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Making of the Bay of Bengal Programme – Inter- Governmental Organisation

Bangladesh, India and Sri Lanka join hands to form a new regional mechanism – the Bay of Bengal Programme Inter- Governmental Organisation for sustainable coastal fisheries development and management in the Bay of Bengal region. The birth of BOBP-IGO heralds a new era of strong and lasting regional co-operation in the fisheries sector of member countries.



Making of the Bay of Bengal Programme – Inter- Governmental Organisation

The signing of the Bay of Bengal Programme Inter- Governmental Organisation (BOBP-IGO) agreement by Bangladesh, India and Sri Lanka is a historical moment for the region. It institutionalises a 23 year-old externally funded programme into a self-reliant regional agency that will assist member countries in sustainable coastal fisheries development and management.

On this occasion, I would like to share with readers the long and challenging journey which the BOBP undertook to complete the process of institutionalisation.

Going back to the archives, one may say that the BOBP-IGO seed was sown in January 1995 in Jakarta (*19th Meeting of the Advisory Committee of the BOBP*), which finally culminated in Chennai in April 2003. However, a more direct proposal for institutionalisation of BOBP was made at the 22nd Meeting of the BOBP Advisory Committee (*New Delhi, 1997*), when the head of the Indian delegation in his opening statement said that India foresees a larger role for regional programmes like BOBP and requested FAO to consider institutionalisation of the BOBP as an Inter- Governmental Organisation.

The following year, at the 23rd Meeting of the Advisory Committee held in Colombo, Sri Lanka, in 1998, the matter was raised again and the Committee urged the member countries, the FAO and donors to seriously consider the possibility of evolving an inter- governmental body in the BOB region, to facilitate and enable improved management of fisheries and aquaculture, beyond the project period of the BOBP.

Subsequently, at a country review meeting in June 1999, officials from the Government of India and from India's four east coast states met and urged that BOBP should continue as



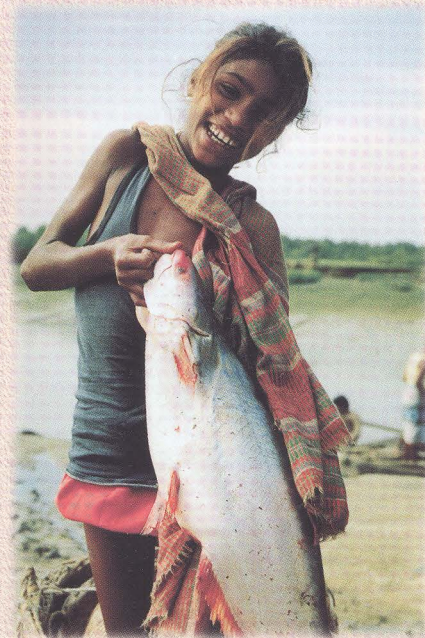
an inter- governmental programme. The officials noted that the region is an important fisheries player in the global scene and any new regional or inter- governmental fisheries agency would take many years to establish. Steps should be taken to assure that at the very minimum, a regional project already existing was not lost to the region.

During the same period, the two BOBP-FAO consultants documenting the learnings from the BOBP's Third Phase clearly showed in their report (*BOBP/REP/85*) that the member countries desired to see the work begun by BOBP continue as an inter- governmental set up.

It was finally at the 24th Meeting of the Advisory Committee in Phuket, Thailand, held in October 1999, that a consensus was arrived at amongst member countries. They strongly endorsed the need to continue the BOBP or to evolve a new regional mechanism capable of addressing critical and important concerns relating to fisheries development and management, both at the policy and implementation-levels. The member countries recommended that the exact nature, mandate, constitution and cost-sharing of such a regional mechanism be evolved through consultation and

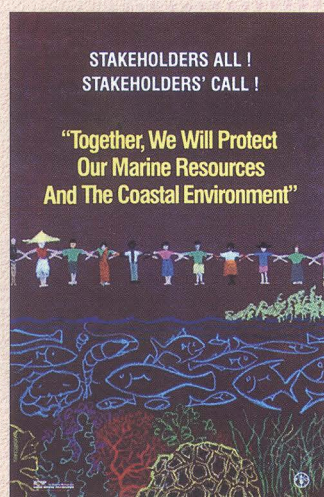
negotiation among representatives of member countries, with assistance and support from the FAO. Concluding the deliberations, the countries adopted the Phuket Resolution on 16 October 1999 (*see box*).

