal
- **INDONESIA**
- **MALAYSIA**
- **MALDIVES**
- **SRI LANKA**
- **THAILAND**

Figure-2

**ROLE OF ADVISORY COMMITTEE IN BOBP POLICY AND
WORK PLAN FORMULATION**

ADVISORY COMMITTEE IS INTEGRAL TO SUCCESS

- **Balanced Membership (Tripartite)**
 - * Member Countries
 - * Donor Countries
 - * FAO
 - * Observers
- **Content of Programme and Work**
 - * Review Status, Progress and Achievements
 - * Review Problems and Constraints

1. The Programme accepted the secondment of a Coastal Zone Management Officer from the US Environmental Protection Agency for two years on a 50-50 cost-sharing basis.
2. The post of Communications Adviser was extended from the allotted three years to five years. BOBP staff took on additional workloads.
3. The services of two APOs (Associate Professional Officers) made available by the Dutch Government were availed of.

Compared to the first and second phases, the Third Phase has had to “do more with less”. In fact, the Third Phase budget was less than one third the funding level of the first two phases. Yet the achievements of the Third Phase have won appreciation, given that it is more abstract in character than the first two phases. Fisheries management is a less straight-forward concept than handing out new boats or fishing gear, or providing low-interest credit. In fact, management means taking away fishing boats, especially redundant or surplus boats, curbing the use of destructive fishing gear, etc. Management is therefore less popular and more prone to strong resistance.

During the entire five years of the Third Phase, every effort was made to stretch and leverage allocated donor funds to do justice to the scope and content of the Third Phase work plan. Examples.

1. Resource persons for BOBP workshops, consultancies and field activities were provided to BOBP at no cost or only nominal cost to the Programme.
2. Workshop costs were shared with like-minded and interested sponsors, mainly by defraying participants’ costs. Smart networking is essential if one has to do more with less.

Emerging Trends in Management

Member-Countries are beginning to shift steadily from a total *development mode* that emphasizes production to a *management mode*. Management in many Member-Countries is no longer piecemeal or *ad hoc*, responding only to outbreaks of conflict or crisis, but is pro-active and precautionary. This operational shift in the government’s approach to fisheries is encouraging. Less and less emphasis is placed on the regulatory dimension of management and there is more and more recognition of the importance of participatory management and the responsible use of fisheries and aquatic resources.

Along with this shift occurred a positive transformation in the techno-bureaucratic approach to resource management – it is now a more participatory stakeholder approach to management. Even so, perceptions and views still differ on what fisheries management should do and achieve in the long run. This is because governments have different objectives for the sector – from self-sufficiency in fish to foreign exchange earnings to employment.

The planned interventions in fisheries and aquatic resources in the region over the past 20 years have given the region certain tangible and intangible benefits. At the aggregate macro-level, greater output of fish has been recorded. But at the micro-disaggregated level, the per capita availability of fish showed mixed results. The outlook for the coastal poor from the nutrition standpoint is uncertain. It seemed that per capita availability of fish has been increasing in the region, but Bangladesh reported a decrease in this respect. However, inland freshwater sources account for almost 75% of the fish supply in Bangladesh, only about 25% of the supply is from marine sources. While marine fish landings have been increasing, the supply from inland freshwater sources has been declining because of structures to control floods, and to improve drainage and irrigation. Other important reasons are excessive fishing pressure from a burgeoning population and habitat degradation.

It is expected that the flow of benefits from the Programme will continue long after the BOBP has closed down. This is because of the nature of BOBP’s interventions over the past 20 years. The impact and the benefits accrue to target and non-target beneficiaries in different degrees and at different points of time – some see the benefits almost immediately,

others long after the interventions have been completed, Since BOBP and Member Countries have taken pains to ensure that BOBP activities dovetailed into those of member countries, the Programme's work will continue long after BOBP ceases to exist as an externally-supported Programme.

Awareness about the benefits, methods and approaches of improved management of fisheries and aquatic resources is now high and steadily growing. Such awareness at all levels and in all related sectors has spurred coastal communities either to seek help for their problems or initiate action themselves. Steady incremental change, especially in the mind and mindset of the people, their values, perceptions and attitudes, is definitely noticeable. Such awareness can only benefit the population and the environment in the member countries as we enter the new millennium.

Another concrete result is that government personnel implementing BOBP activities over the years have grown in self-confidence. Their operational style has changed. They are more confident than before about carrying out field work or meeting their constituents face to face.

Review of Performance

It is safe to say that the necessary "processes" to create, build and arouse awareness – about needs, benefits, approaches and methods for improved management of coastal fisheries and environment protection – have been set in motion. More. They have achieved a high level of interest, visibility and adoption. Both simple and direct awareness campaigns and public outreach methods were employed to reach out to all target groups and types of stakeholders.

A review of the 19th, 20th, 21st, 22nd and 23rd Advisory Committee reports shows the activities carried out, the inputs provided and outputs achieved. Other details can be found in the 5-year summary report, a copy of which was given to the delegates for this meeting.

However, the quality of the outputs delivered in the region has not been uniform. In most countries, the objective of sustainable development in coastal communities, through an integrated coastal area development and management approach, has been achieved. This is demonstrated by the continuous and active local community participation in joint activities by BOBP and Member-Countries. Economic diversification as another project input to expand or enlarge the sources of income of coastal communities was also implemented successfully, not only through studies but also through local hands-on training, and carried out by trained fisherfolk. An excellent illustration is eco-tourism as a source of income.

The Programme is happy to report significant spin-offs from BOBP pilot activities in the form of new or additional projects. Examples: three new projects in Bangladesh, supported by UNDP, DFID and the Bangladesh Government itself. One in Indonesia covering four provinces, funded by the Asian Development Bank (ADB). Two FAO-TCP/SPFS project proposals in Malaysia and Thailand. All these projects are either based on the BOBP model or are follow-ups to BOBP projects.

Though infrastructure and social services are outside the ambit and mandate of the Third Phase, some countries have integrated BOBP inputs into their on-going national programme in capital infrastructure investment. This integrated multi-sectoral approach is clearly preferable to strictly management-oriented intervention or just the provision of infrastructures.

Member-Countries have not been as successful with inputs to contain and regulate fishing effort, even with BOBP assistance. Attempts to attract coastal fisherfolk out of fisheries have foundered because of limited employment opportunities in rural coastal areas. With alternative jobs or other means of livelihood almost non-existent in coastal areas, it is not fair to ask fisherfolk to leave the fisheries. Replacement and substitution of resource-damaging gear with less resource-damaging gear was also attempted to contain and regulate fishing pressure. This attempt was quite successful in Phang-Nga Bay, Thailand and is being experimented with in Bangladesh. Lack of funds however, also

constrained achievement of this objective. Even so, government awareness about the need to contain and regulate fishing effort is growing and accepted as the way forward to manage fisheries for sustainability.

BOBP has been successful as a catalyst and facilitator, thanks to the close co-operation and assistance extended by member countries. Pooling of resources, cost-sharing of activities and national execution have been imaginatively used to implement Programme activities. It must be said to the credit of many member-countries that they responded positively to this innovative project implementation mode. Besides the agreed annual Government Cash Contribution, a few governments provided hard cash for joint cost-sharing of activities. For example, the Tamil Nadu Government in India contributed US\$ 30,000 for implementation of activities in the state. No less important, contributions from other governments such as Malaysia and Indonesia made a significant difference to the joint activities carried out in their respective countries.

Many BOBP stakeholders are calling for a continuation of the work BOBP is best at, and has demonstrated for 20 years —joining hands with developing countries by pooling and leveraging limited resources to improve the lives of the poor in coastal communities around the Bay of Bengal; catalysing and facilitating new ideas in fisheries and marine science and management to sustain resource productivity, stability and equity of living aquatic resources for coastal populations. The most permanent impact lies in the goodwill of stakeholders towards BOBP and FAO.

Certain setbacks occurred in implementation now and then – caused by transfer, promotion or retirement of counterpart staff, or delays in counterpart funding for activities. But such setbacks were temporary and resolved gradually, wherever and whenever they surfaced. With the community of stakeholders – at the level of governments, NGOs, or the coastal population – receptivity to BOBP's work is high. The Mission on Documentation of Learnings from the BOBP's Third Phase confirms such response.

During the last five years, the Programme has actively pursued the principle of national execution and cost-sharing. Sensitisation to the principle has paid dividends in almost all member countries. The learning process and the experience with national execution and cost-sharing have been valuable to the project personnel concerned. It has built their self-confidence in carrying out their day-to-day work despite limited financial support. They have found ways to overcome financial constraints, and do their job with limited funds, thanks to “smart partnerships” with their clients. Some initial assistance was necessary. After a few false starts, many joint activities carried out by the project personnel became self-starters. Such exercises lie at the core of FAO/BOBP's thrust on local capacity-building, institutional strengthening and capacity utilization.

More effort, however, is required to strengthen the ‘training of trainers’ activities at the national level. The trainers need to impart their skills and knowledge to colleagues in the Department or Ministry.

There are still weaknesses in the area of mobilising and organising fisherfolk for direct consultation with them on important issues. Uneasiness lingers about reaching out to them, especially if the meetings with them are held in public. In some countries, fisherfolk leaders are able to mobilise and organise their community effectively. Hands-on community leadership training is a key to such mobilisation.

Bay of Bengal Committee (BOBC)

The Indian Ocean Fishery Commission or IOFC's Committee for the Development and Management of Fisheries in the Bay of Bengal (BOBC) came into being in December 1981 in Colombo. BOBC is the apex advisory and coordinating body for fisheries development and management in the region. Over the last 20 years, the BOBP has provided valuable inputs to BOBC's work. When BOBC ceased to exist, with the termination of IOFC, the task of strengthening and restructuring the region's fisheries and its management was informally absorbed into APFIC (Asia-Pacific Fisheries Commission).

What Others Have to Say about BOBP

On the basis of a number of studies – the report commissioned by SIDA and undertaken by SWEDMAR about the results of the Bay of Bengal Programme, the FAO/Denmark/Japan Mid-Term Evaluation of the BOBP and the FAO Mission to document the learnings from the Third Phase – the following conclusions and findings are reported.

BOBP is probably the best documented long-term fisheries project in the world (Andreasson and Funegard, 1997). The documentation includes:

• Reports	82+
• Working Papers	99+
• Manuals and Guides	23+
• Information Documents	14+
• Other Publications	7+
• BOBP Newsletters	66
• Posters	8
• Video films/clips	21
• Post- Harvest fisheries newsletters	13
• Post-Harvest fisheries manual	I
• Post-Harvest fisheries information bulletins	17
• Post-Harvest fisheries leaflets	9
• preparatory studies and project documents (See List of BOBP Publications and Videos 1999)	

2. According to Andreasson and Funegard (1997), an average of 90 % of BOBP's pilot projects gave conclusive results.

3. The Third Phase of BOBP has been successful in raising the profile of a people-centred consultative approach to the management of fisheries and aquatic resources. Improved management is essential to maintain the incomes of small-scale fisherfolk and protect biodiversity (Markie, Hotta and Sen 1997). Thus the Third Phase has helped address an important need of Member-Countries – inclusion of the human dimension in management.

Even though the 1997 Mid-Term Evaluation Mission found that the “project suffered from inadequate clarity and focus in the Project Document on the “process approach to be adopted”, BOBP and member countries have to their credit been able to successfully apply and employ the consultative and participatory “stakeholder approach” to management. Interest in the BOBP's stakeholder approach to management has spread beyond the geographical focus of BOBP to the South Pacific and the Caribbean.

4. National staff working with the Third Phase BOBP have assimilated the key concepts and the principles of stakeholder involvement and consultation, thanks to national-level activities such as:

- (i) ornamental fish harvesting and marketing in Sri Lanka
- (ii) integrated reef resources management in the Maldives
- (iii) marine parks management in Malaysia
- (iv) working through NGOs, conflict resolution and minimum conditions for introducing improved management in India and Bangladesh
- (v) integrated intervention for management of coastal fisheries resources in Indonesia and Thailand.

The highlight of all these activities has been the exposure to and development of precautionary “best practice” processes in management, which member countries appreciated.

5. BOBP has had just about 3½ years to implement these activities, since the first 12 to 18 months of the Third Phase were spent in situation analysis and defining the BOBP’s role during the Third Phase. A major lesson from BOBP is therefore that a five-year time-scale will not allow completion of a process as complex as management. A longer time horizon is needed. (Preston and Yadava, 1999)
6. Member countries were unanimous that a regional approach such as BOBP’s is valuable in addressing coastal management issues. Advantages: easy access to specialised advice, active information dissemination, learning from the experience of other countries. BOBP workshops enable personal contact among officials and experts of different countries. There is also a sense of pride from partnership with an international programme. Member-Countries were unanimous that the Third Phase should be continued in some way, expanded if possible.
7. Member-Countries have praised highly the advice, inputs and technical support provided by the Programme, but note that the small size and limited financial resources of BOBP limit the assistance the Programme can provide.
8. Experience-sharing appears to have been more effective at the international level than the national level.
9. Except for 1 or 2 cases, pilot activities at the national level have not been replicated, but training courses to introduce participatory approaches in dealing with stakeholders have been useful. A major problem has been the frequent transfer or promotion of officials trained by BOBP – the project loses their services. This has affected the implementation of BOBP-supported activities. The BOBP model of a stakeholder approach is steadily being pursued by member countries.
10. BOBP has had a strong impact on raising awareness about fisheries and coastal management issues. The creation of a core group of fisheries officers at senior and middle levels in each country who are committed to improving fisheries management is one of BOBP’s major achievements.
11. Most countries spoke highly of the information activities, particularly the Newsletter, *Bay of Bengal News*, which was the main channel for information-sharing. Some of the Newsletter’s articles had been translated into local languages. The Programme’s posters were seen in many of the locations visited by the Mission to document the BOBP’s learnings. The consensus was that these too were useful in spreading management awareness. National counterparts attached great value to local-language materials whose production was supported by BOBP.
12. BOBP’s advocacy role was emphasised in a number of countries. Its endorsement of a fisheries management initiative lent it credibility in the eyes of both fisheries stakeholders and government decision-makers and facilitated approval by a central government or an international agency.
13. The commitment of coastal communities to participatory management activities was greatly enhanced by the perception that their effort was being observed by other countries.
14. To a greater degree, the success of BOBP activities in Member-Countries can be attributed to this spirit of national execution and cost-sharing which instils greater work and financial discipline.
15. It has shown that national execution can and does work.

Looking to the Future

So far, BOBP member countries have focused effort on identifying causes and factors behind fisheries depletion and overfishing. It is equally important that effort be made to identify and examine contributory causes and factors in the production-processing-distribution-consumption chain that can contribute to overfishing.

Closing Remarks

BOBP has been established to serve its Member-Countries. But it does not directly manage fisheries. Only member countries do so. Through various roles – as a catalyst, facilitator and coordinator-- BOBP has been able to promote the “processes” required to sustainably manage fisheries and aquatic resources in member countries. Given the Programme’s focus on enabling and facilitating management in the context of sustainable coastal zone management and development, BOBP’s initiatives have helped bring together and involve all stakeholders in the management process – those within and outside the fisheries. To succeed, the support of stakeholders is crucial. This has been achieved to a large measure on the basis of experiences from pilot projects carried out and documented. In the final analysis, only sustainable production, development and management of fisheries and aquatic resources can help increase the purchasing power of the poor and thereby help to eradicate poverty.

Appendix - E
PROGRESS REPORT
(1995-1999)

Introduction

Institutionalising change or reform in the administrative and organization structure of the management system for fisheries and aquatic resources is a long process. It calls for a required long-term commitment in terms of investments and other supporting facilities. According to Goldsmith (1993), a decade or more may be needed to be sure if a reform in management or an institutional development project has “worked”, far longer than the usual project cycle.

According to Preston and Yadava (1999), BOBP has had just about 3.5 years to implement the Third Phase, since the first 12-18 months of this Phase were spent in situation analysis – at national and regional levels – as well as in defining the BOBP’s fresh role in coastal fisheries management during the Third Phase. Preston and Yadava (1999) pointed out that a major lesson of the Third Phase which is nearing its project cycle of five years is therefore that a five-year time scale will not allow completion of a process as complex as management. A long time horizon is needed. This has not even taken into account the process of institutionalising management reform, and the institutional and legal framework and structure for managing fisheries and aquatic resources.

Be it as it may, the Programme is happy to report substantive progress toward management. Many milestones have been crossed. What follows is a summary of progress, status, problems and achievements during the five years of the Programme’s Third Phase on Integrated Coastal Fisheries Management.

BANGLADESH: DOF-BOBP Coastal Fisheries Management Project

Project Fact Sheet

Functional Focus: Management of Estuarine Set-Bag Net (ESBN) and Push-Net (PN) Fisheries. Geographical rolls. Coastal Districts of Bangladesh; Pilot efforts in Chittagong and Cox’s Bazaar Districts.

Implementing Agencies: Marine Wing of the Department of Fisheries (DOF); Marine Fisheries Survey, Development and Management Project (MSDMP) of the DOF; and Fisheries Research Institute (FRI).

National Project Coordinator: Mr Harun-or Rashid, Deputy Director, Marine Wing, DOF.

Project Objective: In the context of conserving coastal fish resources and ensuring the sustainability of coastal fisheries, to facilitate and enable improved management of the ESBN and PN fisheries in selected coastal areas of Bangladesh, through awareness building, strengthening the institutional capacity of concerned agencies and provision of technical assistance.

Background Note: A situation analysis undertaken by the DOF in 1994 identified the ESBN and PN fisheries as problem fisheries whose management needed immediate improvement. Their analysis was based on a very thorough bio-socio-economic analysis of the tiger shrimp, *P. monodon* fishery undertaken in a UNDP-supported activity during the 2nd Phase of BOBP.

The Problem: The ESBN is a traditional fishery which not only provides livelihood to a large population of mostly poor rural inhabitants, but also provides a sizable proportion of the marine and brackishwater capture fisheries production. The fishery provides most of the animal protein consumed by the rural poor. The ESBN fishery which interacts with at least seven other fisheries has been shown to be destructive, and could lead to growth and recruitment overfishing of several important marine and brackishwater species.

The PN fishery is of more recent origin, having evolved to supply Bangladesh's rapidly growing coastal aquaculture industry with tiger shrimp *P. monodon* and freshwater giant prawn, *M. rosenbergii* post-larvae or fingerlings. The fishery is very destructive, because over 90 % of its catch consist of by-catch, made up of commercially important species of marine and brackishwater organisms, which are discarded and left to die on the beach. The fishery not only provides over 95 % of the seed requirement of the coastal aquaculture industry, which happens to be the second largest foreign exchange earner of Bangladesh, but also provides seasonal livelihood to several thousand poor people most of whom are women and children. The Government of Bangladesh is under considerable pressure from trawler owners to ban the ESN and PN fisheries as they feel the fisheries are destroying their potential yields.

Chronological List of Activities Undertaken:

1995:

1. MOFL assigned the Marine Wing of DOF, the Marine Survey Development and Management Project of DOF and FRI as implementing agencies; initiated development of Technical Assistance Plan Proforma (TAPP) to clear the activity; and allocated staff and Taka 300 000 to help staff travel/subsistence, in anticipation of clearance of TAPP.
2. 35 staff of DOF/FRI were given orientation to BOBP project and approaches; and provided training in undertaking stakeholder identification, stakeholder analysis and stakeholder communications and perception analysis using participatory rapid appraisal methods. Staff designed and planned field work to undertake stakeholder studies.
3. DOF/FRI staff undertook stakeholder studies in six sample locations chosen as representative locations of ESN and PN fisheries of coastal Bangladesh, over a two-month period, and documented their findings.
4. DOF/FRI staff used findings of stakeholder studies and in a workshop, undertook problem analysis and stakeholder problem perception analysis, to evolve a strategy and workplan to address the problems and concerns of the stakeholders of the ESN and PN fisheries. The workplan for 1996 was approved by DOF and MOFL and agreed to, in anticipation of clearance of the TAPP by Government.
5. BOBP in collaboration with the FAO (Japanese Trust Fund - RAS/I38/JPN) and ODA (UK) supported MOFL and DOF to hold a National Workshop on Fisheries Resources Development and Management, which discussed the status and trends in fisheries in Bangladesh and recommended directions for the future.

Project Strategy: In the ESN fishery the only available options to improve the management of the fishery are to reduce the fishing effort and attempt modification of the gear to make it less destructive. The possibility of achieving the latter seems difficult. More analysis is needed. The possibility of reducing effort, through closed seasons or closed areas not only depends on ESN fishers and other stakeholders being aware of the need for, the benefits of and methods of management, but, more importantly, having alternative sources of income generation to ensure livelihood and food security. The project will focus on awareness building of stakeholders at all levels, promoting consultation and collective, negotiated decision making, building the capacity of the DOF/FRI to undertake such efforts, and undertaking a few pilot efforts of seasonal and area closures to test the feasibility of the idea and to gauge the social and economic implications of such initiatives.

The ideal management option for the PN fishery would be to ban it. This option is impossible, given the coastal aquaculture sector's dependence on this fishery, and given the number of poor men, women and children who make a living from it. The project hopes to influence policy through awareness building and consultation amongst stakeholders to work towards sustainable aquaculture, based on hatchery produced seeds. Meanwhile, the project will focus on working with the seed collectors and other stakeholders to reduce by-catch mortality and to reduce mortality in handling and transport of target seeds.

Fishing is only one part of the lives of the coastal people of Bangladesh. A variety of factors and actors, often far removed from fisheries, affect their food and livelihood security. The solutions to the fisheries management problem

may well lie outside of the fisheries sector. A key strategy of the project will be to promote a more holistic and comprehensive policy perception that looks at the food and livelihood security of coastal peoples as a whole in determining options.

1996:

1. 36 DOF/FRI staff were trained in communications and in the mediations of consultations and negotiations.
2. Two one-day consultations were held with ESNB fishing communities to discuss problems and solution options.
3. IS DOF/FRI staff undertook field work to hold consultations with ESNB and PN stakeholders to evolve messages that need to be communicated to facilitate the DOF's management initiatives in the ESNB and PN sectors.
4. An NGO/private sector group was identified to develop media and awareness materials to facilitate the management initiatives of the DOF and FRI in the ESNB and PN fisheries. SAVE, a private sector group, was shortlisted and a contractual service agreement was developed for the task.
5. MSDM Project staff undertook a study to recommend locations and seasons where and when closures of the ESNB fishery can be tested in pilot efforts in the Chittagong and Cox's Bazaar Districts.
6. A study was planned to identify alternative non-fisheries income generation options for ESNB fishers, to determine the preliminary social and economic feasibility of the options and to evolve a strategy to promote such ventures. Discussions were held with NGOs capable of undertaking such a study and the study was designed.
7. 10 DOF staff and two staff of the fisherfolk NGO, CODEC, were trained in the design, planning and management of participatory exploratory fishing trials by an international consultant, Dr Marcel Giudicelli. The trained staff started to develop a project proposal to undertake a series of participatory exploratory fishing trials to identify alternative income-generating options for ESNB fishers, which DOF and MOFL hope to put up to donors for support.
8. DOF with support from FRI initiated a review to document feasible technologies and methods to reduce by-catch mortality and to reduce mortality of target species through improved handling and transport techniques for extension to PN collectors.
9. BOBP made a special presentation to the Local Consultative Group of Donors in Fisheries in Bangladesh on issues and concerns of marine and coastal fisheries sectors in Bangladesh.
10. A study to assess skill gaps and training needs in agencies concerned with the management of fisheries was discussed, the Terms of Reference was agreed to, and efforts were initiated to identify an institution or a group of consultants to undertake the study.

1997:

1. SAVE, a private sector NGO organization working in extension and media, was contracted to produce awareness materials and media to support and facilitate management initiatives of DOF/FRI staff. Materials include poster exhibitions, audio-tapes, comic book and radio programmes to be broadcast on Radio Bangladesh. The products of this exercise are expected to be ready early in 1998.
2. CODEC, a fisherfolk NGO, was contracted to conduct a study to identify non-fisheries income generating options for ESNB communities, to determine their preliminary feasibility and propose a strategy to promote such ventures. The study was completed and a detailed report submitted to DOF and BOBP.
3. BOBP, DFID (UK) and MOFL organized a senior decision makers' consultation which brought together Members of Parliament from coastal constituencies, Ministers and Senior Administrators and Technical Staff of Ministries

concerned with coastal development to discuss coastal people's food and livelihood security issues and concerns. (Reported in *Bay of Bengal News*)

4. DOF and FRI staff trained in designing strategy and campaigns for implementation of management initiatives for ESN and PN fisheries. The DOF/FRI staff prepared detailed strategy, workplans and budgets for selected management initiatives for the ESN and PN fisheries, in selected areas of Chittagong and Cox's Bazaar Districts and submitted the proposals to MOFL and BOBP for support.
5. Planning was undertaken to organize a national workshop early in 1998 to build awareness on the precautionary approach to fisheries management and the Code of Conduct for Responsible Fisheries.
6. The Communications Adviser was deputed by FAO to prepare a proposal for funding by UNDP, addressing the food and livelihood security concerns of coastal fishing communities. The proposal, with empowerment of fishing communities as its basis, was prepared and submitted to UNDP and GOB for their consideration.

1998:

Consultant input has been planned at the request of DOF to provide technical assistance to train selected DOF staff and women from fishing communities in the techniques of deboning Hilsa (river shad). The idea is to provide income opportunities for women who could debone the otherwise very bony but tasty Hilsa for export, during the peak season when the price of the fish drops. The activity is planned for September 1998, and will include demonstrations to seafood exporters. The activity will be conducted in co-operation with DOF and CODEC, an NGO in Chittagong. This input was dropped in consultation with DOF due to the non-availability of the consultant during the Hilsa season.

2. BOBP's Communications Adviser completed a project formulation for FAO, developing a 5-year project to be funded by UNDP that focused on empowering coastal communities to better manage their resources, assure themselves of livelihood security and enhance access to social services.
3. DOF and BOBP organized a three-day workshop in Chittagong which brought together 28 DOF and FRI staff and two NGO staff. The primary purpose of the workshop was to train participants in undertaking logframe analysis and in monitoring and evaluation. The workshop also gave the participants an opportunity to evolve an M&E system for the pilot management initiatives being planned for the ESN and PN fisheries. The participants, using a logframe for the pilot management initiatives undertook the development of workplans and budgets for the year 1999, which as per the agreement reached at the BOBP/MOFL review in Dhaka, would focus on awareness-building through a series of consultations and public hearings, as a preparatory step to the initiation of management pilot exercises to be implemented by the DOF.
4. MOFL, DOF and BOBP organized a two-day workshop on the Precautionary Approach to Fisheries Management and the Code of Conduct for Responsible Fisheries in Dhaka on 24-25 October 1998. The meeting brought together a wide spectrum of policy makers, administrators, planners, scientific staff, NGO representatives, fishery industry representatives and donors who are concerned with the planning and management of fisheries in Bangladesh. The Meeting provided opportunities to discuss and evolve ways and means to operationalize the Code of Conduct for Responsible Fisheries in the context of Bangladesh. The deliberations generated useful recommendations.
5. SAVE, an NGO, completed its task of developing, in co-operation with the DOF, awareness materials to facilitate the testing of selected management initiatives in the ESN and PN fisheries. The materials developed include posters, travelling exhibits, a comic book, an audiotape and radio programme to be broadcast over Bangladesh Betar. The Ministry of Fisheries and Livestock and the Department of Fisheries have agreed to utilize the awareness materials not only in the BOBP-assisted activity but also in other management-oriented efforts of the government which include two donor-assisted activities that are in the pipeline.

6. MOFL held a meeting on 22 October 1998, to review BOBP's activities in Bangladesh and give direction to its activities for the remaining project period. It was agreed that, given the funding constraints both in GOB and BOBP during the remaining period of the BOBP project, the focus of activities would be to build awareness and to mobilize ESNB and PN fishers to test fisheries management initiatives through a series of consultations and public hearings in selected parts of Greater Chittagong District. The issue of utilizing funds from a DANIDA-supported effort from the second phase of BOBP was addressed. MOFL offered to evolve mechanisms by which these funds could be utilized in Bangladesh to supplement the efforts of BOBP.:

1999:

1. Two pilot projects to test management initiatives for the ESNB and PN fisheries, developed by the BOBP-assisted activity are being implemented through cost-sharing between BOBP and MOFL. The focus of the pilot projects is to promote voluntary closed seasons among ESNB fishers in selected locations and to promote reduction of mortality of targeted and by-catch species amongst PN fishers through awareness building, public hearings, training and some demonstration. Awareness materials to support the pilot activities developed by an NGO for the activity are ready and the comic book in Bangla has been printed and handed over to the DOF. The pilot activities will be completed by December 1999.
2. A three-day training cum planning workshop for participating DOF and FRI staff was conducted to evolve detailed workplans for the pilot exercises and to supplement the capacity of the staff in the use of awareness materials and the conduct of consultations and public hearings.
3. With the end of the project by December 1999, an effort was undertaken in the BOB region to document the learnings of the Third Phase of the BOBP to give direction to similar efforts in the future. In consultation with GOB, FAO assigned the task of documentation of the learning of BOBP in Bangladesh to Mr Iqbal Haroon of the Department of Fisheries, and his report was presented to the Mission when the Mission members visited Bangladesh.

Assessment: The activities in Bangladesh are on schedule, progressing well in spite of delays in some components. The level of performance of the junior and middle level staff is high, and they are quite enthused about the project. The organizational culture of the department and the managerial environment is often not conducive to supporting innovative and creative efforts such as fisheries management. Fund shortages are a major constraint. This not only makes national execution difficult but raises the question of post-project sustainability. The Marine Wing, responsible for implementation, does not have staff presence at the implementation level, namely the district and thana levels, and this will result in implementation problems. Testing of management initiatives will require issue of regulations, ordinances and notifications which can be delayed due to lengthy bureaucratic processes, and this can delay the project. Management initiatives, all of which depend on reduction of fishing effort, will succeed only if alternative income-generation options exist and are accessible; initial indications are not very promising. Promoting alternative income generating schemes is a complex and expensive task requiring skill training, credit support, managerial assistance and marketing help, and without the support of other government agencies and donors it will be difficult for BOBP and DOF to justice to this task. In spite of all these constraints and problems a lot has been achieved in Bangladesh.

Bangladesh is the only member country of BOBP where the Programme's Coastal Fisheries Management Project and the DFID (UK)'s Post-Harvest Fisheries Project worked closely together, addressing the needs of the ESNB fisherfolk. At the senior decision makers' consultation, MOFL announced the development of a comprehensive fisheries policy and proposed the establishment of a high-level, inter-ministerial task force, with the Prime Minister as Chairperson, to give direction to, coordinate and oversee coastal development, including development and management of marine and coastal fisheries. The BOBP-assisted activity in Bangladesh has spun off other activities of a similar nature, which will replicate and extend the effort of promoting management. The government has established a project to strengthen

coastal fisheries management. In the pipeline are two major projects, one supported by DFID (UK) and the other by UNDP-FAO which will address issues of empowerment, livelihood security and natural resources management in coastal communities, all of which have benefited from and use similar approaches as the pilot efforts of BOBP.

INDIA: DOF-BOBP Coastal Fisheries and Aquaculture Management Projects

Project Fact Sheet

Functional Area:	in Tamil Nadu:	coastal fisheries management/management of the trawl fishery
	in Andhra Pradesh:	coastal aquaculture management
	in Orissa:	coastal fisheries management
	in West Bengal:	coastal aquaculture management

Geographical Area:	in Tamil Nadu:	Kanniyakumari and Chennai Districts
	in Andhra Pradesh:	East Godavari, West Godavari & Krishna Districts
	in Orissa:	Baleshwar and Cuttack Districts
	in West Bengal:	North 24-Parganas, South 24-Parganas & Midnapore Districts

Implementing Agencies: Departments of Fisheries of the states of Tamil Nadu, Andhra Pradesh, Orissa and West Bengal, in co-operation with Central Marine Fisheries Research Institute and the Central Institute of Brackishwater Aquaculture.

Project Objective:

1. To enable and facilitate improved management of coastal fisheries in selected districts of the states of Tamil Nadu and Orissa, through awareness building, strengthening the institutional capacity of concerned agencies, and provision of technical assistance.
2. To enable and facilitate improved coastal aquaculture management in selected districts of the states of Andhra Pradesh and West Bengal, through awareness building, strengthening institutional capacity of concerned agencies, and provision of technical assistance.

Background Note: In 1994 the Central Marine Fisheries Research Institute (CMFRI), at the request of the Government of India (GOI) undertook a situation analysis of coastal fisheries along the east coast of India, identified and prioritised the problems, and proposed that the Governments of the States of Tamil Nadu and Andhra Pradesh improve the management of coastal and trawl fisheries and coastal aquaculture with assistance from BOBP. Early in 1995, after the 19th Meeting of BOBP's Advisory Committee had agreed to and endorsed the proposal of the Situation Analysis, the GOI suggested that the geographical scope of BOBP-assisted activities along the east coast of India be expanded to include the states of Orissa and West Bengal. At a workshop, which brought together representatives of GOI and the four East Coast states, it was agreed that BOBP-assisted activities would focus on coastal fisheries management in the states of Tamil Nadu and Orissa and on coastal aquaculture management in the states of Andhra Pradesh and West Bengal.

The Problem: Small-scale fisherfolk dominate the fisheries along the east coast of India not only in terms of their numbers but also in terms of their contribution to the total catch. The larger scale trawl fishery has expanded considerably in the last two decades, and there have been several instances of social conflict with small-scale fisherfolk, into whose area of operation the trawl fishery often intrudes. While production and catch rates of the trawl fishery have shown no signs of decline, there are other indications, such as the reduction in average sizes of species in the catch and changing

species composition in catches, which suggest the need for management. There is also the concern of by-catch discards in the trawl fishery, which is sizeable. Amongst the small-scale fisherfolk the picture is not very good. Catches have been declining, and with it earnings, in spite of increased prices of fish. The scarcity in resources, together with the paucity of alternative options for income generation, has affected the quality of life of small-scale fishing communities adversely, creating a climate wherein conflicts often arise.

Coastal aquaculture, primarily for the culture of tiger shrimp *P. monodon*, developed rapidly along the east coast of India, causing a variety of problems both environmental and social. Salinization of soil and groundwater, pollution due to water and pond bottom soil disposal, disease problems, damage to mangroves, destruction of by-catch and destruction of wetlands during collection of wild seed for culture, indiscriminate conversion of agricultural lands, and land use conflicts are some of the concerns that have arisen.

The state governments and the GOI, concerned with the status and trends in coastal fisheries and aquaculture, are committed to improving the management of the sectors to ensure the sustainability of the resources, conservation of the eco-system and improving the quality of lives of coastal poor fisherfolk and fish farmers. Realising the complexity of the problems and given the constraints they face in terms of manpower and resources, the governments are interested in addressing the problems comprehensively with the participation of the stakeholders.

Chronological List of Activities Undertaken:

1995:

1. National workshop of representatives of GOI, states of Tamil Nadu, Andhra Pradesh, Orissa and West Bengal, and BOBP decided the scope and modalities of BOBP-assisted activities in India. Execution of the projects by the states, implementation modalities such as staff allocation, pilot area locations and project foci were discussed and agreed to.
2. GOI communicated the proceedings of the Workshop and the decisions taken to the four east coast states seeking their formal support and commitment and requesting them to incorporate the proposed projects into state plans and appropriate budget allocations into state budgets to facilitate execution by the states.
3. BOBP staff visited all four east coast states and had discussions with counterparts visited pilot areas and had detailed discussions with selected stakeholders of the fisheries and aquaculture sectors. These visits and discussions generated a better understanding of the problems faced by the stakeholders and their causes.
4. On the basis of the discussions with counterparts and stakeholders and in anticipation of positive responses from the states, workplans for 1996 were drawn up and agreed.

Project Strategy: The strategy in all four states was to identify the stakeholders, get to know them and about them, understand their perceptions of problems and solution options and based on the findings to determine and design awareness building campaigns, where necessary, and evolve workplans in consultation with the stakeholders to improve the management of fisheries and aquaculture. The strategy would also determine technical assistance needs, if any, and address them through training and technical inputs. In a sense the strategy was process-oriented rather than goal-oriented, and based on participation.

1996:

In Tamil Nadu

1. 15 DOF staff from Chennai and Kanniyakumari Districts and four Catholic Priests of Kottar Diocese were given orientation to the BOBP project and its approaches; and provided training in undertaking stakeholder identification, stakeholder analysis and stakeholder communications and perceptions analysis using participatory rapid appraisal methods. The staff designed and planned fieldwork to undertake the stakeholder studies.

2. A one-day consultation was held with representatives of stakeholders of coastal fisheries in Kanniyakumari District to discuss their problems and solution options.
3. The participating DOF staff and the Catholic Priests undertook six weeks of field work in their respective districts to do the stakeholder studies. The final reporting and a planned workshop to discuss the findings of the stakeholder studies and to evolve a strategy and workplan for the future was delayed because of the deployment of staff to relief operations subsequent to the tropical cyclonic storm that affected Tamil Nadu.
4. A training programme for selected DOF staff on the design, planning and management of participatory commercial exploratory fishing trials by international consultant, Dr Marcel Giudicelli, was cancelled because of delays in GOI clearance for the Consultant.

In Orissa

1. 26 DOF staff from Cuttack and Baleshwar districts and two staff from DOF HQs were given orientation to the BOBP project and its approaches; and provided training in undertaking stakeholder identification, stakeholder analysis, and stakeholder communications, and perception analysis, using participatory rapid appraisal methods. The staff designed and planned fieldwork to undertake the stakeholder studies.
2. A one-day consultation was held with representatives of stakeholders of coastal fisheries in Baleshwar and Cuttack Districts to discuss their problems and solution options.
3. The participating DOF staff undertook six weeks of field work in their respective districts to do the stakeholder studies. The follow-up workshop to discuss the findings of the stakeholder studies and to evolve a workplan for the future was delayed because of scheduling problems and other staff pre-occupations.
4. 10 DOF staff were trained in the design, planning and management of participatory exploratory fishing trials, by international consultant, Dr Marcel Giudicelli.

In Andhra Pradesh

1. 30 DOF staff from East Godavari, West Godavari, Krishna, Prakasam and Nellore districts were provided orientation to the BOBP project, its approaches to management of aquaculture to ensure sustainability and provided training in undertaking stakeholder identification, stakeholder analysis and stakeholder communications and perceptions analysis using participatory rapid appraisal methods. The staff designed and planned fieldwork to undertake the stakeholder studies.
2. A one-day consultation was held with representatives of stakeholders of coastal aquaculture in East Godavari and Krishna districts to discuss their problems and solution options.
3. The field work to undertake the stakeholder studies had to be indefinitely postponed, because all DOF staff were deployed for relief and rehabilitation work following the two severe cyclonic storms that devastated the Andhra Pradesh coast during a period of two weeks.

In West Bengal

1. 29 DOF staff from Midnapore, South 24-Parganas and North 24-Parganas districts were provided orientation to the BOBP project and its approaches to management of aquaculture to ensure sustainability; and provided training in undertaking stakeholder identification, stakeholder analysis and stakeholder communications and perceptions analysis using participatory rapid appraisal methods. The staff designed and planned fieldwork to undertake the stakeholder studies.
2. A one-day consultation was held with representatives of stakeholders of coastal aquaculture in North 24- Parganas and South 24-Parganas districts to discuss their problems and solution options.

3. The DOF staff of North 24-Parganas undertook six weeks of field work to do the stakeholder studies. The staff in the other two districts could not undertake the studies due to delays in receiving government orders, and had to postpone the studies.
4. A follow-up workshop for 27 DOF staff was held to discuss the findings of the stakeholder studies of North 24 Parganas district, and to evolve a strategy and workplan based on the findings. All three districts' staff agreed to complete their stakeholder studies and develop district-wise workplans and budgets and submit them to DOF and BOBP for their consideration and support.
5. Staff in all three districts undertook a series of stakeholder meetings to determine the awareness and communications needs of the stakeholders, which could be used to evolve materials to assist the staff in implementation of selected management initiatives.