The resolve shown in Phuket was further demonstrated and strengthened in Chennai during 2001, when representatives of the seven member countries, and experts from FAO and other agencies taking part in the Regional Workshop on Sea Safety for Artisanal and Small-Scale Fishermen recommended that the issue of sea



safety could be effectively addressed through a regional mechanism such as the BOBP-IGO (*Bay of Bengal News Vol. III Nos. 2 & 3*).

A formal meeting of Plenipotentiaries was convened in Colombo, Sri Lanka during 28 February - 1 March 2002 to further the process of institutionalisation. The Plenipotentiaries agreed in principle on the establishment of the BOBP-IGO to continue the work of BOBP, and also on the Rules of Procedure, Staff Regulations, Employment Conditions, Schedule of Government Contributions and the Agreement concerning the BOBP-IGO, subject to certain modifications (*BOBP/REP 92*).



The Plenipotentiaries recognised that awareness of the need for, the benefits of and the methods of coastal fisheries management had been considerably strengthened in the region by the efforts of the BOBP, and that such efforts need to be carried forward through the BOBP-IGO. The Plenipotentiaries adopted the Colombo Resolution. Subsequently with the signing of the Agreement at Chennai on 26 April 2003, the process of setting up of the BOBP-IGO has been completed.

The governments of Bangladesh, India and Sri Lanka have taken the vital lead in setting up the IGO. The Government of the Republic of Maldives has in principle approved the Agreement to set up the BOBP - IGO and their formal approval is expected in due course. To comprehensively address the fisheries needs of the large marine

ecosystem, the co-operation and support of the other Bay of Bengal countries is equally vital and they are urged to further strengthen the momentum by joining the BOBP-IGO.

Through this brief recap of the journey which the institutionalisation process undertook, I wish to place on record my sincere thanks to all the officials of the member governments with whom I discussed and negotiated the setting up of the BOBP-IGO; FAO

fisheries staff in Rome and Bangkok; officials of the FAO representation in Bangladesh, India, Indonesia, Sri Lanka (also for the Maldives) and Thailand who provided their unstinted support to the process at every step and arranged for the funds necessary during the bridging period; and my colleagues at the BOBP, past and present, for their wholehearted co-operation in ensuring a successful end to the journey.

Yugraj Singh Yadava

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;

Realising 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-tariff trade 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;

Recognising 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;

Recognising 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 twenty years and the fact that the project is coming to an end in December 1999;

Realising 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 Organisation in the Bay of Bengal region carrying out its activities in collaboration with countries, organisations 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 Inter- Governmental Organisation 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 Inter- Governmental Organisation.

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 Inter- Governmental Organisation, specifying its mandate, its management and staffing, its fund requirements, and evolve mechanisms and guidelines for cost-sharing.

Phuket, Saturday the 16th day of October 1999.

National Workshop on the Code of Conduct for Responsible Fisheries in Bangladesh

The Code of Conduct for Responsible Fisheries (CCRF) – one of the most important international instruments devised to manage the living aquatic resources of our planet – was adopted in Rome on October 31, 1995. This global Code aims at establishing principles and standards of behaviour for responsible fishing and fishing practices.

A National Workshop was held in Dhaka from 23 to 24 April 2002, as a first step towards promoting the CCRF in Bangladesh. Organised by the Ministry of Fisheries and Livestock (MOFL), Bangladesh, in association with the FAO and the BOBP, the Workshop was meant to fully familiarise government officials and scientists with elements of the Code and the technical guidelines prepared by FAO to assist member countries implement the Code.

The Workshop brought together 81 participants - fisheries administrators and scientists, representatives of NGOs, FAO experts. It was the first time administrators from the headquarters and the provinces had met to discuss the Code and for many the Workshop marked the first systematic exposure to the Code. The Workshop highlighted the problems concerning implementation of the CCRF in Bangladesh. It adopted several recommendations.