In consultation with counterpart staff in the four east coast states and based on the preliminary findings of the stakeholder studies conducted, workplans for 1997 were evolved.

1997:

General:

1. Review of BOBP activities in India with 20 senior fisheries officials from New Delhi and the 4 East Coast states of Tamil Nadu, Andhra Pradesh, Orissa and West Bengal, at a meeting in Chennai on 19 August, 1997 (reported in BOBN).
2. Visit to SENRIC (Delhi), Survey of India and Indian Institute of Remote Sensing (both in Dehra Dun) to discuss present GIS projects in the region and to obtain geographical data and permission to use coastal zone maps of India (staff APO Barbara Bierhuizen).

In Tamil Nadu

1. A follow-up workshop was held for DOF staff of Chennai and Kanniyakumari District to discuss the findings of the stakeholder studies. The staff evolved a strategy and workplan for their future efforts with budgets, which were submitted to BOBP and DOF.
2. Strategies and work plans, evolved from the findings of the stakeholder studies in Chennai and Kanniyakumari, were discussed with the DOF. Discussions with DOE staff led to a strategy and workplan for their future efforts with budget estimates.
3. The TN DOF and the Government of Tamil Nadu (TN) have allocated Indian Rupees 1 million to supplement the efforts of BOBP-assisted activities in Tamil Nadu for the financial year 1997-1998.
4. A training workshop on design, planning and implementation of participatory commercial exploratory fishing trials was conducted for 8 DOF staff, to enable them to facilitate diversification of fisheries programmes in the target districts.
5. A series of stakeholder meetings is being held in the two districts by DOF staff to involve the stakeholders in a planning exercise to determine joint action to be taken for selected management initiatives.
6. At the request of DOF, a project proposal with budget was prepared for "Diversification of Fishing Effort for Inshore/Coastal Fishermen to Tap Untapped/Under-tapped Offshore Pelagic Resources of Tamil Nadu" for funding by the Government of India over a 5-year period.
7. DOF/TN initiated participation of BOBP staff in their monthly review meetings to facilitate awareness building and regular interaction.
8. Discussions were held with the Secretary, Ministry of Fisheries and Animal Husbandry, TN about the possibilities of helping the fisherfolk communities in the non-fishery sectors, through catalytic action and coordination. The

Secretary requested detailed, village level need profiles in Kanniyakumari district to enable him to call an inter-ministerial meeting to progress the effort.

9. Two studies have been initiated in Kanniyakumari district in cooperation with the local church authorities. One, to collect village level socio-economic and infrastructure availability data to develop the non-fishery needs profiles and the other to collect village level fishery practices data to develop a GIS presentation to visualise the interactive nature of fishing, the intensity of fishing and the conflicts resulting from these. The two studies were respectively conducted by two APOs – Rene Verduijn and Barbara Bierhuizen, with supervision from Programme personnel. The information from the two studies will be used at a stakeholder meeting planned for March 1998 to discuss and plan for the participatory management initiatives in Kanniyakumari. Two workshops were conducted for volunteers from each village to train them in data collection for the studies. The field work will be undertaken in January-February 1998.

In Andhra Pradesh

1. A follow-up workshop was held for DOF staff of East Godavari, Krishna and West Godavari Districts to discuss the findings of the stakeholder studies. The staff, on the basis of the findings, evolved workplans for future actions, which included identifying one cluster of aquaculturists in each district with whom they can work closely and help in working towards sustainable aquaculture.
2. DOF staff undertook field work to identify and select a cluster of farmers in each district, using the same water source, and collected preliminary information on aquaculture and socio-economic aspects of the selected clusters.
3. A four-day training workshop was conducted on farming systems research, (FSR) participatory rapid appraisal (PRA) methods and collection of local and indigenous knowledge, for DOF and NGO staff. The participants evolved a detailed workplan for the conduct of FSR and PRA work in the selected clusters, to get a better understanding of the present aquaculture practices and problems. The field work will be undertaken early in 1998, leading up to an expert consultation to determine guidelines for sustainable, small-scale coastal aquaculture.
4. BOBP staff visited DOF, National Remote Sensing Agency, and the State Remote Sensing Applications Centre in Hyderabad to obtain information (IRS-C satellite data) for a possible GIS component in BOBP-assisted activities.

In West Bengal

1. A seven-day training programme was organised at the Ramkrishna Mission Krishi Vigyan Kendra for 29 DOF staff to train them in improved participatory training and extension methods.
2. A one-day Workshop was conducted, in which district-level and senior staff of DOF presented workplans and budgets for management initiatives in the three target districts. These were discussed and appropriately modified and submitted to the Government of West Bengal through the Director of Fisheries for their consideration and support.

In Orissa

1. Field study on stakeholder perceptions and communications was undertaken by the DOF staff trained at an earlier Workshop (August 1997), and reported on.

At BOBP's headquarters in Chennai, the opportunity of FAO staff visiting from HQs in Rome was used to organise a series of seminars on a variety of subjects, in co-operation with local research and NGO institutions, and they included seminars on:

- Emerging Needs for Information Services in Fisheries (Jean Collins)
- GIS as a Tool for Management of Fisheries and Aquaculture (James Kapetsky)
- Prevention of Disease and Health Management in Aquaculture (Rohana Subasinghe)

- Safety at Sea (Jeremy Turner)
- Changing Technologies and Reaching Rural Women (Revathi Balakrishnan)
- Quality Assurance Approaches in the Fisheries Sector (Carlos Dos Santos)
- Cleaner Fishery Harbours and Fish Quality Assurance (Jo Sciortino)

In collaboration with the M S Swaminathan Research Foundation, BOBP organised a three-day Regional Workshop on the Conservation and Sustainable Management of Coral Reefs from 15-17 December 1997. The meeting brought together participants from India, the Maldives, Sri Lanka and regional agencies involved in reef conservation and management. Country papers were received from Bangladesh and Pakistan, though their participation was not possible. The meeting reviewed the status and trends of reefs and their utilisation and management in South Asia. It also discussed, around theme papers, a variety of subjects including research, monitoring, education and training, eco-tourism, law and policy pertaining to coral reefs. The participants, based on group discussions, evolved recommendations for strategies for the conservation and sustainable management of reefs in the region.

General

At the 2Y Meeting of the Advisory Committee of BOBP, *it was agreed that the BURP-assisted activity in the State of Orissa, India to improve the management of coastal fisheries, should be terminated* as, given the delays in implementation due to unavoidable circumstances, it would be difficult to do justice to the objectives within the remaining period of the project

In Tamil Nadu

1. As a part of capacity-building, and in response to a specific recommendation of the 23rd Advisory Committee Meeting of BOBP, preparatory efforts have been undertaken to identify national consultants to undertake a diagnostic study of the M&E system of the Department of Fisheries, to give direction to the efforts of the department to strengthen its M&E activities. The Terms of Reference have been agreed to and OM Consultants (India) Pvt. Ltd., a management consultancy firm in Bangalore selected to undertake the task. The activity is expected to be undertaken early in 1998.
2. Dr Kee-Chai Chong, Programme Coordinator, was invited to participate in the 26th meeting of the Tamil Nadu Fisheries Research Council of the Government of Tamil Nadu to give direction to the fisheries research strategy of the state.
3. A meeting had been held in the first half of 1998 with the Secretary of Fisheries and the Director of Fisheries to discuss the progress of BOBP-assisted activities in Tamil Nadu. Two issues had come up: one, the need to coordinate with other government departments to ensure fisherfolk's access to government services and inputs in the non-fisheries sectors; and two, testing of selected management initiatives in co-operation with stakeholders. The Secretary suggested that BOBP undertake surveys of non-fisheries needs in Kanniyakumari District and also do a spatial analysis of fisheries, highlighting fisheries intensity and interaction, which could result in conflicts. The government would coordinate with other departments and to motivate stakeholder-driven initiatives would use the results of these studies. During the second half BOBP undertook both the recommended studies. Ms Barbara Bierhuzen, GIS Officer APO, undertook a spatial analysis of fisheries, highlighting fisheries intensity and interaction, which could result in conflicts, and Mr Rene Verduijn undertook a study of the non-fisheries needs of the fishing communities of Kanniyakumari. Both studies were undertaken in co-operation with the DOF staff and community based volunteers of the Coastal Peace and Development Committee. The studies will be published as working papers.

4. A multi-stakeholder meeting was held on 15 November 1998 at the P. D. Pillai Kalyana Mandapam in Nagercoil, and brought together DOF staff from Chennai, Kanniyakumari and Tuticorin, a wide range of fisher stakeholders, members of the Coastal Peace and Development Committee, clergy from the Kottar Diocese of the Latin Catholic Church and BOBP staff. About 120 people in all, for a whole day. After the inaugural function, Mr Rene Verduijn and Ms Barbara Bierhuizen made presentations of the two studies. The presentations were followed by discussion after which we had a community lunch and reconvened for a street theatre, folk dance and song performance by Nanjil Natham, a communications NGO. who had been sponsored by BOBP to evolve the performance with a view to promote the Code of Conduct for Responsible Fisheries. The performance was very well received and had the audience enthralled, laughing and on occasion even crying. The theatre group, using local scenarios and dialect were able to highlight the problems faced by fishers and fisheries and suggest ways and means of approaching solutions, in the context of the Code of Conduct for Responsible Fisheries. The final activity of the day was an open house exhibition of 42 posters, which illustrated the findings of the two studies that had been presented earlier. The exhibition in an open house format gave opportunities to participants to digest the findings at leisure, discuss the findings with the authors and other DOF and BOBP staff and provide feedback. After the exhibition the participants broke into small groups to discuss the findings and to suggest ways of tackling the fisheries management and non-fishery infrastructure problems of the district.
5. A meeting of the Heads of Departments at District-level on 17 November 1998 brought together staff from concerned departments, local political leaders and BOBP staff. The meeting was inaugurated by the Hon. Minister of Fisheries of the State of Tamil Nadu, Mrs Jennifer Chandran, and included study presentations and speeches by key stakeholders including the Collector, the Director of Fisheries, a Member of the Legislative Assembly (Dr Alban), the Director of the Coastal Peace and Development Committee, Dr Kee-Chai Chong, and Mr Rathin Roy. The non-fishery needs of the fishing communities were discussed. The non-fishery needs will next be discussed at the state level to initiate programmes to assist the fishing communities.
6. BOBP staff continued to participate in the monthly meetings of the Department of Fisheries, which provided opportunities for discussion.
7. OM Consultants (India) Private Limited, a management consulting company, were contracted to undertake a skill gaps and training needs analysis of the DOF in Tamil Nadu, with a view to provide the department with a long-range human resources development plan to build its capacity to address the needs of fisheries management into the future. The findings were discussed at a workshop convened by the DOF. The report has been finalised and presented to the Government for appropriate action. The report will also be published and distributed to other fishery agencies in the region.
8. The Government of Tamil Nadu has undertaken to translate the FAO's Code of Conduct for Responsible Fisheries into Tamil, with a view to distribute it widely and promote its acceptance and implementation amongst fisheries stakeholders. The document is expected to be ready early in 1999.

In Andhra Pradesh

- Dr** Charles Angell, FAO Consultant Aquaculturist, undertook a short mission to Chennai and Andhra Pradesh to better understand current culture practices and innovations in the coastal aquaculture sector, with a view to recommend guidelines for small-scale coastal aquaculture, aimed at farmers, to enable sustainable aquaculture. Dr Angell led a one day workshop in Chennai, which brought together DOF, CIBA and industry representatives, to discuss his findings and recommendations.
2. In Andhra Pradesh and West Bengal, a co-operative venture of BOBP and the Aquaculture Foundation of India (AFI), an NGO representing coastal aquaculture farmers and industry, has been initiated. Earlier, the BOBP had assisted the AFI in developing a proposal for an activity to better understand and document current culture practices and innovations in Andhra Pradesh and West Bengal with a view to developing guidelines for small-

scale farmers to help them practise sustainable aquaculture. The AFt project is being supported by the Royal Netherlands Embassy in Delhi, and hopes to develop and produce illustrated guidelines in Telugu and Bangla in comic book forms. Given that this effort meshes well into BOBP's efforts in these two states, BOBP is co-operating with the DOFs and the AFI and providing technical assistance. The costs of this effort, except for the participation of BOBP staff, are entirely borne by the AFI with Dutch support. AFI and BOBP will use the information generated in West Bengal and Andhra Pradesh and present it to an expert consultation, organised by AFI early in 1999, to evolve a set of guidelines for sustainable small-scale coastal aquaculture. Once the guidelines are finalised and approved by the Governments of India, West Bengal and Andhra Pradesh they will be developed into illustrated comic books in Telugu and Bangla and produced for distribution by the DOFs. The comic book is expected to be ready in 1999.

3. In this context AFI mounted a mission to visit clusters of coastal aquaculture farmers to gather information on present practices, hoping to supplement the information and analysis already developed by the DOF staff in an earlier study.

In West Bengal

1. Discussions were held with DOF regarding preparations for a training input to selected DOF staff to undertake farming systems research of small-scale and traditional culture practices and innovations expected to be held in July 1998. The staff will conduct field work to undertake the study immediately after the training, and the results will be used to evolve, with expert input, guidelines for farmers in sustainable aquaculture practices.
2. In West Bengal, similar to the effort in Andhra Pradesh, a training programme brought together four DOF staff from the three districts of North 24-Parganas, South 24-Parganas and Midnapore, two NGO staff from the Ramkrishna Ashram Krishi Vigyan Kendra and two biologists nominated by the AFI (one from industry and the other an AFt staff). The training focused on farming systems research, PRA techniques of information gathering and on sustainable aquaculture practices. As a part of the workshop the eight trainees developed checklists and detailed plans for frame survey to identify a reasonably representative group of farmers from the three districts, and a checklist for the main farming systems study to be undertaken. The study will be undertaken over 4-6 weeks. The reports of the study are expected to be ready and completed by the end of 1998. The findings of the study, supplemented by studies undertaken by AFI experts, will be used to develop guidelines for small farmers as described in the case of Andhra Pradesh.

1999

General

With the end of the project by December 1999, an effort was undertaken in the BOB region to document the lessons learned and learnings of the Third Phase of the BOBP to give direction to similar efforts in the future. In consultation with GOI, FAO assigned the task of documentation of the learnings of BOBP in India to Dr Dipankar Saha, Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith, West Bengal. Dr Saha visited the four participating east-coast states of India and New Delhi to hold discussions with BOBP's counterparts and other stakeholders and his draft report was presented to the Mission, which will document the learning of BOBP.

In consultation with GOI a meeting was organised to review the BOBP-assisted activities in India, held in Chennai on 29 June 1999. The meeting brought together senior representatives of the Government of India, the governments of the four east coast states and BOBP (reported in BOBN).

On the recommendation of the Review Meeting and the GUI a training programme is being planned to build the capacity of staff members of Departments of Fisheries of the four east-coast states in the design, implementation and

management of participatory exploratory commercial fishing trials to diversify inshore fisheries and move them offshore. The training programme, run with the co-operation of CMFRI, CIFNET and FSI, will take place some time in November 1999.

In Tamil Nadu:

1. With the support and co-operation of the Department of Fisheries, the FAO's Code of Conduct for Responsible Fisheries was translated into the Tamil and published with a view to promoting the Code amongst the stakeholders of fisheries in Tamil Nadu. The Code in Tamil was officially released by Dr Jacques Diouf, Director General, FAO of the UN, during his visit to the M S Swaminathan Research Foundation in Chennai in April, 1999. Mr Mohan Verghese Chankath, IAS, Secretary to the Government of Tamil Nadu, Ministry of Animal Husbandry and Fisheries received the first copy of the Code, on behalf of the Government of Tamil Nadu.
2. To promote the Code of Conduct for Responsible Fisheries the Department of Fisheries, with support from BOBP, undertook a pilot exercise in two districts of Tamil Nadu, which consisted of mass contact programmes with fishers and other stakeholders, production of a street play on the Code and distribution of pamphlets and the Code. This activity covered eleven villages and was documented in a short video film.
3. Based on the recommendation of the 23rd Advisory Committee Meeting, a diagnostic study of the M&E and Management Information Systems of the Department of Fisheries was organised using the services of OM Consultants (India) Private Limited of Bangalore. The study has been completed and the report submitted for clearance to the DOF, prior to publication and distribution.

In West Bengal and Andhra Pradesh:

In continuation of the cooperative venture with the Aquaculture Foundation of India, experts visited coastal aquaculture sites in West Bengal and Andhra Pradesh to document current practices and its problems. Guidelines for sustainable culture have been developed in close consultation with concerned organisations and individual experts. The guidelines are being developed into illustrated comic books in Telugu and Bangla for distribution by the Departments of Fisheries and NGOs, and they are expected to be ready for distribution by end-December 1999,

Assessment: In spite of delays in implementation, partly due to natural calamities and partly due to delays in issue of government orders and other pre-occupations, it can be said with confidence that the staff are by and large committed to and interested in their work and the objectives of the pilot efforts have largely been achieved. Their performance has been good. In fact the quality of the work in some states has been outstanding, particularly because junior officers took the initiative and persuaded their senior staff to find ways around bureaucratic hurdles. National execution of the projects proceeded less smoothly. The states face severe financial constraints and have had problems even in providing travel and subsistence support to their staff. This proved problematic particularly to support the operational stages of the activities. Tamil Nadu has taken the lead by generously allocating funds for BOBP-assisted activities. One hopes this will help in persuading the other states to follow suit. The other states feel that the government of India and BOBP will have to carry the bulk of the financial responsibility for the activities, unless the GOI takes the lead and comes up with alternative options to enable national execution. The capacities of the DOF staff have been built up and with availability of funds in the future from GOI they should have no difficulty in carrying forward the work that has been initiated.

INDONESIA: DGF/PFSIBOBP Coastal Fisheries Management Project

Project Fact Sheet

Functional Focus: Community-Based Management of Fisheries and Mariculture.

Geographical Focus: Tapian Nauli Bay area in North Sumatra Province of Indonesia.

Implementing Agencies: Directorate General of Fisheries (DGF), Provincial Fisheries Service of North Sumatra Province (PFS), and concerned District Fisheries Services (DFS) in Tapian Nauli Bay area.

National Project Coordinator: Mr M Ictiadi, Chief, Sub-Directorate of Mariculture, Production Division, DGF supported by the Provincial Fisheries Service, North Sumatra at provincial level.

Project Objective: In the context of evolving model fishing villages to undertake community-based fisheries management, to facilitate and enable improved management of mariculture, anchovy lift-net fishery and small-scale fisheries in the Tapian Nauli Bay area of North Sumatra Province, Indonesia. through awareness building, strengthening institutional capacity of concerned agencies and provision of technical assistance.

Background Note: The PFS, with support from the DGF, undertook in 1994 a situation analysis which proposed that Indonesia with the assistance of BOBP would like to develop model management schemes for coastal fisheries and mariculture using participatory, community-based approaches to conserve and sustain coastal fisheries resources and improve the livelihood of fisherfolk. The government proposed a pilot exercise in the Tapian Nauli Bay area of North Sumatra Province, in the hope that the learnings of the exercise could be extended to other parts of Indonesia.

The Problem: Inadequate management measures and inappropriate enforcement mechanisms have resulted in conflicts between groups of fisherfolk. Fisheries stocks in coastal areas are being stressed. Coastal areas often face conflict situations due to several users targeting the same resource. The recent development of mariculture has created problems such as wild seed collection using destructive fishing practices; unmanaged development of fisheries to generate feed for the mariculture sector, and pollution. Further, pollution of coastal areas from various land and sea based sources is stressing coastal ecosystems. Fisherfolk incomes are low and there is concern about the quality of fish and fish products. The government, realizing the complexity of such problems and given the constraints it faces in terms of manpower and resources, is interested in addressing the problems comprehensively through participatory approaches at the community level.