To cite a few of them:

- Set up a working group to synthesise the CCRF and set out priorities for implementation.

- Translate the Code and its technical guidelines into Bengali.
- Incorporate elements of the Code and its technical guidelines into the country's Sixth Five-Year Plan starting July 2002.
- Institute reforms in the existing fisheries policy and legislation to meet the Code's requirements. (Bangladesh has asked for FAO assistance for the reform process.)
- Adapt the Code to meet the country's requirements.
- Organise seminars, workshops and training and a fishermen's week to ensure better understanding of the Code.
- Strengthen and upgrade existing databases and provide adequate research support to help implement the Code.

At the Workshop's inaugural session, the FAO Representative, Ms Bui Thi Lan, pointed out that the Code could be implemented only if it was understood by all stakeholders. The Chief Guest, Dr Kamal Uddin Siddiqui, Principal Secretary to the Prime Minister, urged participants to carefully review the articles of the Code and prepare recommendations. Dr Zahurul Karim, Secretary, MOFL, urged extensive use of publicity materials and the mass media to popularise the Code.

The first technical session on "Introducing the Code of Conduct for Responsible Fisheries" was chaired by Mr Bhuiyan Rafiuddin Ahmed, Joint



Dr Kamal Uddin Siddiqui, Principal Secretary to the Prime Minister of Bangladesh



Dr Zahurul Karim, Secretary, Ministry of Fisheries and Livestock



Ms Bui Thi Lan, FAO Representative in Bangladesh

Participants to the National Workshop on CCRF



Secretary, MOFL. In his two presentations, Dr David Douman, Senior Fishery Liaison Officer, FAO Rome explained the Code's objectives, scope and structure and discussed the issues to be addressed in implementing the Code - such as priority-setting, dissemination, legislative review, and sub-sectoral issues dealing with capture fisheries, aquaculture, post-harvest fisheries, trade practices, etc. Dr Purwito Martosubroto, FAO

Fishery Resources Officer, spoke about implementation of the CCRF in the marine fishery sector. He reviewed catch trends in 13 developing countries of south and southeast Asia.

The second technical session on “Scoping implementation of CCRF in Bangladesh” was chaired by Dr M A Mazid, Director-General of the Bangladesh Fisheries Research Institute. Mr Md Nazrul Islam, Director, DOF, discussed implementation of the CCRF in inland fisheries. Mr Mesbahuddin Ahmed, Project Director of the Aquaculture Development Project, dealt with implementation issues in aquaculture.

The third technical session on “Role of stakeholders and challenges to implementation of CCRF in Bangladesh” was chaired by Mr A K Aatur Rahman, former Director-General of the DOF. Ms Anwara Begum Shelley, Director of CARITAS, felt that the Code is not gender-sensitive, and that it over-emphasises trade issues. She said the DOF and the FAO should undertake an elaborate programme to disseminate the Code, and consider a joint campaign with NGOs.

Mr Md Nasir Uddin Ahmed, Director-General, DOF, spoke about “Constraints and challenges in implementing the Code in Bangladesh”. He said that the provisions of the Code should also be incorporated into the policies of other sectors such as water and environment. Implementation should be in three phases - promotion, elaboration and development and implementation.

Following the technical sessions, the participants were divided into four groups (marine fisheries, inland fisheries, aquaculture, policy and legal issues). They discussed the issues in their respective groups on the basis of guidelines provided by a facilitator attached to each group. The groups’ work formed the basis for the Workshop’s draft recommendations.

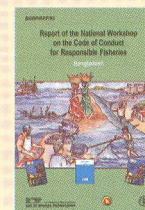
The Plenary session, chaired by Dr Zahurul Karim, discussed the draft recommendations and after suggestions from the chair and the participants, accepted them (see box). Dr Islam emphasised the importance of the Code’s articles being

prioritised. These priorities would be reviewed by a committee chaired by the Prime Minister.