Chronological List of Activities Undertaken

1995:

1. DGF designated the PFS of North Sumatra and the DFS of Sibolga and Tapian Nauli districts as the agencies responsible for the implementation of the BOBP-assisted activity. DGF incorporated fund allocations into their annual budget to cover necessary expenses beyond the assistance available from BOBP sources.
2. BOBP assisted the DGF in designing and developing a project proposal for submission to UNDP, which would supplement the limited resources of BOBP and DGF and support and complement the BOBP-assisted efforts. UNDP, however, was unable to support the project under its current funding cycle, and suggested that it be considered in its next cycle.
3. Selected DGF, PFS and DFS staff were trained in the conduct of stakeholder identification, stakeholder analysis and stakeholder communications and perceptions analysis. The staff designed and developed a study design to undertake stakeholder analysis in the two pilot areas.
4. A stakeholder consultation was organized by the DGF/PFS/DFS staff, which brought together representatives of stakeholders of all three target fisheries for discussions about their problems and concerns and their suggestions for solution options.

5. The PFS/DFS staff who had been trained undertook month long field work to hold discussions with stakeholders and to conduct stakeholder analysis.
6. A workshop was held in Medan, North Sumatra, early in 1996, to discuss the findings of the stakeholder analysis and on the basis of the analysis to evolve a project strategy and workplan for the project. The project workplan was endorsed by DGF, PFS and DFS and commitments were made regarding responsibility and resource allocations to facilitate the project.

Project Strategy: A multi-pronged strategy was evolved on the basis of the stakeholder analysis. At the national level it was proposed that efforts had to be taken to build awareness and promote the concepts of community-based fisheries management and stakeholder approaches. At the local level, the approach was to build awareness on the need for, the benefits of and the methods of management amongst all stakeholders; promote and encourage consultation and negotiation amongst and between stakeholders to arrive at management plans; and to provide technical inputs to enable more sustainable practices in the fisheries. The overall approach was to take the consultative and participatory route wherein the solutions and strategies would emerge from consultations amongst stakeholders. Central to the strategy was the idea of generating viable technical solutions to promote sustainability in fisheries and mariculture.

1996:

1. The proposed National Workshop on Community-Based Fisheries Management had to be postponed. BOBP had hoped that the Japanese Trust Fund in FAO (RAS/138/JPN) would support the effort as it had done in Bangladesh, Thailand and Sri Lanka. DGF and BOBP are committed to the activity and will jointly organize it early in 1998.
2. Preparatory efforts were undertaken to design a study to review institutions, legislation and regulations in the Tapan Nauli Bay area level, with a view to recommend necessary changes to facilitate participatory community-based management efforts. TORs were developed and candidates identified to undertake the study.
3. The activities relating to improving the management of mariculture, anchovy lift-net fishery and small-scale fisheries depend on BOBP identifying and assigning consultants to study the problems of the sectors and evolving technical inputs based on technology extension, training and fisherfolk manuals. The activities were postponed as appropriate consultants could not be identified and assigned. DGF and BOBP agreed that the related awareness building and consultative approaches should be postponed in order to have on hand the technical inputs to give direction to the efforts.
4. Selected staff of DGF, PFS and DFS were trained in the conduct of the Regional Study of Values, Perceptions and Attitudes of Fisherfolk and Other Stakeholders towards Fisheries Resources, Fishing Practices, and Fisheries Management and Sustainability. The questionnaire was translated into Bahasa Indonesia. The staff planned field work to be conducted in the Tapan Nauli Bay area.

1997:

1. A study to review institutional and regulatory frameworks to facilitate participatory community-based fisheries management was assigned to a PFS staff and the report of the study is expected later in the year when it will be discussed at a national workshop.
2. A technical consultant for providing technical assistance to the anchovy lift-net fishery in terms of improving the quality of processed anchovy on board the fishing craft and on land has been identified with the help of DOF Malaysia. The consultant's assignment is expected in 1997.
3. The field work for the study of Values, Perceptions and Attitudes of fisherfolk and other stakeholders has been completed. The questionnaires were checked and edited. BOBP staff conducted an orientation in the processing of questionnaires into ready-made information for analysis.

4. Efforts were made to collaborate and link PFS/DGF/BOBP model fishing village work with the Kampung Nelayan Indonesia project in the province.
5. Preparations were also made to organize a national workshop on sea-farming technology and management in mid-1998 with the support of NACA and INFOFISH.

1998:

- BOBP** counterparts in DGF and PFS, with BOBP's assistance and with technical support from NACA have progressed the preparations for a National Workshop on Sea Farming Management, to be held later in the year. Sea Farming is being seen primarily as an alternative income generation option to reduce the fishing effort in small-scale artisanal fisheries, in order to better manage it. The workshop, while being national in scope, will bring together observers from other interested BOBP member-countries, given the keen interest in the region for sea farming.
2. Preparations were also undertaken for the conduct of a National Workshop on Community-Based Fisheries Management, which is a high-priority area for DGF. As a part of the preparations a study has been initiated to better understand traditional community-based fisheries management practices of Indonesia, and a Letter of Agreement between BOBP-FAO and DGF for the conduct of this study is expected to be signed and work is expected to begin in the very near future.
 3. At the request of the PFS/DGF, the consultancy on on-board and on-shore anchovy processing was to be undertaken by a national consultant instead of an international consultant. This set back and delayed the consultancy as a national or local Indonesian has to be identified.
 4. Field level activities were affected by the economic and socio-political situation in Indonesia and discussions are under way to figure means of accelerating efforts to make up for lost time. However, the success of these efforts depends on circumstances beyond the control of DGF and BOBP.
 5. A prospectus, terms of reference, line-up of resource persons and subject matters/topics of papers for presentation of the BOBP-NACA-INFOFISH Workshop on the Management of Sea Farming was finalized, including cost-sharing arrangements between BOBP, NACA, INFOFISH and DGF & PFS.
 6. Under the Letter of Agreement signed between FAO and DGF, drafts of reports on documenting traditional community-based systems of management of natural resources have been submitted to BOBP for review:
 - a. The Marine Fisheries Management under the System in Aceh Province, Indonesia.
 - b. Management of Fisheries under Lubuk Larangan (Restricted Oxbow Lake) System in North Sumatra, Indonesia.
 - c. Areas of Traditional Fish Cultivation in Pasama and Padang Pariaman in West Sumatra, Indonesia (Restricted Fisheries and Offerings of Fish to the Spirits)
 - d. Traditional Management of Capture Fisheries in Bakuok Lake, Kampar Community, Riau, Indonesia known as Maawi Danau Bakuok.
 - e. Traditional Inland Fisheries Management in Jambi, Indonesia - A Fish Sanctuary and Restricted Fisheries.
 - f. An Auction of Lebak Lebung and Riverine Fisheries in Ogan Komering Ilir and Musi Banyuasia South Sumatra.
 7. In addition to the documents above, other papers on planning community-based systems of fisheries and coastal resources management are under preparation or being prepared to supplement the Indonesia-experience papers. The prospectus and terms of reference, budgetary needs and resource persons for a Regional Workshop on Planning Community-Based Systems of Fisheries and Coastal Resources Management are being finalized. The

Asian Development Bank (ADB) Project on Coastal Community Development and Coastal Fisheries Management Project will help to sponsor the proposed workshop.

8. Close consultations are being held to determine the scheduling of the two workshops, including possible venues. As the workshops will involve participation from the region and beyond, caution is being exercised to carefully schedule them at suitable venues. UN security clearance procedures will be observed for international participants.

1999:

1. The BOBP-NACA-INFOFISH Workshop on Sustainable Management of Sea Farming had to be postponed because of the situation in Indonesia and will now be held in Medan and Sibolga, North Sumatra in November 1999.
2. BOBP in co-operation with the Directorate General of Fisheries and the ADB-supported project on Coastal Community Development and Coastal Fisheries Management organized a 4-day Workshop on Community-Based Fisheries Management in Bengkalis, Riau which helped the participants drawn from various provinces to better understand CBFM and incorporate the approaches in their pilot project efforts in various provinces covered by the ADB project.
3. The reports of the study of traditional community-based fisheries management in Indonesia are being prepared for printing.
4. The DGF is very interested in using the stakeholder approach to coastal resources management and BOBP is planning to hold a national workshop later in the year on the stakeholder approach to fisheries management to familiarize the staff with the method.
5. With the end of the project by December 1999, an effort was undertaken in the BOB region to document the learnings of the Third Phase of the BOBP to give direction to similar efforts in the future. In consultation with DGF, Indonesia, FAO assigned the task of documentation of the learnings of BOBP in Indonesia to Mr Sihar Siregar, Chief, Sub-Directorate of Mariculture, DGF, and his draft report was presented to the Mission, which will document the learnings of BOBP.

Assessment: While the project's activities have been delayed due to the political situation in Indonesia and difficulties in identifying and assigning consultants, considerable groundwork has been done, which has given DGF and BOBP a better understanding of the problems. The DGF is very interested in the progress of the activities and has given high priority to solving the problems of mariculture, anchovy lift-net fishery and small-scale fisheries. The staff remained committed in spirit of delays.

MALAYSIA: DOF-BOBP Coastal Fisheries Management Project

Project Fact Sheet

Functional Focus: The promotion of sustainable coastal zone management approaches for marine parks as productive ecosystems contributing to fisheries production.

Geographical Focus: Pulau Payar Marine Park, Kedah

Implementing Agencies: DOF in State of Kedah/Perlis and the DOF in Kuala Lumpur, in association with other National and State government agencies of Kedah and Perlis, representatives from EPU, Environment, Forestry, Universities (UPM and USM), fisherfolk, NGOs and WWF.

National Project Coordinator: Thalathiah Saidin, DOF

Project Objective: In the context of sustainable coastal zone management, to facilitate and enable development and testing of methods and approaches to improving the conservation and management of marine parks, in a pilot effort in Pulau Payar, near Langkawi Island, off the coast of Kedah and Perlis.

Background Note: In 1994 Malaysia undertook a situation analysis of their fisheries and coastal resources. The analysis recommended a sustainable resource management approach to emphasize the importance of marine parks as productive ecosystems contributing to fisheries and biodiversity.

The problem: A variety of development efforts have worked towards the degradation of coastal resources, including destruction of mangroves for land reclamation and conversion into brackishwater aquaculture, siltation, sedimentation, agriculture development, rapid expansion of tourism, siting of dive pontoons and destruction of seagrass beds and coral reefs.

Chronological List of Activities Undertaken: 1995:

1. Key stakeholders have been identified and include fisherfolk (primary targets), industry and hotel owners, dive-tour operators, divers, fish vendors and middlemen, landowners, and Langkawi Area Port Authority and developers.
2. The awareness activity objective has been developed to create an understanding and acceptance among key stakeholders of the need for and the benefits of integrated coastal resource management, to enable their collaboration in management as stewards of the local resources.
3. The Special Area Management Plan (SAMP) monitoring objective was developed to observe whether the Marine Park and areas managed under the SAMP can increase or sustain fisheries resources in the Park waters and surrounding areas.
4. A five-year Workplan was developed which will be regularly reviewed and revised.

Project Strategy: During the first year it was decided to experiment with local-level integrated coastal area management through the implementation of a SAMP.

The DOF is approaching SAMP development through a two-tiered process: Tier I and Tier II committees. In the first tier, the DOF is developing a consensus-based preliminary draft SAMP. This preliminary draft will be used as a platform for discussion. In the second tier, 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 schedules and terms of reference for the committees were established. The Tier I Committee consists of the DOFM Aquatic Ecology Branch, Marine Parks Branch, Sector Planning Branch and Resource Management Branch. The Tier I Committee was initiated in mid-1995 and worked closely with the area stakeholders and State agencies to further assist in the project design, guide the scientific characterization studies, public outreach activities, and institutional review, and draft a skeleton SAMP. The draft SAMP will be completed in May 1997.

1996:

1. The Tier I Committee is currently developing the SAMP, with advisory inputs from BOBP.
2. DOFM/BOBP arranged for key staff in SAMP development and implementation to undergo training in Integrated Coastal Zone Management (ICZM) in Rhode Island (RI), and pay visits to several ICZM field projects in Rhode Island during the training.

3. Forty fisherfolk candidates have been identified for alternative livelihood skills training in eco-tourism (a diving course and a eco-guide/natural history course). The purpose of the training is to enable small-scale fisherfolk to start their own businesses. The programme for the first training has been completed.
4. Preparations for a local ICZM Workshop for Tier II are under way. The Workshop will be held in the second part of 1997 and is to present an overview of the ICZM SAMP process and build consensus among the Tier II Committee representatives on the objectives and issues of management. The draft Tier I SAMP will be presented to the Tier II Committee.
5. The methodology for conducting the scientific characterization studies was developed along the description of activities, time frame and budget. The interactive approach to develop the study was a useful SAMP planning tool.
6. Five DOF staff from the Fisheries Research Institute (IPP) are conducting the scientific characterization work. The early findings will be presented at the ICZM Workshop in 1997. The ongoing results of this work, together with the results from the socio-economic survey, will form the information base used for SAMP decision-making.
7. The report on the visitor-carrying capacity of Pulau Payar Marine Park conducted by the WWF, Malaysia has been completed.
8. A socio-economic baseline survey instrument for the SAMP area was developed and translated into Bahasa Malaysia.

1997:

1. Survey orientation and training of DOFM/Kedah staff (fieldwork orientation, training in the survey objectives, interview techniques and sampling methodology/frames) undertaking the socio-economic baseline study, which complements the scientific study by providing measurements of change in area communities under SAMP implementation.
2. Survey orientation and training of DOFM/Kedah staff undertaking the VPA study of fishermen in Kedah as part of the regional assessment of Values, Perceptions and Attitudes of Fisheries Stakeholders. Toward Ownership of Fisheries Resources, Fishing Technology, Management and Sustainability.
3. ICZM Workshop prospectus has been drafted and circulated for comments.
4. In August 1997 BOBP assisted in the organization and participated in two workshops held in Kuala Lumpur for senior staff of the Department of Fisheries and from the various State Department of Fisheries around the country. The first workshop was on 'Precautionary Approach to Fisheries Management' and the second on 'Stakeholder Approaches to Fisheries Management,' including information needs for CBM and strategic planning for facilitation of CBM. In his opening speech, Dato' Mazlan Jusoh, Director-General of the DOFM very clearly articulated a shift in the policy of DOFM from a strict enforcement based on top-down approach to fisheries management to a more participative approach, tentatively known as CBM.
5. From 20-22 October 1997 a DOF/BOBP Workshop on Integrated Coastal Zone Management was held in Alor Setar. The Workshop was organized to show the results from various impact studies of selected management initiatives and the establishment of 'Pulau Payar Marine Park' (SAMP) in the coastal areas in Kedah. Results of the scientific characterization of the marine and coral reef ecosystem were also shared with the participants. The results corroborated some of the work by "Universiti Sains Malaysia" in Penang. BOBP assisted in the organization and participated in the workshop. Further, BOBP presented the preliminary findings of the baseline socio-economic survey, which was conducted by a survey team including DOF and BOBP staff. (APO Rene Verduijn)

6. From 26-28 November 1997 a regional BOBP/IOG/DOF/MIMA workshop on 'Smart Partnership for Sustainability in the Fishing Industry' was held in Penang. BOBP assisted in the organization and participated in the workshop. This regional workshop was jointly sponsored by a Canadian NGO called Institute on Governance. Key resource persons were drawn from Australia (2), Canada (1) and Denmark (1), including from BOBP and member countries.

1998:

1. To further progress the scientific characterization of the coral reefs in the pilot project area, a hydro-acoustic survey of the seabed and the reefs of Pulau Payar Marine Park was initiated, using RoxAnn and related echo sounder apparatus to chart coral community structure and diversity and seabed bottom rock formation etc. The activity undertaken by DOF and a private consultant firm is intended to assess the status of the coral reefs in Pulau Payar and provide a classification system based on coral growth forms, and benchmark data so that changes can be documented and measured over the years. The survey has been completed and the data is being processed and analyzed.
2. A follow-up workshop to the October 1997 workshop on Integrated Coastal Zone Management is being planned to involve both Tier I and Tier II Committees and other stakeholders to discuss the Special Area Management Plan (SAMP) prepared for Pulau Payar Marine Park.
3. Efforts are under way to evolve a community-based mud crab fishery management system in Selinsing, Perak.
4. The draft report of the Hydro-acoustic Survey of the Palau Payar Marine park in Kedah, Malaysia using the RoxAnn system has been completed and is being internally reviewed by the staff of the L)OFM. Once it has been cleared, it will be submitted to BOBP for editing and subsequent joint publication
5. Consultations and discussions were held via the e-mail and telephone to further progress the other activities of the DOFM/BOBP Workplan.
 - Proceedings of the Smart Partnership for Sustainability in the Fishing Industry Workshop.
 - Proceedings of the Workshop on Integrated Coastal Area Management, including studies on the scientific characterization of the Pulau Payar Marine Park Reef resources, ecological studies of PPMP waters.
6. During the reporting period, the BOBP/DOFM National Coordinator returned to his position in the Department of Fisheries in Sawawak and in his place, a new National Coordinator was appointed.
7. Initiated preparatory arrangements to hold a stakeholder consultation with fisherfolk on community-based mud crab fishery management in Selinsing, Perak.

1999:

1. The report of the hydro-acoustic survey is being refined and finalized to act as the foundation for the next step in the SAMP process of taking the findings down to the fisher and stakeholder levels.
2. A workshop on monitoring and evaluation for fisheries was planned and will be held in November 1999 to familiarize DOF staff and build their capacity to improve M&E systems of the Department.
3. Preparatory work was undertaken for the proposed regional workshop on marine protected areas and marine park management, which will be held in 01-04 November, 1999.
4. At the request of the DOF, BOBP is assisting efforts to promote community-based fisheries management of mud-crab fisheries in selected locations. A first meeting was held with the stakeholders, and DOF staff was trained in stakeholder identification and stakeholder analysis, including perception and problem analysis.

5. At the request of the DOF, BOBP prepared a project for support under the TCP/FAO on moving surplus fishers to deep-sea fish-cage farming.
6. With the end of the project by December 1999, an effort has been undertaken in the BOB region to document the learnings of the Third Phase of the BOBP to give direction to similar efforts in the future. In consultation with DOF, Malaysia, FAO assigned the task of documentation of the learning of BOBP in Malaysia to Mr Raja Noordin Mohammed Raja of the DOF, and his report was presented to the Mission, which will document the learning of BOBP.
7. DOF requested that the equipment provision under the Community Learnings and Earnings Centre be replaced with a desktop computer, as the CLEC has already been equipped by DOF using its own allocated funds.
8. The Rox-Ann Hydro-Acoustic Survey of the Pulau Payar Marine Park will be published before December 1999.

Assessment: National execution and cost-sharing are working in Malaysia. Funds from the Malaysian Treasury are being made available to top up the BOBP budget to implement workplan activities. Interest in fisheries management is high. In particular consultative and participatory management (read CBFM). Even so, some delay is experienced in the scheduling of activities because of other pressing government work and the economic crisis being faced by the country.

MALDIVES: MOFAMR- BOBP Coastal Fisheries Management Project

Project Fact Sheet

Functional Focus: Integrated Reef Resources Management

Geographical Focus: Maldives, with particular focus on Vaavu, Meemu, Faafu and Dhaalu Atolls.

Implementing Agencies: The Ministry of Fisheries, Agriculture and Marine Resources (MOFAMR) and the Marine Research Centre of MOFAMR, in close cooperation with other concerned government agencies.

National Project Coordinator: Mr Ahmed Hafiz, Director, Marine Research Section, MOFAMR.

Project Objective: Enable and facilitate the development of a model for participatory atoll and island community-based, integrated reef resources management, in a pilot exercise focusing on Vaavu, Meemu, Faafu and Dhaalu Atolls, through awareness building and consultation, strengthening the institutional capacity of the agencies concerned and provision of technical assistance.

Background Note: In 1994 the Ministry of Fisheries, Agriculture and Marine Resources (MOFAMR) determined that the Third Phase effort of BOBP should assist MOFAMR in developing an economic-ecological model for island and atoll community-based integrated reef resources management, that could then be extended to the rest of the country, in the context of the National Integrated Reef Resources Management Programme. This decision grew out of BOBP's Second Phase extension activity in the Maldives which, working in the same pilot area and also chosen for the Third Phase, had evolved into a participatory resource management effort. The efforts of MOFAMR during the second phase BOBP activity and subsequent to it had also helped to identify the major issues that needed to be addressed:

- reef fishery (particularly the grouper fishery for local resorts and export in live form and the collection of aquarium fish, also for export)
 - live bait fishery in the reef area, for the tuna pole and line fishery
 - mining of coral and sand for construction purposes
- interaction between the tourism and fishery sectors.

The Problem: Reefs are central to the people of the Maldives for their very security from the forces of nature. Reefs are also an important factor in the livelihoods of island peoples as they provide natural resources for construction and trade. In the recent past, without the benefit of formal management processes, the people have seen their reef resources being stressed and even depleted, particularly in the cases of the giant clam and beche-de-mer fisheries and through extraction of coral and sand for construction purposes. The government and the people are very concerned about these developments amid about possible conflicts that may emerge amongst users of reef resources. The people have expressed their interest in participating in efforts to sustainably manage their resources, and this interest helped evolve a BOBP Second Phase extension activity into a participatory reef resources management activity.

In the cases of new and developing fisheries, such as the grouper fishery for live-fish export and the fishery targeting aquarium fish, the private sector and the government are keen about a shift to more sustainable options such as mariculture, provided such efforts are preceded by environmental impact assessments and accompanied by sound management. The pole and line tuna fishery is the mainstay of the fisheries of the Maldives, and there is concern that its growth and development will be affected by live bait availability in the reefs. The tourism sector in the Maldives is now the major earner of revenue and foreign exchange, and the government and the tourism sectors are very aware that tourists are drawn by the beautiful reefs of the country; problematic interactions between fisheries and tourism activities and any degradation of the reef resources could jeopardize the sector's development. In this context the government has developed a National Integrated Reef Resources Management Plan to address these concerns.

Chronological List of Activities Undertaken:

1995:

1. Based on the results of the Situation Analysis, the MOFAMR designated the MRC as the agency responsible for the implementation of the BOBP-assisted activity. A team from MRC and MOFAMR was assigned to undertake the project work and firm fund allocations were made in MOFAMR's budget to enable national execution of the project.
2. Four MRC staff were trained in undertaking stakeholder identification, stakeholder analysis, and stakeholder communications and perceptions analysis.
3. An extended field trip was undertaken to the four pilot atolls for discussions with stakeholders about the orientation of the project and for ascertaining the needs and concerns of the communities in the context of IRRM.
4. Preparatory activities were undertaken to hold a National Workshop on Integrated Reef Resources Management to build awareness, seek cooperation amongst stakeholders and give direction to the process of IRRM.

Project Strategy: The primary strategy of MOFAMR was to hold a National Workshop on Integrated Reef Resources Management early in 1996. This workshop would bring together MOFAMR and MRC staff, senior representatives of all concerned government departments, representatives of stakeholder groups, 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 and the project could evolve the IRRM programme. Further, given the geographic remoteness of the islands, and their tradition of autonomy, the government is committed to a consultative and participatory approach to IRRM. MOFAMR hopes that the pilot effort in the four atolls will provide valuable learnings to give direction to an all country effort.

1996:

1. A five-day National Workshop on Integrated Reef Resources Management was held in Male, which brought together MOFAMR and MRC staff, senior representatives of all concerned government departments, representatives of stakeholder groups, and selected experts from all over the world, and evolved recommendations and a draft strategy.

2. MOFAMR and MRC used the recommendations of the workshop to develop a workplan for the high priority actions necessary to follow-up on the recommendations, a draft management plan. and a draft IRRM implementation framework.
3. The draft plan and framework was forwarded to the Fishery Advisory Board, the highest ministerial level authority to guide fisheries policy and action in the Maldives, for approval and the Fisheries Advisory Board approved of the documents with minor changes.
4. The plan and framework documents were translated into the Dhivehi to facilitate the initiation of the implementation process.

1997:

1. UOBI' and MOFAMR/MRC staff undertook an extended field trip to the four pilot atolls for discussions with Atoll Chiefs and Atoll Development Committees to determine the priorities of each atoll and to evolve implementation modalities and mechanisms.
2. Atoll Chiefs and Atoll Development Committees, based on formats suggested by MOFAMR and MRC, agreed to initiate data collection in a geographical format to facilitate future decisions. These data are being maintained at the Atoll level and communicated regularly to MOFAMR and MRC.
3. MOFAMR and MRC have developed a sector by sector precautionary management plan, based on the best available information and on information collected at Atoll level, and these plans will be presented to a workshop in February 1998. The Workshop will bring together technical staff from all concerned departments, Atoll Chiefs, Atoll Development Committee representatives and MOFAMR/MRC staff to come up with an agreed-to plan of implementation for IRRM and proposed coordination and co-operation mechanisms to facilitate implementation.
4. *Fishes of the Maldives*, an identification catalogue of economically useful species found in Maldivian waters, was designed and developed by MRC and has been published by BOBP and MOFAMR.
5. MRC and E3OBP have published a poster on "Life on a Coral Reef", as an awareness building tool to be introduced into every classroom in the Maldives.

Preparatory efforts are under way to design a study to document traditional and local knowledge on fisheries and natural resources management, which could give direction to the IRRM efforts. A non-governmental organization to undertake the study has been identified. The TOR and workplan are being developed to facilitate issue of a contractual service agreement.

7. A proposal is being developed for the establishment of a GIS database to facilitate the implementation of the IRRM programme. which MOFAMR and MRC are in the process of setting up. A note on GIS use in IRRM has been distributed for discussion and possible future action.
8. Preparatory efforts are under way to establish an Atoll Learning Centre in Meemu Atoll to facilitate awareness building. As a part of this exercise the awareness materials development capacity of MRC will be upgraded. Plans and budgets are being evolved for action during 1998.
9. Preparatory activities were undertaken to organize a national workshop on precautionary approaches to fisheries management and the Code of Conduct for Responsible Fisheries. The workshop will be held in Male in February 1998.

1998:

1. MOFAMR and MRC on the basis of the field trip discussions developed sector-by-sector management plans based on the best available information and on information collected at Atoll level. A workshop to present these

plans was held in February 1998, which brought together technical staff from all concerned departments. Atoll Chiefs, Atoll Development Committee representatives and MOFAMR/MRC staff. The workshop came up with an agreed-to plan of implementation for IRRM and proposed co-ordination and co-operation mechanisms to facilitate implementation. A field trip to the pilot atolls to initiate the IRRM activity has been planned for late July or early August 1998.

2. Preparatory efforts are under way to finalize a study to document traditional and local knowledge on fisheries and natural resources management, which could give direction to the IRRM efforts. The Marine Research Centre, in collaboration with MOFAMR staff and national consultants, if necessary, will undertake the study. A contractual service agreement is in the process of being developed and will be finalized and the activity initiated during a visit by BOBP staff to the Maldives late in July or early August 1998.
3. Preparatory efforts are under way to establish an Atoll Learning Centre in Meemu Atoll to facilitate awareness-building. As a part of this exercise, the awareness materials development capacity of MRC will be upgraded. Plans and budgets are being evolved for action at the beginning of next year.
4. A one-day orientation workshop on the Precautionary Approach to Fisheries Management and the Code of Conduct for Responsible Fisheries was held in February 1998 in Male, which brought together technical staff from all concerned departments, Atoll Chiefs, Atoll Development Committee representatives and MOFAMR/MRC staff. The meeting focused on operationalization of the Code in the context of the Maldives and proposed strategies and actions to achieve such integration.
5. A three-day workshop brought together a dozen staff from MOFAMR and MRC, to evolve a logframe for the IRRM programme and initiate discussion on a M&E system which would monitor the IRRM programme in general and the BOBP- assisted activity within the IRRM context in particular. The workshop provided an opportunity for the MOFAMR/MRC staff to clearly work out the IRRM programme and identify the particular activities that BOBP could assist with. The IRRM programme was broadly broken down into three programme areas with BOBP involvement in one of the units dealing with promoting participatory, stakeholder management and building managerial capacity of the MOFAMR/MRC staff.
6. A field trip was undertaken with three MRC staff to Meemu and Vaavu atolls to initiate the IRRM programme in the pilot area. During the first half day the team joined several others from MOFAMR and UNDP in Vaavu, where the Hon. Minister was inaugurating the Pearl Culture Centre and a training programme for fisherfolk. Discussions were held in Vaavu and Meemu with the Atoll Chiefs and members of the Atoll Development Committees. The geographical data, which had been collected by the Atolls after the last field trip, and analyzed by MRC and developed into maps, were discussed and appropriate corrections incorporated into them. The discussions helped MRC to identify the priority areas where work could begin and these were establishment of marine parks, management of bait fishing and management of coral mining. MRC and MOFAMR staff will follow up on these discussions and begin work with their counterparts in the Atolls to initiate activities as recommended at the IRRM National Workshop and later refined during the logframe exercise. Some time in March 1999 a field trip will be organized to progress the initiatives which MRC will work on till then with their Atoll counterparts. A national workshop is being planned for later in 1999, perhaps in November 1999, to bring together senior administrators and political leaders to review the progress of the management initiatives and to consider ways and means to facilitate the extension of the effort to other aspects and to the rest of the country based on the learning of the pilot project. The Atoll Chiefs are beginning to identify local persons who will be responsible as animators in the activity, whose training will be organized by MOFAMR and MRC as a part of their own and assisted schemes.
7. In Meemu Atoll discussions were held about establishing an Atoll Learning Centre, to facilitate the coming together of stakeholders and their discussions. The Atoll Office has agreed to find space, initiating the activity in their office to begin with, and to manage the centre with the help of the Atoll Development Committee and

other stakeholder groups. BOBP agreed to provide some basic equipment (an OHP and screen, a modem for the computer that the Atoll Office will make available, a TV and VCR, and a music-cum-public address system). A concept note on the Atoll Learning Centre was prepared and handed over to the Atoll Chief, who will work on it and initiate the procedure to get the concept cleared by the Ministry of Atolls Administration. The idea is to create an exhibition/meeting space around a coffee shop where people can meet regularly to discuss the management issues; in the process evolving local decision-making platforms. MRC will take responsibility for supply of regular materials for awareness-building and send in staff regularly to animate and progress the discussions and actions.

8. The proposed study of traditional management systems was discussed with MOFAMR and MRC, and it was decided that MOFAMR would be contracted by the FAO to undertake the study using their own staff and using national consultants as necessary. The proposal has been revised and MOFAMR has signed the agreement and work has been initiated. The study will be completed by mid-1999.

1999:

1. The study of traditional management of reef resources was set in motion and is being conducted by counterpart staff of the Ministry of Fisheries, Agriculture and Marine Resources. The study is expected to be completed by November 1999 and will help give direction to the on going Integrated Reef Resources Management Programme.
2. Equipment was supplied to the Meemu Atoll, who are setting up a Community Learning Centre (CLC) to facilitate dialogue and communication amongst stakeholders and to further management practices. The Marine Research Centre of the Ministry is supporting the CLC.
3. A National Workshop is being planned in November 1999 to review the efforts of MOFAMR's IRRM efforts (and within its context the efforts of the BOBP-assisted activities) and to evolve an agenda for a precautionary management plan for integrated reef resources management into the new Millennium.
4. With the project ending by December 1999, an effort was undertaken in the BOB region to document the learnings of the Third Phase of the BOBP to give direction to similar efforts in the future. In consultation with MOFAMR, FAO assigned the task of documentation of the learnings of BOBP in Maldives to Mr Maizan Hassan Maniku, Director General of Fisheries Research and Development, MOFAMR. and his report will be presented to the Mission, which will document the learning of BOBP.

Assessment: MOFAMR and MRC in collaboration with BOBP have embarked on a process which is complex on the one hand, and difficult and politically sensitive on the other. Natural resources management involves ownership and use-rights issues that will have to be evolved in the context of tradition and present political practice, and this is necessarily a slow process. MOFAMR and MRC have limited staff and resources and this may pose a problem for the project's implementation. MOFAMR and MRC are committed to the activity and are evolving strategy through a participatory and consultative process that does not lend itself to quick and easy solutions. There is visible progress in change of attitudes and in the perceptions of stakeholders, and mechanisms and modalities are being slowly but surely developed. The project stands a good chance of setting in motion a process that may well have considerable and important impact, though one may not see the establishment of a clear-cut management regime within the lifespan of the project. The BOBP-assisted activity is well merged into the national plan, and the sustainability of the effort seems assured.

SRI LANKA: DFAR-BOBP Coastal Fisheries Management Project

Project Fact Sheet

Functional Focus: Management of ornamental fish sector.

Geographical Focus: Sri Lanka, with particular focus on southwest coast, from Puttalam to Hambantota.

Implementing Agencies: Department of Fisheries and Aquatic Resources (DFAR) (Fisheries Management Division) in co-operation with National Aquatic Resources Agency (NARA).

National Project Coordinator: Mr H. V. C. Fernando, Deputy Director of Fisheries, DFAR

Project Objective: In the context of conservation of critical aquatic habitats such as coral reefs, lagoons, mangroves, sea grass beds, estuarine and riverine systems and sustainable resources utilization from such habitats, to facilitate and enable improved management of the ornamental fish sector of Sri Lanka, through awareness-building, strengthening the institutional capacity of concerned agencies and provision of technical assistance.

Background Note: A situation analysis conducted by DFAR in 1994 identified the ornamental fish sector as a problem fishery whose management was considered a high priority need. Not much information exists about the ornamental fish sector and there are no data to suggest that any of the stocks are under stress or in danger. However, the government sets a high priority to the management of the sector because:

- Given that ornamental fish live in and are collected from some of the most vulnerable environments such as coral reefs, mangroves, lagoons, estuaries and sea grass beds, there is concern in Sri Lanka about the future sustainability of its rich aquatic resources. Several NGOs express concern that activities such as collection of ornamental fish are destroying the country's biodiversity and putting the environment and the people to risk.
- Several government agencies have mandates that oversee wildlife, environment and natural resources utilization, and there have been conflicting legislation, rules and regulations evolving out of different agencies to address the same concerns. The government felt the need to rationalize the process to promote a more co-ordinated approach to the multi-disciplinary problem.
- DFAR was of the opinion that the lessons learnt from improving the management of the ornamental fish sector would guide and give direction to processes to improve the management of larger and perhaps less organized fisheries that target food fish.

The Problem: The problem in the ornamental fish sector needs to be looked at on two levels. First, given that little is known about the populations or the biology of the species, some of which are endemic to Sri Lanka and rare, there is a genuine concern that indiscriminate collection would stress the populations and eventually push them towards extinction. There is also the related question of how these delicate creatures are collected; luckily toxic substances and explosives do not seem to be used in Sri Lanka, though some of the gear and methods used to collect fish, such as 'moxy' nets, are not eco-friendly. Secondly, and less well known, is the problem of human activities and the impact they have on habitats of ornamental fish. A wide range of activities including deforestation, agriculture, the mining of coral for lime and cement, food fisheries, sewage and garbage dumping, industrial pollution and tourism have direct and indirect effects on the habitats, most of which are detrimental. Given this scenario, *only* managing the collection of ornamental fish may prove futile, even if successfully implemented, if no attention is paid to the quality of the habitats which recruit and provide a home for the creatures concerned. In practical terms the management of the ornamental fish sector is complicated by the fact that several government agencies are involved and they would need to work in concert to come up with a rational and cohesive programme of management.

Chronological List of Activities Undertaken:

1995:

- I. MFARD designated DFAR and NARA as the primary agencies responsible for implementation of the BOBP-assisted effort. The activity was incorporated into the National Fisheries Development Plan of Sri Lanka 1995-

2000, and the government earmarked a budget of 0.5 million SRL Rupees into the Fisheries Plan to facilitate the national execution of the project.

2. Four staff of NARA were trained in undertaking stakeholder identification, stakeholder analysis and stakeholder communications and perceptions analysis. The studies could not be undertaken partly due to the situation prevailing in the country and partly due to manpower shortages which resulted in staff being preoccupied with other priorities.
3. Preparatory work was initiated to develop identification catalogues in the form of laminated cards, posters and ring-bound catalogues of ornamental fish whose export is either banned or restricted, to facilitate enforcement and to build awareness.
4. One-day stakeholder consultation was held with selected NGOs interested in and concerned with the ornamental fish sector. NGOs agreed in principle to participate actively in the management process.
5. The Project developed a working relationship with a NARA-implemented project, supported by the Marine Conservation Society (MCS) of UK and funded by the Darwin Initiative, which also addresses the management needs of the marine ornamental fish sector. BOBP and Project staff participated in a National Workshop on Management of Marine Aquarium Fisheries and Conservation of Coral Reef Biodiversity of Sri Lanka, organized by NARA and MCS.
6. BOBP assisted FAO in developing a project proposal, "Development of Integrated Fisheries Resources Management in Sri Lanka", as a follow up to a National Workshop on Community- Based Fisheries Management held in Colombo in 1994.
7. The Programme Coordinator of BOBP organized a workshop on "Prioritization of Research in Fisheries" for MFARD, DFAR and NARA staff.
8. BOBP and Project staff undertook stakeholder analysis – meeting representatives of concerned government agencies, the live fish exporters' association and the ornamental fish breeders' association. The stakeholder analysis findings gave direction to the development of a project strategy and detailed workplans for the year 1996.

Project Strategy: The stakeholder analysis suggests that while a lot of differences exist in terms of perceptions of problems and solution options, there is a clear commonality in that all parties feel that they stand to benefit in the long term from a programme that ensures the sustainability of the resources and the habitat. The central aim of the project will be to promote consultations and negotiations amongst and between stakeholder groups in order to arrive at a negotiated management plan. Such a participatory development of a management plan will hopefully lead to participatory implementation, monitoring and enforcement of the agreed plan. To aid and assist the consultation process two parallel activities are planned. One, to add to the knowledge of the sector in terms of the status and trends of the resources and the habitats to provide the stakeholders with the "best available" scientific information to help them in their decisions, and, two, awareness building on the need for, the benefits of and the methods of management amongst all stakeholders.

1996:

1. A study to review and document existing data and literature and to acquire local and expert knowledge of the status and trends of resources and habitats in the ornamental fish sector of Sri Lanka was planned and potential candidates to undertake the study were identified and shortlisted.
2. Based on regulations issued by MFARD which specify species of ornamental fish whose export is either banned or restricted, a local artist/diver was contracted to illustrate all the species. NARA and DFAR undertook the task of putting together information about each of the species, including notes on identification, local names, biology and population and habitat characteristics. The first priority was given to producing identification catalogues in the form of loose-leaf binders for the use of Customs officers.

3. BOBP made available the "Fishbase", a database on CD-ROM produced by FAO and ICLARM, to DFAR to facilitate their identification and management efforts.
4. BOBP and DFAR conducted a two-day Orientation Workshop on Fisheries Management for all middle and senior level staff of MFARD and its associated agencies, including District Fisheries Extension Officers.
5. A study to assess the skill gaps and training needs of agencies concerned with fisheries management was planned. Discussions were held with the UNDP-FAO National Project on Fisheries Management and a joint exercise was agreed to. Suitable institutions and consultants to undertake the study are in the process of being identified. Subsequently, the study was undertaken by UNDP-FAO Project on Fisheries Management.