Dr David Doullman complimented the Bangladesh Government for its initiative concerning the CCRF. The Workshop had led to a good outcome, which laid a sound foundation for future work. Dr Zahurul Karim thanked the FAO and the BOBP for helping organise the Workshop and said he would welcome similar initiatives in future.

Recommendations

1. To set up a Working Group to synthesise the Code of Conduct for Responsible Fisheries (the Code) and prioritise the Articles of the Code for time- bound implementation, including concerned government agencies and stakeholders.
2. To translate the Code and all the Technical Guidelines into Bengali so as to enable the widest dissemination.
3. To incorporate the elements of the Code and its Technical Guidelines into the country’s Sixth Five Year Plan (which starts from July 2002) and to provide budgetary support for fisheries management in the Plan. To further ensure that all projects, which are placed for the approval of the Planning Commission are consistent with the provisions of the Code.
4. To consider instituting reforms in the existing fisheries policy and legislation to meet the requirements of the Code. The Government of Bangladesh requests FAO to consider providing assistance for the policy and legislative review.
5. To adapt the Code to meet the country’s requirements, as required.
6. To organise seminars/ workshops/ meetings/ training/ Fishermen’s Week for better understanding of the provisions of the Code and its implementation.
7. To popularise the Code through posters, comic books, street plays, audiovisual presentations, etc. Use of mass media should be considered for speedy dissemination of the Code.
8. To utilise Regional Fisheries Organisations for conducting study tours and sharing of experiences with other member countries in the region for implementation of the Code.
9. To encourage the ‘subsidiarity’ principle, which takes management to the lowest meaningful level to enhance participation by fishing communities.
10. To strengthen and upgrade the existing databases to meet the implementation requirements of the Code.
11. To provide adequate research support for implementation of the Code.
12. To promote practices aimed at reduction in post- harvest losses and minimisation of contamination to ensure the availability of safe and unadulterated fish and fishery products.
13. To review the organisational structure of the concerned Ministry to ensure that it adequately serves the country’s fisheries and aquaculture needs.
14. To introduce the basic elements of the Code in the curriculum of elementary and vocational education.
15. To formulate management plans and ‘best practices’ for various sectors and sub-sectors of fisheries and aquaculture.
16. To ensure gender participation in all activities leading to the implementation of the Code in Bangladesh.



BOBP/ REP/ 93 :
This document is the Report of the “National Workshop on the Code of Conduct for Responsible Fisheries — Bangladesh”. The Report includes the Workshop’s recommendations as well as the papers presented by experts at the Workshop.

An Agenda for the BOBP-IGO

The proposed BOBP-IGO can take up several fisheries management projects for implementation. On the basis of the Meeting of Plenipotentiaries held in Colombo (28 Feb. – 1 March 2002), three proposals are summarised here.

Regional Programme on Safety at Sea for Artisanal and Small-Scale Fishermen

Fishing at sea is probably the most dangerous occupation in the world. The ILO figure of 24 000 deaths worldwide per year as a result of fishing is regarded as an under-estimate. The problem is all the more acute in the Bay of Bengal region, where sea safety measures among artisanal and small-scale fishermen are rudimentary or non-existent.

In countries with high standards of regulation, enforcement and training, the number of deaths at sea has fallen sharply over the last 15 years. This demonstrates that the problem of safety at sea can be combated effectively if the right measures are taken.

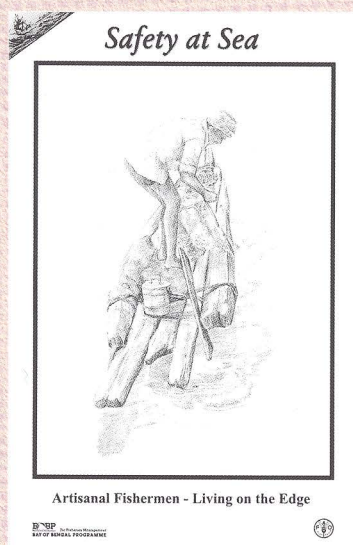
FAO, IMO and ILO are three UN agencies concerned with the safety of fishermen at sea. IMO deals largely with international shipping – it strives to improve maritime safety and prevent pollution. The ILO formulates international labour standards and provides training and advisory services. The work of IMO and ILO has little impact on the safety of artisanal and small-scale fishermen who operate largely outside the regulated sector.

Through the Code of Conduct for Responsible Fisheries (CCRF) and the accompanying Technical Guidelines, FAO has provided a framework on which different fisheries management systems can be built. The CCRF deals with safety, training and certification of competence for fishermen. The FAO can use the CCRF as a useful tool to promote issues relating to safety at sea.

Factors that endanger the safety of fishermen at sea include excessive fishing effort, increased competition, unsatisfactory vessel maintenance, equipment and manpower, fatigue, recklessness, fisheries management measures that do not pay attention to fishermen safety, diversifying operations without training fishermen.

The BOBP during 8-12 October 2001 organised a Regional Workshop on Safety at Sea for Artisanal and Small-Scale Fishermen in Chennai, India, with

support from the FAO. It suggested a Regional Programme on Sea Safety for Artisanal and Small-scale Fishermen, which could formulate a holistic long-term approach to improve safety at sea for small-scale fishermen. Necessary measures would include analysis of accident data; education and training of trainers, extensionists, fishermen and inspectors; better fisheries management and enforcement; stronger collaboration between fishermen, fishermen's organisations and governments.



The programme will strive for integration of sea safety issues into the fisheries policy and management frameworks of member countries. Particularly relevant are some measures recommended by the Chennai Declaration adopted by the Regional Workshop:

- Fisheries administrations should enhance their knowledge of the operations and constraints of the small-scale fisheries sector. This will make possible effective guidelines, standards and regulations for the safety of fishing vessels, including the certification and training of crews;
- Education, training and awareness programmes for small-scale fisherfolk to build a culture of sea safety within artisanal and small-scale fishing communities;
- Financial and other incentives to ensure the widespread use of safety equipment, together with training in the use of such equipment;
- Development of cost-effective safety-related equipment relevant to

the needs of artisanal and small-scale fisheries.

Regional Programme for Fish Stocks Assessment in the Bay of Bengal

Information on fish stocks in the Bay of Bengal is sparse. Some characteristic features of fisheries in the Bay of Bengal region are open access, excessive fishing capacity and resource conflicts. As for the resource status, inshore stocks are either optimally exploited or over-exploited; little is known about offshore resources or their exploitation. Illegal fishing by fleets from other countries is said to be rampant. Stocks in several BOBP member countries are threatened.

There is vast scope for improved fisheries management, which is weak at the national-level and almost non-existent at the regional-level.

The United Nations Convention on the Law of the Sea (UNCLOS, 1982) gives coastal states to the right to promote optimum utilisation of resources within their EEZs. In the Bay of Bengal region, however, the know-how to exercise this right is inadequate.

The CCRF developed by FAO and the global community emphasises the value of the precautionary approach as the basis for fisheries management. BOBP's successful workshop on the Precautionary Approach to Fisheries Management was attended by participants from all member countries. (See BOBP/REP/90). The approach needs to be promoted and disseminated more vigorously and systematically in future.

Between 1983 and 1986, a four-year project was implemented by BOBP on development and management of marine fishery resources in the Bay of Bengal. Funded by UNDP, the project sought to improve the practice of fishery resources assessment in member countries. It also assisted joint management activities among countries with shared fish stocks.

Under the project, different working groups investigated tuna resources shared by Sri Lanka and the Maldives; hilsa resources in Bangladesh; scads and mackerel resources of Thailand, Malaysia and Indonesia in the Malacca Strait; and the tuna resources of Thailand and Indonesia in the Andaman Sea. Unfortunately, there has been no follow-up to that project, no regional effort to build on its gains.

In the Bay of Bengal region, only India and Thailand own research vessels equipped to carry out fishery resource surveys. Some member countries have benefited from resource surveys done through international organisations. For example, during the 1980s, the Norwegian vessel Dr Fridtjof Nansen surveyed the northern part of the Indian Ocean, through an international initiative supported by FAO and the Norwegian Government.