1997:

1. BOBP and MFARD conducted a stakeholder consultation to bring together senior administrators and technical staff of 15 government agencies, interested in and concerned with the management of the ornamental fish sector to discuss the issues and concerns and to invite suggestions on how to improve coordination and cooperation in the sector's management.
2. Study on Status and Trends of Ornamental Fish Resources and Habitats was commissioned, to be undertaken by a senior staff member of University of Colombo.
3. The Live Fish Exporters Association of Sri Lanka has established a fund to support research and development efforts in aid of improved management of the ornamental fish sector, and hope to build up the fund by charging a cess of US 50 cents on each box of ornamental fish exported. The fund already has approximately US\$ 3000.
4. Preliminary discussions were held with the Live Fish Exporters Association of Sri Lanka about the need for and the modalities of undertaking a SWOT study of the industry to guide its development into the future.
5. 12 staff of DFAR were trained in the conduct of a Regional Study on the Values, Perceptions and Attitudes of Fisherfolk and Other Stakeholders towards Fisheries Resources, Fishing Practices and Fisheries Management.
6. DFAR mounted a multimedia campaign to invite collectors and divers in ornamental fish sector to register themselves with their local fisheries offices, to enable DFAR to hold district-wise stakeholder consultations with the divers and collectors.
7. DFAR and BOBP conducted a one-day meeting with ornamental fish divers and collectors in the Colombo area, to better understand their problems and elicit their views on solution options.
8. DFAR (with help from NARA) finalized the identification catalogue of ornamental fish for use by the Flora and Fauna Task Force of Sri Lanka Customs. The ring-bound volumes were handed over to Sri Lanka Customs by DFAR.
9. DFAR and BOBP conducted a one-day meeting with ornamental fish divers and collectors in the Negombo area, to better understand their problems and elicit their views on solution options. An important issue that came was the mobilization of the divers into an association or a union to represent their interests.
10. DFAR and BOBP had discussions with leading insurance companies regarding the possibility of developing custom-designed insurance schemes for accident and life coverage of divers. With the co-operation of MFARD insurance schemes have been initiated for fisherfolk and divers.

1998:

1. MFARD organized a meeting of the stakeholders of the ornamental fish sector. The meeting resulted in a recommendation to the Hon. Minister of Fisheries and Aquatic Resources Development to request the Cabinet to establish a high-level, inter-ministerial task force to evolve necessary policy and strategy for the conservation

and management of critical aquatic resources and habitats and to co-ordinate and oversee the conservation and management efforts.

2. BOBP co-sponsored a trade fair and a seminar to promote the development and management of the ornamental fish sector with MFARD and the Live Fish Exporters Association of Sri Lanka.
3. Planning has been initiated for the development of an illustrated comic book on safety practices for ornamental fish divers.
4. Water-resistant plastic ornamental fish identification cards, illustrating the species whose export is either prohibited or restricted, were designed and produced for distribution, as a part of the awareness campaign.
5. Planning has been initiated for the development of short training courses for divers in safe diving practices.
6. A workshop has been planned for later in July 1998 to present the study of the status and trends of ornamental fish resources and habitats, undertaken by Professor S U K Ekaratne of the University of Colombo. The workshop will provide opportunities to discuss the study, receive feedback on it and to identify future research and management actions in the context of the study.
7. In response to a recommendation of the 23rd Advisory Committee Meeting of BOBP, MFARD was requested to identify national consultants to undertake a diagnostic study of MFARD and DFAR's M&E system, with a view to recommending actions to strengthen it. MFARD has shortlisted consultants who are in the process of developing proposals based on TOR agreed to by the Government. The study is expected to be undertaken in the next quarter.
8. A sample set of plastic ornamental fish identification cards were handed over to concerned counterparts in MFARD, DFAR and at the FAO Representation. The remaining cards would be sent by airfreight to the FAOR, for delivery to MFARD. MFARD would then in consultation with the Hon. Minister arrange for a formal release of the cards and disseminate them amongst exporters, breeders, collectors, divers and customs staff.
9. MFARD and DFAR organized a workshop to review and discuss the report on the status and trends of ornamental fish and their habitats in Sri Lanka produced by Professor S U K Ekaratne of the University of Colombo. About 35 persons from concerned government agencies, academia, the ornamental fish industry, MFARD, DFAR and NARA participated in a half-day workshop. Dr Ekaratne received a lot of good feedback on his work at the meeting and BOBP staff met him separately to discuss the report. It was agreed that Dr Ekaratne would modify his report in the light of the feedback received and submit his draft report to the FAOR and MFARD for technical clearance. The final report will be published and distributed.
10. Discussions were held with MFARD, DFAR and NARA about the design and development of a comic book on diver safety and conservation and management, aimed at collectors and divers of ornamental fish in Sri Lanka. It was agreed that BOBP would submit a TOR for the task and propose a strategy to MFARD, who would then set up a small committee to oversee the task, appoint appropriate persons to undertake the task and take it through as per the TOR. This will be undertaken early in 1999.
11. MFARD submitted three proposals received from independent national consultants and from the Ministry of Plan Implementation's Post-Evaluation Section to undertake a diagnostic study of the M&E and Management Information Systems of MFARD and DFAR. BOBP will study the proposals in detail and send in their comments with suggestions to MFARD, who will then come to a decision, in consultation with the consultants, about the configuration of the consultants to undertake the study and the adjustments necessary to the proposals, on the modalities of the study to be undertaken with BOBP's support.

1999:

1. In co-operation with the Ministry of Fisheries and Aquatic Resources Development a diagnostic study of the Monitoring and Evaluation system of the Ministry was set in motion. The study is conducted by the Ministry of

Plan Implementation and independent consultants and is expected to be completed by October 1999 and will give direction to the Ministry's efforts to strengthen the M & E System.

2. Preparatory activities were undertaken to design and develop a comic book on diver safety and conservation aimed at ornamental fish divers. The effort was in direct response to requests from the divers. Unfortunately, due to time constraints and the non-availability of suitable artists the activity had to be dropped.
3. The Ministry is keen on progressing the BOBP-assisted activity of improving the management of the ornamental fish sector by evolving a precautionary plan of management, which will involve all the key stakeholders. The Ministry is in the process of amending the Fisheries Act and establishing a working group to evolve the precautionary plan.
4. Professor S U K Ekaratne's report on the study of the status and trends of ornamental fish resources and habitats was received after he had incorporated the comments and suggestions derived from the workshop held to review the document, The report is being prepared for publication.
5. With the end of the project by December 1999, an effort has been started in the BOBP region to document the learnings of the Third Phase of the BOBP to give direction to similar efforts in the future. In consultation with DFAR, FAO assigned the task of documentation of learnings to Mr H.V.C. Fernando, Deputy Director of DFAR. His report has been completed and presented to the Documentation Mission.

Assessment: The prevailing situation in Sri Lanka has not only resulted in disruptions of work and delays but also has drastically affected fund availability to BOBP's counterpart agencies. This has resulted in delays in the implementation of the project. The other concern is an acute shortage of trained manpower in fishery agencies, particularly in sections concerned with fisheries management. While efforts at building capacity are ongoing, the very act of training often deprives the agency of necessary staff during the periods of training. However, given the government's concerns with fisheries resources and development and the enthusiasm of the stakeholders to ensure some sort of a sustainable future, it is fair to expect that concern will translate into policy and action. MFARD has taken an important step, at the request of the stakeholders, and proposed the establishment of a high-level task force to oversee and coordinate the conservation and management of critical aquatic resources and habitats. However, given the multi-sectoral nature of the problem, progress may be slow and will need facilitation and support. With adequate capacity building inputs to DFAR and technical assistance to the task force, a more sustained national effort towards conservation and management of the ornamental fish resources and habitats is expected.

Thailand: DOF-BOBP Coastal Fisheries Management Project

Project Fact Sheet

Functional Focus: The development of participatory community-based approaches to the management of fisheries and aquaculture, in a coastal zone context.

Geographical Focus: Phang Nga Bay along the Andaman Sea coast of Thailand

Implementing Agencies: DOF/AFDEC, NGO, University.

National Project Coordinator: Mr. Jate Pimoljinda, Director, Andaman Sea Fisheries Development Center, Phuket.

Project Objective: In the context of sustainable coastal zone management, to facilitate and enable improved community based fisheries management, in the pilot locations of the Phang Nga Bay, through establishment of fish sanctuaries, deployment of village-based artificial reefs, and better enforcement through improving people's awareness and participation.

Background Note: Thailand's situation analysis identified the following issues and problems both within and outside of the fisheries sector in Phang Nga Bay: – utilization of harmful fishing practices, reduction in demersal catch, overexploitation of both pelagic and demersal fisheries, changes in species composition, difficulties in enforcement, degradation of fisheries habitat, pollution caused by sedimentation, increased nutrients and industrial sources, conflicts between small-scale and large-scale fisherfolk. As a microcosm of Thai fisheries, Phang-Nga Bay displays almost all the problems encountered in the country. The Government is keen on developing management approaches facilitated by: establishment of fish sanctuaries, closed seasons, marine parks; deployment of village-based artificial reefs, and better enforcement by improving people's awareness and participation.

The problem: The rapid and dramatic development of the fisheries industry in Thailand over the last few decades has resulted in many serious problems, including stressed pelagic and demersal stocks, deterioration of fisheries resources and their habitats, conflicts between fisherfolk, between various gears, between capture and culture fisheries, and environmental degradation of fisheries habitats due to waste discharge from aquaculture, industry and tourism. The government has taken various steps to address some of these problems by limiting entry to the trawl fishery.

Chronological List of Activities Undertaken:

1995:

1. The first year of the DOF/BOBP Third Phase saw development of the objective, design and early implementation of a Community-Based Fisheries Management (CBFM) Project in Phang Nga Bay as to the issues identified by the situation analysis.
2. The following activities listed in the 3-year Workplan were completed
 - (1) Define Initial Area
 - (2) Obtain Consensus on Management Objectives
 - (3) Identify and Obtain Consensus on Village Fishery/Coastal Resource Problems, and
 - (4) BOBP/DOF CBFM Workshop.

Project Strategy: Site visits identified key fisherfolk leaders for representation and participation in the CBFM, initial geographic area and issues for management. The initial area for management was defined as 11 villages on the eastern side of the Bay. However, the DOF/BOBP CBFM workshop conducted in February 1996 generated enthusiasm among neighboring villages in the Bay. The project area was expanded to include the CBFM of the entire Bay.

1996:

1. The DOF/BOBP CBFM Workshop was held in February 1996. Fifteen technical papers were presented at the Workshop, and fisherfolk experiences in management initiatives were presented and discussed at several sessions. Participants included fisherfolk, village leaders, government officials, NGOs, universities, BOBP and FAO. It was the first time that the fisherfolk met with government officials to plan fisheries management.
2. The Workshop report and proceedings have been edited and sent to the printers.
3. Five individuals who have key roles in implementing CBFM completed a two-week training in ecosystem management at the international workshop 'Creative Approaches to Managing Bays and Estuaries' in Sarasota, Florida, US. Reports of the experience were drafted by the study tour participants and sent to BOBP and the donors.
4. Building fisherfolk groups as the local-level CBFM management structure was identified at the Workshop as an important activity for early implementation. CBFM fisherfolk groups or working committees were established in over 10 villages in the Bay.

5. Further strengthening the livelihoods of fisherfolk within the villages is another activity identified at the Workshop to strengthen fisherfolk groups. Training in boat engine maintenance and repair was given to 20 fisherfolk in Ban Bang Can, one of the 10 villages with an established working committee.
6. Early action for CBFM implementation during the remainder of 1996 was identified during the CBFM meetings every two months (i.e. bi-monthly) with DOF, NGO, and the village CBFM working committees of Phang Nga Bay. These include: (a) resource management and rehabilitation; and (b) the development of approaches for enforcement of the push net and trawl ban.
7. Actions included release of post-larval tiger shrimp (*Penaeus spp.*) in five villages of the Bay. This activity is ongoing and is being rotated between Bay villages.
8. Mangrove and seagrass area rehabilitation implemented. Placing notification boards to inform area residents of the activity has identified seagrass beds and mangrove areas under rehabilitation and protection.
9. The strategy for achieving compliance with the trawlnet and pushnet ban, and discouraging harvest of gravid female crabs has started combining awareness, enforcement and economic incentives:
 - a. cages have been established in four villages to place gravid female crabs mistakenly caught by fisherfolk. These are being used by fisherfolk, and once the crabs release their eggs, the crabs are sold. The profits are being used for village CBFM activities.
 - b. Approximately 40 pushnets are reported to continue operations in the Bay. To encourage greater compliance of the pushnet ban, gillnets are being offered to the fisherfolk if they, exchange trade in their pushnets.
 - c. Results of a study quantifying juvenile fish abundance in seagrass area of the Bay before and after the pushnet ban is being compiled into awareness materials.
10. During a bi-monthly CBFM meeting fisherfolk requested evaluations by representatives to be held every six months instead of the yearly evaluation originally agreed upon. The first evaluation was held in October 1996. Results included a consensus on additional activities to address environmental issues and conservation.

1997:

1. Public hearings (bi-monthly) continue to be held with fisherfolk in the Bay, with more and more suggestions for resolving problems of resource degradation and pollution.
2. Bimonthly meetings were held in three provinces to share experiences and serve as a forum for new ideas and initiatives. T-shirts and jackets were distributed among fisherfolk. The Phuket Chamber of Commerce and the Government of Thailand sponsored this initiative.
3. Awareness and public education outreach billboards have been posted to improve information dissemination among Phang Nga Bay people.
4. Spawning cages have been constructed to let the female gravid crabs spawn before marketing of the animals as an important conservation measure.
5. Shrimp and fish seeds were publicly released by fisherfolk themselves in the Bay.
6. Rehabilitation work has been done on denuded mangrove areas and seagrass beds (mangrove re-planting scheme).
7. Training and orientation on Regional Survey and Study on the Values, Perceptions and Attitudes of Fisherfolk and Coastal Stakeholders towards Ownership of Fisheries and its Exploitation, Management and Sustainability.

1998:

1. Bi-monthly public hearings continue to be held to keep up the progress and achievements of the community-based participatory approaches to Bay fisheries management.

2. Training of fisherfolk in data collection techniques and in establishing standard data protocols on catch, habitat conditions and bio-indicators are in progress.
3. Under the fisherfolk volunteer monitoring programme of the Andaman Sea Fisheries Development Centre, data collection has started and data is being compiled for analysis.
4. Awareness building materials and sea restoration and rehabilitation activities continue to be undertaken.
5. The Andaman Sea Fisheries Development Centre has been very consistent and constant in organizing and holding monthly public meetings of village level committees and bi-monthly meetings of Bay-wide village committees respectively to institutionalize fisheries management reform for which ideas are obtained through brainstorming.
 - open water stocking of finfish and shellfish seeds replanting sea grass beds
 - replanting mangrove areas
6. Sensitizing and socializing pushnet fisherfolk to give up their destructive pushnets. The centre has submitted a proposal to the Special Programme on Food Security for support in its gear replacement programme.
7. Data continues to be collected and compiled on catch habitat conditions and bio-indicators. Data analysis is under way. A preliminary database is available in Thai.
8. A report on the status, progress, problems and achievements of the activities concerning Establishment of Supporting Information and Database and Voluntary Fisheries Monitoring Programme is being translated into English before submission to BOBP for comments and release by BOBP of its second installment of payment.
9. A 3-day Workshop on Monitoring and Evaluation, Logical Framework, to strengthen CBFM employing the META Card technique was successfully conducted. The 50 participants were very enthusiastic and actively participated in evolving a problem tree and objective tree and in preparing a solution tree analysis. They requested that similar workshops be held annually and by rotation around the country to provide DOF staff with learning experiences.

1999:

1. The work of our counterparts in the Andaman Sea Fisheries Development Centre continues with regular monthly public hearings at the village level, bi-monthly bay-wide stakeholder consultations, awareness efforts to replace the destructive push net fisheries with more sustainable options, and regular data collection.
2. A workshop on research prioritizing for fisheries and a national workshop to promote the Code of Conduct for Responsible Fisheries were held in Phuket, back to back in May 1999 for DOF, SEAFDEC, Universities, and NGO personnel.
3. With the end of the project by December 1999, an effort has been started in the BOB region to document the learning of the Third Phase of the BOBP to give direction to similar efforts in the future. In consultation with DOF, Thailand, FAO assigned the task of documentation of the learning of BOBP in Thailand to Mr Jate Pirnoijinda, Director, Andaman Sea Fisheries Development Center, and his draft report has been presented to the Mission, which will document the learning of BOBP during June-July 1999 when the Mission members visit all seven member countries.

Assessment: As awareness is high and still growing rapidly in the Bay communities, DOF/BOBP activities are well received. Participation is strong. DOF and NGOs working in the Bay have laid much of the groundwork. The impacts of these activities are beginning to pay off - the number of pushnet boats is steadily declining, to cite an example. National execution of the project is at a very high level. Cost sharing of project costs has not been very successful, primarily due to the economic crisis being faced by the country. New recruits have been brought in to replace staff, who have been transferred and they continue the work. CBFM is very visible. Its success in the project area has attracted funding from ICLARM and other donors such as European Union, and also generated requests for study tours.

INFORMATION SERVICE, REPORT FOR 1995-1999

1. The popular quarterly newsletter, *Bay of Bengal News*, resumed publication during the Third Phase. Fourteen issues of the newsletter were out till September 1999. They included special issues on stewardship, Ornamental fisheries in Sri Lanka, precautionary approach to fisheries management, shrimp culture, and Code of Conduct for Responsible Fisheries.
The response to the newsletter has been excellent. Some articles have been translated into regional languages.
2. Fourteen technical reports and four manuals were brought out during the period. Eleven more reports are being edited and processed for publication.
3. In response to several suggestions, an archival CD-ROM of all BOBP publications is being prepared. This will enable recording and retrieval of nearly 300 BOBP publications in a simple and convenient format. The job involves the scanning of some 15,000 pages including a few thousand pages with photographs. News about the CD-ROM on BOBP publications has aroused much interest in fisheries circles within and outside the region. We have already received a number of enquiries about the CD-ROM.
4. Promotional materials on BOBP and fisheries management include two brochures, seven posters, post cards and a T-shirt ("Save Our Seas"). A 10-minute video clip with subtitles was prepared on overfishing and fishing conflicts in Kanniyakumari District, Tamil Nadu.
5. Ornamental fish identification cards in colour were brought out for Sri Lanka to enable fisheries and Customs officials to quickly recognise and identify fishes whose export has been banned. Sri Lanka has acknowledged the utility of these cards for the country's endangered ornamental fishery.
6. The Programme supported the publication of a booklet of "Guidelines" for India's Aquaculture Authority. It is meant for traditional shrimp farmers who want to adopt improved technology. It also supported publication of a Tamil translation of the Code of Conduct for Responsible Fisheries.
7. The BOBP Library is unique in the region. It houses a collection of more than 3,000 books, reports and journals on fisheries plus several thousand color transparencies and photo negatives, and video films prepared by BOBP. The photographs have been used on several occasions to put up photo exhibits.

A list of publications and promotional materials relating to the Third Phase follows.

REGIONAL ACTIVITIES(1995-1999)

1. Follow-up Workshop for DOF/TN Staff to Discuss Findings of Stakeholder Studies and to Evolve Strategy/ Workplan for action
2. Chennai District Stakeholder Consultation
3. Kanniyakumari District Stakeholder Consultation
4. Follow-up Workshop to Discuss Funding of Stakeholder Studies for DOF/AP Staff and to evolve Strategies and Workplan for action
5. Training of DOF/BFDA/WB Staff in Participatory Training and Extension Methods
6. Training of PFS/DFS Staff on the Conduct of VPA Study in Sibolga
7. Senior Government Stakeholder Consultation on Management of Ornamental Fish Sector
8. DFAR Staff Training on Conduct of VPA Study in Sri Lanka
9. Regional Workshop on Precautionary Approach to Fisheries Management
10. GOI/BOBP Workshop to Review CFM, India activities
11. Seminar on HACCP and Fishing Harbours
12. Training of DOF/TN Staff in Commercial Exploratory Fishing
13. Workshop for DOF/AP staff in Fish Farming Systems Research and Participatory Rural Appraisal and Collection of Local Knowledge
14. National Workshop on Precautionary Approach to Fisheries Management and on the Code of Conduct for Responsible Fisheries.
15. National Workshop on Stakeholder Approaches to Fisheries Management and Information Needs for CBM and Strategic Planning for Facilitation of CBM.
16. Integrated Coastal Zone Management in Alor Setar, Kedah; results from various scientific characterizations and eco-logical baseline and impact studies of selected management initiatives, in particular the establishment of 'Pulau Payar Marine Park' (SAMP) in the coastal areas of Kedah.
17. Regional Workshop on Smart Partnership for Sustainability in the Fishing Industry.
18. Stakeholder Consultation of Divers and Collectors of Ornamental Fish in the Negombo Area regarding the Organisation of Divers and Collectors.
19. Stakeholder Consultation of Divers and Collectors of Ornamental Fish in the Colombo Area regarding the Organisation of Divers and Collectors.
20. Regional Workshop on the Conservation and Sustainable Management of Coral Reefs in South Asia.
21. Discussion with Fisherfolk Stakeholders in Sibolga on Fisheries Management and VPA.
22. Training of DOF/Thailand Staff on the Conduct of Study
23. Discussion on Impact of Globalisation of Fisheries with Senior Law Students of Dr Ambedkar Law College.
24. Workshop on Changing Technologies and Reaching Rural Women: Women in Fisheries in Asia (Dr Revathi Balakrishnan)
25. Workshop on Safety at Sea (Mr Jeremy Turner, FAO-HQ)
26. Training in Fisheries Management for DOF Staff from DOF-TN Staff Training College.