The proposed Regional Programme on Fish Stock Assessment, to be implemented by the BOBP-IGO, would seek to provide a mechanism through which member countries could develop their national capacities to carry out resources surveys and improve fishery statistics in support of fisheries management. This will be done through workshops, seminars and technical assistance. There will be training courses to improve data collection and statistical packages concerning current resources and future trends. Other than stock assessment *per se*, issues such as development of an ecosystem approach to fisheries management, bio-diversity and deep-sea resources would also be taken up.

The Norwegian International Development Agency (NORAD) will be requested through FAO, Rome to assist member countries of the BOBP-IGO to undertake a comprehensive assessment of fish stocks in the Bay of Bengal region.

The Nansen Programme lists the Bay of Bengal in its Study of Visions and Options for Future Work (2004-2007). The Study has also taken into consideration the Bay of Bengal Large Marine Ecosystem Project and suggests that the Nansen Programme would adopt a regional approach, which would combine fisheries survey work with environmental investigation.

Dr Fridtjof Nansen is equipped with up-to-date instrumentation, laboratory facilities and data collection and analysis systems for marine research in relation to physical, chemical and biological oceanography and fisheries. It is especially suited for fish stock abundance surveys, both bottom and pelagic surveys. The capabilities of the vessel to survey pelagic stocks is outstanding. Special facilities for this purpose include echo-integration equipment, a sonar system designed for surveys of fish near the surface and the retractable keel, which enable acoustic

surveying in adverse weather conditions. The vessel can operate in inshore areas at depths more than 20 m dependent on specific circumstances.

Capacity-building and Information Services for Fisheries Development and Management in the Bay of Bengal Region

There is strong optimism that the Bay of Bengal region can produce significantly more fish than at present, through better management of the resource. What's needed, apart from appropriate technology inputs, are institutional capacity-building, better all-round awareness of management, and adoption of a community-based participatory approach.

The BOBP-IGO will address these issues, with funding support from member countries, FAO and other agencies.

The BOBP's third phase helped raise awareness of management issues among a wide spectrum of stakeholders who took part in the Programme's varied activities in the seven member countries. Fisheries officials in particular benefited from the workshops and seminars on stakeholder analysis and its application in pilot activities. Dissemination of reports and *Bay of Bengal News* widened this awareness. However, awareness-raising on management is needed on a much bigger and wider scale to make an impact on the practice of management.

Two examples of the success of the participatory approach to management from the third phase:

- In Phang-Nga Bay, Thailand, fisherfolk voluntarily surrendered resource-damaging push nets for burning, and served as fishery rangers themselves to enforce fishing bans in certain areas. This is the kind of pro-active management awareness that's needed everywhere.
- In some parts of the region, officials responsible for implementing BOBP activities acknowledged that their exposure to the participatory approach helped the discharge of other government functions as well. Once apprehensive of field trips and exposure to grassroots audiences, they now welcomed and relished such exposure. Result: The government was better-informed than before about realities on the ground. A further result: sounder inputs for decision-making.

Some of the proposed activities of the BOBP-IGO to strengthen capacity-building and information services are:

- ***The Code of Conduct for Responsible Fisheries will be popularised*** among institutions and stakeholders at all levels. In particular, better awareness of the provisions of the Code will be sought among fisherfolk. This will be done by translating the Technical Guidelines of the CCRF into national languages of member countries and printing them for wide circulation (several translations have already been completed and published during the Third Phase).
- ***National Workshops*** will be organised to discuss issues relating to implementation of the CCRF (in Maldives and Sri Lanka), and monitoring, control and surveillance (in Bangladesh and India).
- ***A Regional Information Network*** will be sought to provide appropriate information for development, planning, research and training. This will assist member countries in strengthening national capabilities in development and management of coastal fisheries.
- ***A Fishermen's Week*** will be organised to promote and institutionalise the community-based system for management of fisheries and aquatic resources. During the fishermen's week, exhibitions, talks, interviews, contests and games will bring officials and fisherfolk together. This will not merely lead to better rapport and empathy, essential for problem solving; it will encourage responsible behaviour in resource management and conservation.
- ***Bay of Bengal News*** will continue to inform, enthuse and bind governments and other stakeholders in fisheries. Reports, manuals, and leaflets will also be published and disseminated.
- ***A BOBP-IGO website*** will update officials and scientists within and outside the region about the IGO's work. At a later stage, the website will also provide updated information about the fisheries of member countries, achievements, special projects, etc. The website will enable and encourage every member country to showcase its work.