27. Training of DOF staff on the conduct of Baseline Socio-Economic Study in Malaysia
28. National Workshop on Cleaner Fishery Harbours in Sri Lanka.
29. MOFL/BOBP/DFID Consultation of Senior Decision-Makers on Food and Livelihood Security in Coastal Bangladesh
30. Ornamental Fish Sector Stakeholder Meeting to Propose Establishment of Management Advisory Committee.
31. Seminar on Promotion of Development and Management of Ornamental Fish Sector, as a part of National Trade Fair.
32. Training of Selected Enumerators from Local Fishing Communities in Kanniyakumari District to Conduct a Survey on Fishing Patterns and Intensity in Kanniyakumari District and a Survey to Specify the Exact Needs and Concerns of Utilities and Infrastructure for Every Fishing Community in Kanniyakumari District.
33. Training of Selected Enumerators from Local Fishing Communities in Kanniyakumari District to Conduct a Survey on Fishing Patterns and Intensity in Kanniyakumari District and a Survey to Specify the Exact Needs and Concerns of Utilities and Infrastructure for every Fishing Community in Kanniyakumari District.

Appendix - F
INPUTS AND THEIR UTILIZATION

1. GCP/RAS/151/JPN Coastal Fisheries Management
 Donor Government of Japan
 Budget USD 1,500,000 from 1995-1999
2. GC P/RAS/117/MUL Information Service
 Donors Member countries
 Budget USD 90,000 per year

**Table 1: GCP/RAS/151/JPN
Budget and Expenditure (US\$)**

<i>Code</i>	<i>Object of Exp.</i>	<i>Budget 1994- 99</i>	<i>Est. Exp 1994-98</i>	<i>Est. Exp 1999</i>	<i>Approx Expend 1999</i>	<i>Balance</i>
10	Personnel	346,000	284,195	396,000	479,245	-83,245
20	Duty/travel		24,576	50,000	11,929	38,071
30	Contracts	210,000	96,859	40,000	36,483	3,517
40	Gen. Ope. Exp.	161,435	35,595	33,657	29,929	3,728
50	Supplies	150,000	-20,959	13,000	12,127	873
60	Equipment	100,000	18,790	40,000	14,127	25,873
80	Fellowship Training	360,000	162,225	65,000	51,384	13,616
	Sub-Total	1,327,435	601,28.1	637,657	635,224	2,433
90	Servicing Cost	172,565	78,167	82,895	24,022	58,873
	G.Total	1,500,000	679,448	720,552	659,246	61,306

**Table 2 : GCP/RAS/17/MUL
Budget and Expenditure (US\$)**

<i>Code</i>	<i>Object of Exp.</i>	<i>Deposits 1987-99</i>	<i>Est. Exp 1987-98</i>	<i>Est. Exp 1999</i>	<i>Approx Expend 1999</i>	<i>Balance</i>
10	Personnel		460,378	95,000	38,300	56,700
20	Duty Travel		40,906	15,000		15,000
30	Contracts		82,196	20,000		20,000
40	G.O.E.		-3,075	69,247		69,247
50	Supplies		8,312	11,000		11,000
60	Equipment		498			
80	Fellowship		-666	25,000		25,000
	Sub-Total		588,549	235,247	38,300	196,947
90	ServicingCost		29,427	11,762	1,915	9847
	G.Total		617,979	247,009	40,215	206,794

**Table 3:
Professional Staff
GCP/IRAS/151/JNP, GCP/RAS/17/MUL**

International Staff

<i>Designation</i>	<i>Name of Incumbent (country) Arri.</i>	<i>Date of (month/year)</i>	<i>Dep.</i>
1.	Programme Coordinator (Malaysia)	Chong, Kee-Chai	12/94
2.	Communications Adviser	Roy, R.	0 1/95

International Consultants

<i>Designation</i>	<i>Name of Incumbent.</i>	<i>w/m</i>
1. Mission to document the lessons learnt from BOBP's Third Phase	Yadava, Y.S. India	
2. Mission to document the lessons learnt from BOBP's Third Phase	Preston, G. U.K.	

Table 4
PUBLICATIONS DURING THE BOBP'S III PHASE
(1994-1999)

Newsletter, Bay of Bengal News

September 1995, March 1996, June & September 1996, December 1996, March 1997, June 1997, September 1997, December 1997, March 1998, June 1998, September 1998, December 1998, March-June 1999, September 1999, December 1999.

Reports and manuals

BOBP/REP/70	Report of the 19 th Meeting of the Advisory Committee. 16-17 January, 1995. 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
BOBP/REP/72	Sri Lanka/FAO National Workshop on Development of Community-Based Fishery Management. 3-5 October, 1994, Colombo, Sri Lanka.
BOBP/REP/73	Report of the 20 th Meeting of the Advisory Committee. March 26-29, 1996. Pulau Langkawi, Kedah, Malaysia.
BOBP/REP/74	National Workshop on Fisheries Resources Development and Management in Bangladesh. 29 October-1 November, 1995, Dhaka, Bangladesh.
BOBP/REP/75	Report of the 21 st Meeting of the Advisory Committee. 12-13 February, 1997. Bangkok, Thailand
BOBP/REP/76	Workshop on Integrated Reef Resources Management in the Maldives. Male, Maldives, 16-20 March, 1996.
BOBP/REP/77	Report of the 22 nd Meeting of the Advisory Committee, 23-24 September, 1997. New Delhi, India. Madras, India.
BOBP/REP/78	Community-based Fisheries Management in Phang-Nga Bay, Thailand. 14-16 February 1996, Phuket, Thailand. Bangkok, Thailand.
BOBP/REP/79	Carrying Capacity Assessment of Pulau Payar Marine Park, Malaysia. Li Ching Lim. Madras, India.
BOBP/REP/80	Report of the 23 rd Meeting of the Advisory Committee. 27-28 March, 1998, Negombo. Sri Lanka. Madras, India.
BOBP/REP/81	Report of the Workshop on Smart Partnerships for Sustainability in the Fishing Industry. 26-28 November, 1997, Penang, Malaysia
BOBP/REP/82	Report of the Regional Workshop on the Precautionary Approach To Fisheries Management. 25-28 February, 1997. Medan, Indonesia.
To be printed	Identification of Non-Capture Fishery Income Generation Options For ESN Fishers of Coastal Bangladesh (CODEC)
To be printed	Status and Trends of Ornamental Fishery Resources and Habitats in Sri Lanka by S U Ekaratne

To be printed	Manual on Stakeholder Analysis by Rathin Roy
To be printed	Traditional Fishery Management Practices in the Maldives by Hassan Maniku'
To be printed	Traditional Customary Fisheries Management Systems in Six Provinces of Indonesia (English version) by Reza Shah Pehlevi, Sihar Siregar, Riyanto Basuki
To be printed	Regional Workshop on Cleaner Fishery Harbours and Fish Quality Assurance, Chennai, India
To be printed	Regional Workshop on Management of Marine Parks, Malaysia.
To be printed	Report of the 24th Meeting of the Advisory Committee. 13-14 October, 1999. Bangkok, Thailand.
To be printed	Documentation of Learnings from the Third Phase of the Bay of Bengal Programme for Coastal Fisheries Management By G L Preston and Y S Yadava
Mimeo	Basic Needs of 39 Coastal Fishing Communities in Kanniyakumari District, Tamil Nadu, India: A Survey to Investigate and Prioritise Problems Regarding Services and Infrastructure By Rene J C Verduijn
Mimeo	Qualitative Analysis of Fishing Intensity and Fishing Behaviour in Kanniyakumari District, Tamil Nadu, India by Barbara Bierhuizen
BOBP/MAG/21	Fishes of the Maldives, Madras, India
BOBP/MAG/22	Fishery Harbour Manual on the Prevention of Pollution. 3 A Sciortino, R Ravikumar. Madras, India.
BOBP/MAG/23	Estuarmne Set Bag Net, Bangladesh (comic book in Bangla)
BOBP/INF/14	Bay of Bengal Programme: Publications and Video List, Madras, India.

Miscellaneous awareness materials on fisheries management:

Brochures

- Brochure on BOBP's Third Phase
- Emerging trends and prospects in fisheries management

Posters

- Community-Based Fisheries Management (in English, Indonesian & Malaysian)
- I am a steward
- Our sea, our wealth
- A brief history of world Commercial Fishing
- A simplified model of how fish stocks can be Managed
- Ghost fishing
- Marine resources of the Maldives
- "Stakeholders all, stakeholders' call"

Post cards

- Our Sea, Our Wealth
- CBFM

Video

- Shanmugham' s dilemma. (Street play presented by fisherwomen of Kasimedu, near Chennai)
- Overtishing and fishing conflicts in Kanniyakumari District, Tamil Nadu

T- shirt Save our Seas

Ornamental fish identification cards For divers, exporters, fisheries officials and Customs officials of Sri Lanka
(in colour)

Publications supported by BOBP

- Guidelines (produced for India's Aquaculture Authority). for use by traditional shrimp farmers who want to adopt improved technology.
- Code of Conduct for Responsible Fisheries (Tamil version), produced for the Department of Fisheries, Tamil Nadu.

Table 5
SUPPORTING STAFF – 1995 - 1999
(GCP/RAS/151/JPN & GCP/RAS/117/MUL)

Administration

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

information Service**

Madhu, S.R.	Information Officer (Consultant)
Amalore, E.	Artist

Secretariat Service

Verghese, C.	Secretary
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*** costs covered by GCP/RAS/117/MUL*

Table - 6
TRAINING, SEMINARS AND WORKSHOPS 1998-1999

<i>No</i>	<i>Activity</i>	<i>Days</i>	<i>Location</i>	<i>Participation</i>
1.	MOFL/BOBP-FAO National Workshop on PA2FM and CCRF, Dhaka	2	Dhaka Bangladesh	72 (68 BGD, 4 International)
2.	DOF/FRI/BOBP Workshop on M&E for Fisheries Management	3	Chittagong Dhaka	32 (30 BGD, 2 International)
3.	MOFL/BOBP-FAO Meeting to Review BOBP-assisted activities in Bangladesh	1	Dhaka Bangladesh	12 (9 BGD, 3 International)
4.	Kanniyakumari Multi-Stakeholder Consultation and Road Show	1	Nagercoil Tamil Nadu	27 (24 Indians, 3 International)
5.	Kanniyakumari District Heads of Department Meeting to discuss non-fishery needs of fishing communities	1	Nagercoil Tamil Nadu	27 (24 Indians, 3 International)
6.	BOBP/DOF/AFI Training Workshop on Farming Systems Research for Coastal Aquaculture	3	Nimpith West Bengal	14 (13 Indians, 1 International)
7.	DFAR/BOBP Workshop to discuss Dr Ekaratne's Report on Status and Trends of Ornamental Fish Resources and Habitats	1	Colombo Sri Lanka	34 (34 Sri Lankan, 1 International)
8.	MSSRF/BOBP-FAO/IOI Workshop on Sustainable Livelihoods and Environment Management of Coastal Eco-systems	2	Chennai India	35 (34 Indians, 1 International)
9.	GOI Review of BOBP-assisted activities in India	1	Chennai	14(13 Indians, 1 Malaysian)
10.	National Workshop on CBFM	3	Benkalis Riau Indonesia	65 (63 Indonesians, 1 Indian 1 Malaysian)
11.	BOBP/ADB/DGF Stakeholder Meeting for Mud Crab Fishery	1	Perak Malaysia	15 (15 Malaysians)
12.	Workshop on Research Prioritizing for Fisheries	2	Phuket Thailand	60 (59 Thais, 1 Malaysian)
13.	National Workshop on CCRF & PA2FM	2	Phuket Thailand	60 (59 Thais, 1 Malaysian)
14.	Seminar on Stakeholder Approach to Fisheries Management and CBFM		Jakarta Indonesia	25 (24 Indonesians, 1 Malaysian)
15.	DOF/FRI Workshop on Planning and Capacity Building for Consultation and Public Hearings	3	Chittagong Bangladesh	42 (41 Bangladesh, 1 Indian)
16.	Consultative Workshop on Integrated Coastal Zone Management – Project Experiences	6	Selangor Malaysia	45 (43 Malaysian, 2 International)

Annexure 1

DOCUMENTATION OF LEARNINGS FROM THE BOBP'S THIRD PHASE A SUMMARY

Two fisheries experts – Dr Garry Preston and Dr Y S Yadava – recently spent six weeks in the Bay of Bengal region, visiting offices and activity field sites of BOBP member-countries, talking to officials, scientists and fisherfolk taking part in the Programme's activities. Their mission: to identify and document the learnings and lessons from the BOBP's Third Phase. Here is a brief summary.

The BOBP's work over the past 20 years can be divided into three distinct phases. They concentrated, broadly speaking, on Fishing Technology, Fisher Community Development, and Coastal Fisheries Management. The first two phases focused mainly on facilitating higher fisheries production. During the third phase, the Programme shifted its emphasis toward management of coastal resources, mainly through stakeholder consultative and participatory approaches.

Lessons and Issues:

Participatory Approach to Coastal Management:

- *Time horizon:* All BOBP activities in member-countries have been based on the above approach, which consists of six steps: problem identification, stakeholder identification, stakeholder analysis, problem analysis, stakeholder consultations and negotiations; adoption and implementation of the management plan. Step six is itself not the end of the process, since management plans have to be periodically reviewed in response to changing circumstances.

BOBP has had just about three and a half years to implement these activities, since the first 12 to 18 months of the Third Phase were spent in situation analysis and defining the BOBP's role during the Third Phase. A major lesson from BOBP is therefore that a five-year time-scale will not allow completion of a process as complex as management. A longer time horizon is needed.

- *Strengths and Weaknesses:* The participatory management approach may lead to more effective fisheries management arrangements and better compliance than a centralised top-down approach, but the likely costs of the first approach should not be under-estimated. Participatory management almost always needs an external input in terms of facilitation and funds – from government, an NGO or the BOBP. It may be more cost-effective to make existing centralised fisheries management systems more participatory than replace them wholesale with large numbers of locally-based fisheries management systems.
- *Large-scale issues must be addressed:* BOBP's work has focused on communities scattered along a coastline, around a bay or an island. In doing so, several external factors affecting fisheries have been identified, requiring a larger framework of analysis and action. Besides operating at the community level, environmental or coastal zone management initiatives must be put into place at a higher level. This is because land-based and sea-based activities outside the control of coastal communities (such as deforestation, excessive use of agro-chemicals, practices of urban sewage and waste disposal, oil spills, pollution from ships etc) may degrade coastal waters and seriously impact marine resources. Some BOBP Member-Countries suggested that it would have been more useful if BOBP had been mandated to assist governments to formulate broad coastal management policies or plans.

Technical interventions: The participatory approach is an approach to a solution, more effective than a government-driven approach. But it is not the solution itself. It does not by itself solve coastal management problems or put management arrangements into place. It may identify solutions to problems, but these solutions

(such as construction of small fishery harbours or landing sites, adding value to fishery products, deploying fish aggregating devices, setting up alternative income-generating activities, constructing schools and health centres) will need more money, specialised technical expertise or legislative effort. It perhaps should be made clear early in the participatory management approach that funds may not be available to implement final solutions – so that the stakeholders do not feel disappointed and let down.

- *Expectations:* Excessive expectations about the likely results of participatory management should be avoided. It should be made clear that management may not for example automatically raise the catch per unit effort (CPUE), though it could lead to other benefits (it could make fishing operations more profitable, it could slow the decline of CPUE). Likewise, high expectations of resource enhancement—from measures such as deployment of artificial reefs or release of juveniles for restocking – should be discouraged.

BOBP Implementation:

- *Regional approach:* Member-Countries were unanimous that the regional approach such as BOBP's is valuable in addressing coastal management issues. Advantages: easy access to specialised advice, active information dissemination, learning from the experience of other countries. BOBP workshops enable personal contact among officials and experts of different countries. There is also a sense of pride from partnership with an international programme. Member-Countries were unanimous that the Third Phase should be continued in some way, expanded if possible.
- *Human and financial resources:* Member-Countries have praised highly the advice, inputs and technical support provided by the Programme, but note that the small size and limited financial resources of BOBP limit the assistance BOBP can provide.
- *Pilot projects:* The Programme's pilot activities are meant to serve as a base from which positive approaches and experiences spread to other areas. Except for 1 or 2 cases, neither BOBP nor member-countries has actively promoted such replication as yet (mainly because the activities have not been completed). In fact, experience-sharing appears to have been more effective at the international level than the national level. However, there have been spin-offs from the pilot activities in the form of other projects. Three projects in Bangladesh, supported by UNDP, DFID and the Bangladesh Government respectively, and one in Indonesia, supported by the Asian Development Bank (ADB), are spin-offs from the BOBP model and pilot activities. FAO/TCP and SPFS project proposals are under preparation for Thailand and Malaysia.

Pilot activities at the national level have not been replicated, but training courses to introduce participatory approaches in dealing with stakeholders have been useful. A major problem has been the frequent transfer or promotion of officials trained by BOBP – the project loses their services. This has affected the implementation of BOBP-supported activities. The BOBP model of a stakeholder approach is steadily being pursued by member-countries.

- *Awareness-raising:* BOBP has had a strong impact on raising awareness about fisheries and coastal management issues. It is now recognised that marine resources are finite, and that management is essential if benefits are to be optimised. The creation of a core group of fishery officers at senior and middle levels in each country who are committed to improving fisheries management, is one of BOBP's major achievements.

However, there is a diversity of views and opinions on what constitutes participatory management. Further, there is a big difference between awareness of the need for fisheries management and actual management. Awareness-raising is only the first step in the process of moving towards management of coastal resources in the region.

Information dissemination: A particular effort was made to assess the value member-countries attached to the Programme's information activities. Most countries spoke highly of the information activities, particularly the

Newsletter, *Bay of Bengal News*, which was the main channel for information-sharing. Some of the Newsletter's articles had been translated into local languages. The Programme's posters were seen in many of the locations visited by the team. The consensus was that these too were useful in spreading management awareness. National counterparts attached great value to local-language materials whose production was supported by BOBP.

- *Regional-level activities:* There was little specific comment on regional activities other than that of information dissemination. BOBP's regional workshops and seminars are considered a necessary adjunct to national-level projects.
- *Advocacy and leverage:* BOBP's advocacy role was emphasised in a number of countries. Its endorsement of a fisheries management initiative lent it credibility in the eyes of both fisheries stakeholders and government decision-makers, and facilitated approval by a central government or an international agency. At the other end of the spectrum, the commitment of coastal communities to participatory management activities was greatly enhanced by the perception that their effort was being observed by other countries.

BOBP member-countries:

- *Human and financial resources:* In most countries, national projects do not enjoy easy access to government funds. BOBP counterpart staff were therefore disappointed that the Programme's own fund allocations were less generous and more difficult to access than they had hoped. However, the allocations were in keeping with the mandate and spirit of national execution and cost-sharing, which are the modality of BOBP's catalytic intervention. To a greater degree, the success of BOBP activities in member-countries can be attributed to this spirit of national execution and cost-sharing which instils greater work and financial discipline.

On most occasions, BOBP national coordinators have problems utilising government funds on BOBP-related activities, even when, technically speaking, funds have been allotted for the purpose. One difficulty is that the Programme's activities are somewhat unconventional, not in line with usual fishery agency activities, and therefore outside any established budget category or allocation.

While financial control procedures are important, there is the risk that project activities may be delayed or cancelled because the national project coordinator cannot access either BOBP or local funds though both may be technically available. There's a need for BOBP to be vigilant on this issue and ensure that procedures do not hamper programmes.

- *National execution arrangements:* BOBP's operational philosophy is that it should support the development of national capacity to effectively manage coastal resources in member-countries. It has shown that national execution can and does work.

BOBP's *modus operandi* for national execution is that a national coordinator takes responsibility for liaison with BOBP and management of national inputs. This arrangement puts the burden of responsibility on the national government and generates a sense of ownership and participation and responsibility about the activity. The flip side is that the national coordinator also has to take on other responsibilities. So he cannot devote as much time as he would like to the BOBP activity. This has at times delayed the implementation of BOBP activities.

Another weakness relates to transfer, promotion, resignation or retirement of government staff assigned to BOBP. The Programme thereby loses an experienced national coordinator and gets some one else who needs to go through a learning process before he can become effective. This process has a significant negative effect on the Programme.

No perfect solution to this problem emerged following the study team's investigations. But a good arrangement would be for national coordinators to be paid by BOBP and seconded to the Programme.

The national coordinator would thereby devote all his time to BOBP work. The money paid by the Programme can fund an additional staffer who will take over functions and duties discharged earlier by the national coordinator.

The participatory management approach often requires government officers to devote much time to travel and field work. They are unwilling to work outside office hours unless they are compensated. On most occasions, BOBP has provided some travelling allowances to the government officers to encourage field work.

- *Incompatible functions:* Where fisheries officers administer welfare schemes, and can therefore dispense patronage, fishers become overly deferential to the officer. The process of frank two-way communication, essential for participatory management, suffers.
- *Involvement of NGOs:* Government departments are generally suspicious of NGOs. Where NGOs have taken part in BOBP activities, the attitude of the national fishery agency has ranged from lack of interest to hostility. It is said that NGOs should stay out of technical areas where they lack expertise, instead of creating confusion by offering advice contrary to that of the national fishery agency. NGOs should stick to social issues. On the other hand, NGOs are wary about a close relationship with government departments. They do not wish to be identified in the eyes of the community as being too close to them.

This is unfortunate because NGOs have strong links with coastal communities. They are more flexible about field work during odd hours and do not demand special overtime or travelling allowances. They can be more responsive with stakeholders as they are not constrained by the curbs of officialdom. In some countries, external donors prefer to channel funds through NGOs for precisely this reason.

Tripartite working relationships between government, the fisher communities and the NGOs would be very useful.

The Future

BOBP may be said to have left a footprint in the region – it has influenced and changed behaviour concerning coastal resource management. *Member-countries have expressed a strong desire to see the work begun by BOBP continue after the currently scheduled closure of the externally supported programme on 31 December, 1999.*

Annexure 2a

AFTER 1999 : SOME THOUGHTS ON BOBP AS AN INTER-GOVERNMENTAL AGENCY

(Reprinted from Bay of Bengal News, June 1997)

by Kee-Chai Chong

The BOBP is a regional co-operative Programme. It plays a key role in bringing all the countries around the Bay and beyond to think individually but act collectively. Events and activities in one country or one corner of the Bay have repercussions and impact elsewhere, the Bay being a large and fluid marine eco-system. Water binds all the coastal states. Without quality water, fisheries cease to exist for human use.

BOBP is seen by member-countries as a neutral body able to bring the countries together and assist in highlighting key issues of concern to them which individually they would find awkward to address. The 8-month long waiting period for BOBP to resume its Third Phase was highlighted by member countries as an unnecessary void.

Therefore, a well-structured, neutral, non-profit organisation, advised and guided by a 'governing council' made up of senior fisheries policy-makers from the member-countries is needed to catalyse and facilitate activities and work towards holistic people-centered fisheries and coastal area development and management.

It is with these aims and objectives in mind that during the Ninth Session of the Bay of Bengal Committee and the 9th, 20th, and 21st Advisory Committee Meetings of the BOBP, it was recommended that BOBP begin to explore the possibility of evolving into a more permanent regional fisheries institution with a broader mission (FAO 1995; BOBP 1995; 1996).

Rationale and Justification

Unlike in Southeast Asia where there are regional and international fisheries bodies relatively well established to tackle, co-ordinate and assist countries of the region of fisheries matters, there is today no similar regional or international fisheries body in South Asia to address regional fisheries issues, let alone assist individual countries on fisheries development and management. The only regional fisheries body in South Asia is the BOBP.

This programme is scheduled to end in 1999, unless it is extended for another term.

South Asia does have a regional political grouping called SAARC or South Association for Regional Co-operation. But to the best of available information, fisheries matters do not receive much attention in its work. It is more of a political grouping for regional co-operation and trade than a technical assistance body.

Another regional grouping besides SAARC called Indian Ocean Marine Affairs Co-operation Conference (IOMAC) was constituted in 1987. IOMAC seeks to promote peaceful uses of the ocean in non-controversial areas such as economic, scientific and technical co-operation.

A pertinent question is the economic justification for setting up another regional inter-governmental body through the institutionalisation of BOBP, when:

- FAO/UN regional fishery bodies such as IOFC are finding it more and more difficult to support its activities and are being merged or consolidated.
- 'Soft' monies to support international development assistance are getting more and more scarce and difficult to obtain.

- Existing regional inter-governmental bodies in fisheries, including aquaculture are already servicing and meeting the needs of their Member-Countries.

BOBP member-countries and others in the region share a common marine environment and resource in the Bay of Bengal, what is now described and referred to as a large marine eco-system (LME). Fisherfolk and coastal communities in this LME harvest and rely on a public resource which is largely governed by an open access common property management regime. Past and present initiatives towards fisheries management have not resulted in lasting impact on the fishing communities and their households, whether these efforts were mounted at the local, national, regional or international levels. This is because no regional mechanism exists to address fisheries management on a regional basis, except for initiatives by BOBP which are mainly geared towards information exchange and sharing of learning and experiences, as well as technical/advisory assistance.

New efforts, investment and innovations are called for to develop and manage the available and remaining fisheries and coastal resources and bio-diversity on a sustainable basis. These interventions are more crucial and critical today than at any other time in the past. This is because of the growing demands for food from a largely finite resource base, and worsening scarcity of natural resources due to past unmanaged resources use. Serious threats to the LME, resource eco-system and environment from uncontrolled pollution are another cause for concern, which needs urgent attention.

Such transboundary pollution and other adverse effects call for rapid collective intervention. Experiences have shown that it is difficult to monitor, manage and mitigate these impacts on a regional or even national level without a well-structured regional body to bring the different parties together. To be effective, the regional body must be armed with a mandate, a convention to intervene on behalf of the member-governments.

In addition, the vast and varied bio-diversity of the Bay LME and the living and non-living aquatic resources it contains needs to be protected, conserved and managed for present and future generations before they are irreversibly impaired or lost. Some countries on the two sides of the Bay LME are at different stages of economic development and growth, they have different priorities for developing and managing their respective fisheries and coastal resources. These differing priorities have to be harmonised to minimise user conflicts. Regional 'stakeholder nation' consultation and analysis through participatory planning can help resolve seemingly irresolvable conflicts in resource use.

There is definite and clear merit in countries around the Bay pooling resources together and working together instead of being at cross purposes, especially in times of rapidly declining support for development. This is the reality today. The 21st century, just three short years away, will see a further decline in international funds for development. Developing countries must become more and self-reliant and self-sufficient in tackling their own development problems and promote greater economic growth to improve the quality of life of their population with their own resources within their national and regional borders.

The institutionalisation of BOBP by member countries takes on more importance and significance in view of the uncertain fate of regional fisheries bodies set up by FAO in the 1960s. These bodies, especially those in Asia, were set up as a regional or international forum to look after and deliberate on fisheries matters, both at the regional and national levels. But these bodies rightly or wrongly, have been viewed as driven from outside; the countries themselves do not readily identify with nor belong to them.

During the 9th Session of the APFIC/COMAF Meeting held in Yogyakarta, Indonesia in October 1995, the Committee recommended that appropriate regional mechanisms be established to achieve rational exploitation and management of the fisheries in region.

BOBP, as an inter-governmental organisation, is a sound idea worthy of institutionalisation into the 21st Century and beyond. To be sure, the institutional transformation of BOBP from an externally supported time-bound programme into a more institutionally stable and permanent body requires long-term sustainable commitments from constituent

member-countries. Most important, such a transformation must come from within and not be proposed by outside interests. In other words, the initiative must come from member-governments themselves and not just because it is an attractive idea suggested by FAO or the donor community. Projects come and go, frequently dictated by the donor community and its international development thrust and model. The institutionalisation of BOBP meets these criteria discussed above.

BOBP today is 18 years old. By the time the present phase ends it will be 20 years old. To continue to serve member-countries, the inter-government BOBP must stay relevant and establish an institutional niche for itself. It must not only react and respond to the needs of member-countries, it must anticipate, create and proact to serve its membership. More than 10 years ago, the 1984 FAO World Conference on Fisheries Management and Development pointed out that developing countries must act quickly to strengthen their commitment and participation in the management of regional fisheries bodies, especially the management of fisheries resources.

BOBP's Human Resources Development Thrust and Priority

First and foremost, the inter-governmental BOBP must prioritise and chart out a widely shared vision on sustainable human resources development through sustainable resources management. South Asia houses a quarter of the world's poorest people. Member countries see fisheries as a regional issue and one of the means to achieve 'developed country status'.

The region is also steadily attaining the necessary critical mass of trained and skilled human-power to carry out their own work. BOBP Third Phase's *modus operandi*, which emphasises 'national execution' of Programme activities, is helping to build and strengthen national capacity and utilisation of such national capacity wherever feasible. In addition, the Programme is also helping to bring industry into the act and share the burden of fisheries management.

Towards this end, BOBP is planning to organise a Regional Consultation on Evolving Self-Financing Schemes and Mechanisms for Fisheries Management in Asia, tentatively scheduled for November 1998.

Proposed Mandate of Inter-Government BOBP

Acting on behalf of Member-Governments, BOBP strengthens sustainable fisheries management and development in South Asia in general and the Bay of Bengal region in particular, through closer co-ordination and networking with fisheries and related institutions/organisations in member-countries. It endeavours to increase the contribution of fisheries to economic security in general, and food and livelihood security in particular, and further national development goals. These broad goals are achieved through the transfer, development and packaging of relevant information, sharing of learning and experiences, devising appropriate technology and channelling human resources development toward responsible fisheries.

BOBP acts as a regional focal point to harmonise fisheries management and development to foster greater awareness, appreciation and understanding on the need for and benefits and approaches of innovative fisheries management and responsible fisheries. It will assist in practical operation and implementation of the Code of Conduct for Responsible Fisheries as well as the Precautionary Approach to Fisheries Management, at both the national and regional levels.

Holistic Approach to Fisheries

BOBP fosters greater socio-economic development of member-countries' fisheries for the benefit of fishing communities through a holistic 'process', integrating resource and environment management. Although many development projects have poverty eradication as objective, their implementation is a far cry from eradicating poverty, it fuels poverty!

The functions of the inter-government BOBP relate essentially to one of co-ordinating and networking among fisheries institutions and related bodies in the broad area of fisheries management and development. The BOBP secretariat will be administered by a multinational core staff seconded or recruited from member countries. Its operational thrust will be guided by holistic people-centered multi-disciplinary and cross sectoral approach to fisheries development and management. At present, there is no such body for fisheries management.

Besides the Multi-national core staff, the BOBP work programme will also be carried out by National Co-ordinators in each country. They will liaise between BOBP Member-Governments.

Financing BOBP Secretariat Operations and Management

The costs of running the BOBP Secretariat and its core activities are to be collectively borne by the member-governments through contributions to a common fund. Member-Governments will contribute to the upkeep, operation and management of the BOBP Secretariat, based on an annual rate of payment according to agreed criteria. The salaries and other fringe benefits of the multinational core staff are to be met from these contributions. In addition to cash contributions, member governments will also provide services in-kind through their respective national experts, and facilities for the Programme's activities.

BOBP will also subscribe to TCDC arrangements. Wherever feasible, it will take advantage of TCDC mechanisms and opportunities in implementing its work, as it has done in the past.

Role of the Governing Council

The Governing Council, composed of senior government policy-makers from member-countries, will be the main decision-making body within the inter-governmental BOBP. It will direct and guide the work of the inter-governmental organisation. In turn, the Council will receive technical inputs from a Technical Advisory Committee (TAC) appointed by the Council. The TAC will comprise senior scientists from member countries plus an internationally recognised expert drawn from interested fisheries bodies from around the world. The TAC will help the Council to monitor BOBP's performance, and evaluate and advise on technical matters.

The Council will determine the annual obligatory contributions of Member-Governments. It will recruit the multinational core staff from the region. A simple formula on annual financial obligatory contributions by member-governments is provided by the South Asia Co-operative Environmental Programme (SACEP).

The Council can also co-opt interest donor countries and financing agencies into the Council. However, they will be represented on the governing body as associate members without voting rights.

A Sustainable Long-Term Presence

The inter-governmental BOBP is a sound all-win proposition. It will harness NGOs as partners in identifying and meeting development and management needs. BOBP should continue into the next century and not fade out, just because present donor support is waning. Member governments of the present BOBP wish to proceed with the institutionalisation of the Programme into an inter-governmental organisation. It meets the criteria for institutionalisation. Member-Governments are committed to a sustainable long-term presence of BOBP in South Asia in general, and the Bay LME in particular.

Annexure 2b

WHERE DO WE GO FROM HERE?

(Reprinted from Bay of Bengal News, September 1999)

by Rathin Roy

Some thoughts on the need to promote fisheries development and management in the Bay of Bengal region into the new millennium.

Some things we already know. The Third Phase of the Bay of Bengal Programme for Fisheries Management (BOBP) comes to an end in December 1999. The Indian Ocean Fisheries Commission (IOFC) and with it the IOFC's Committee for the Development and Management of Fisheries in the Bay of Bengal (BOBC), which was BOBP's parent body, as it were, have ceased to exist. Which leaves APFIC (Asia-Pacific Fisheries Commission) as the only regional body in this part of the world concerned with fisheries development and management, covering a vast area, all the way from West Asia to the Pacific. A small effort supported by the Global Environment Facility to evolve a programme to address cross-boundary environmental problems in the Bay of Bengal Large Marine Ecosystem is in the pipeline and may form the foundation upon which new regional efforts can be built. Several regional organizations exist in Asia, addressing fishery concerns and needs, such as SEAFDEC, NACA and ICLARM but their focus is more on South-East Asia, which leaves the South-Asian countries with their problems not wholly addressed.

The Bay of Bengal region is quite unique. It shares a large marine ecosystem. The fisheries and fishers of the region in spite of their variety share several similarities in terms of concerns, problems and approaches to fisheries development and management. Most importantly, over the last twenty years of working together with the Bay of Bengal Programme (BOBP) the countries and their fishery agencies have evolved a close and convivial working relationship. So the questions, simply put are, what happens after the BOBP closes down? Are there needs in the region that can be addressed more efficiently and appropriately through a regional mechanism? And, if so, what kind of a regional mechanism or body does the region need? These are the questions the representatives of the Member-Countries of the BOBP will be grappling with at the 24th Meeting of the Advisory Committee of BOBP in Phuket, Thailand, 13-16 October 1999.

Sometimes it is useful to begin at the beginning. In 1979 when BOBP came into being, fisheries development, at least for small-scale fisheries, was perceived as a need to evolve technologies that would increase production and therefore incomes, which is what BOBP did during the first phase. Along with introducing technologies the programme grappled with several socio-economic issues including credit supply, non-formal education for adults and children, extension, alternative income generation and women's issues. The Second Phase of BOBP which came into being in 1987 not only continued the work begun in the earlier phase but focused hard on fisher community development and on developing and strengthening the capacity of fishery agencies to address these needs through extension. Meanwhile the scenario in small-scale fisheries, in particular, was changing and countries began to notice some disturbing trends such as stagnating and even declining catches, reduction in average size of fish caught and changes in the species composition of catches, all ominous signs of fisheries stocks under stress. It was therefore natural, particularly with global fisheries also showing signs of trouble, for the member countries to start worrying about conservation and management. The third phase of BOBP, which began in 1994, reflected these concerns and the Programme's mandate was exclusively to enable and facilitate improved management of fisheries through awareness building, and building the capacity of fishery agencies to address management and technical assistance.

Today, with the new millennium around the corner, the three most important goals relating to the fisheries sector of the countries around the Bay of Bengal are, broadly speaking:

- Increasing fisheries production, not only to feed growing populations and provide livelihoods to millions of fishers but also to earn valuable foreign exchange.
 - Safeguarding and enhancing fisheries trade by improving the quality of fish and fish products.
- Conserving aquatic eco-systems and better managing fisheries to ensure sustainability into the future and make the above two goals happen.

The Third Phase of BOBP has developed considerable awareness amongst stakeholders about the need for, the benefits of and the methods of fisheries management. But this is just the tip of the iceberg. Learnings from the pilot efforts need to be extended to other areas within the countries and to the rest of the countries. The learnings from BOBP's efforts and consultations with stakeholders have given us a glimpse of the difficulties countries face. Fisheries management seems to be more about managing people than fish. The multiplicity of stakeholders in fisheries and the fact that aquatic eco-systems are used by a variety of competing and often conflicting sectors makes the task very complex. Fishery agencies need new skills to promote community-based and stakeholder management of fisheries. Legislation needs to be adapted to carry out these new measures. Stakeholders need to be made aware and persuaded through communications and consultations, Conflicts need to be resolved. New decision making platforms need to be evolved to carry new forms and approaches to management. Such groups need to be empowered to participate actively in fisheries management. To cut a long story short a lot of work remains in the drive towards sustainability of fisheries.

The question is, can national fishery agencies cope with these new demands and, if not, is there a need for some sort of a regional organization to assist, facilitate and enable national efforts? There is considerable capacity in the fishery agencies of the Bay of Bengal region but it is unevenly distributed. Co-operation can not only benefit the countries but also more efficiently utilize existing capacity. Such co-operation, as BOBP has shown, can also be a valuable asset in dealing with new situations and problems that increasingly overlap jurisdictions, such as shared fish stocks, inter-country disputes and conflicts, environmental degradation that has cross-boundary effects, to name just three.

What are some of the options?

- The Bay of Bengal Programme could be extended into a new phase with a new mandate to meet new needs, provided donors can be found to support such an effort. The documentation of learnings of the third phase of BOBP has clearly shown that a firm consensus exists amongst the member countries requesting that BOBP continue beyond its present phase.
- Most of the member-countries evince keen interest in evolving an inter-governmental body, supported by contributions from the countries and supplemented by donor contributions. This would require a firm commitment from all the member-countries and contributions to make it happen. Several examples where regional donor-assisted organizations grew into inter-governmental bodies exist to show the way, such as NACA and INFOFISH.

Whatever be the option, countries of the Bay of Bengal region need to come together and decide now, as time is running out. They have to decide on what the needs are into the future. They have to justify why these needs can be better met through regional mechanisms. They have to firmly commit themselves to developing and evolving such mechanisms and paying for them, at least partially, while looking for sources of donor support. If they can, we will have an answer to the question: Where do we go from here? The stakes are high. And the choice is ours. (See also BOBN Vol II, No 6, 1997 on "After 1999: Some Thoughts on BOBP as an Inter-Governmental Agency", and BOBN Vol II, No. 13, 1999, on "Indian Fisheries Officials Urge that BOBP Continue as Inter-Governmental Programme")



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