Plenipotentiaries of Bay of Bengal Region Agree on an IGO

Plenipotentiaries of BOBP member countries, who met in Colombo from 28 February to 1 March 2002, agreed in principle to set up an Inter-Governmental Organisation (BOBP-IGO) to continue the BOBP's work. They agreed "that the objectives of the BOBP-IGO shall be to enhance co-operation among member countries in the region to provide technical and management advisory services for sustainable coastal fishery development and management."

The Plenipotentiaries felt that fisheries management is in line with national aspirations to sustain fisheries production and ensure livelihood security for millions of fisherfolk in the region. They recognised that awareness of the need for fisheries management, its methodology and its benefits had been considerably strengthened by BOBP. The Plenipotentiaries also recorded their appreciation of the BOBP's efforts during all three phases. They acknowledged the "immense benefits that had accrued to fisheries development and management in the region through these efforts." This work needed to be carried forward through an IGO, they said.

The Colombo Resolution adopted by the meeting decided to refer its Agreement to the Legal Office of the FAO; after vetting, the agreement would be circulated to member countries. It was agreed that the BOBP-IGO would be established if a minimum of four countries signed the agreement. The Plenipotentiaries agreed to urge the FAO to provide funds for further extension of the ongoing BOBP until 31 May 2002, so that its work on facilitating an IGO could continue.

The meeting was inaugurated by Mr Mahinda Wijesekara, Sri Lanka's Minister for Fisheries and Ocean Resources. He said that the participatory approach should be used

to address the concerns of the region. The future programmes of BOBP-IGO should lay a greater emphasis on gender equity, major programme benefits should go to the end-users, the private sector should be assigned a major role, alternative employment opportunities for fishermen need more detailed studies, and "success stories" and "best practices" should be replicated through bilateral and multilateral exchanges using the mechanism of Technical Co-operation among Developing Countries (TCDC).

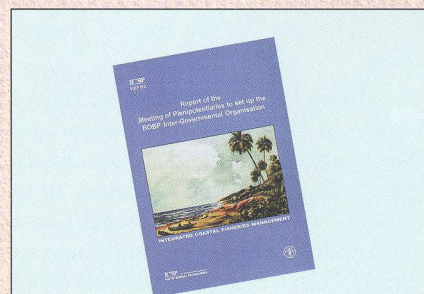
Welcoming the participants, Mr S C Mannapperuma, Secretary, Ministry of Fisheries and Ocean Resources, said that we could look back with pride on the numerous achievements of the BOBP during the past 22 years towards the development of fisheries in the seven member countries. As there is no permanent regional fisheries organisation in the Bay of Bengal to support small-scale coastal fisheries development and management, there is a justifiable need for an IGO in the region. Mr Mazlan Jusoh (FAO Representative in Sri Lanka and the Maldives), and Mr Rolf Willmann, Senior Fishery Planning Officer of the FAO, also spoke. Mr G Piyasena, Director-General in the Department of Fisheries and Aquatic Resources, Sri Lanka, proposed a vote of thanks.

The meeting was chaired by Mr S C Manapperuma, while an initial working session was opened by the outgoing chairman, Dr Somsak Chullasorn, Senior Adviser, Department of Fisheries, Royal Government of Thailand.

The Plenipotentiaries who took part in the meeting were Mr A T M Rafiqul Haque from Bangladesh (Deputy Secretary, Fisheries); Mr G D Chandrapal from India (Deputy Commissioner, Fisheries); Dr Ir Moch Fatuchri Sukadi from Indonesia (Director-General, Aquaculture);

Mr Ahmed Hafiz from Maldives (Assistant Director-General, Ministry of Fisheries, Agriculture and Marine Resources); Mr S C Mannapperuma, Mr G Piyasena, Dr R A D B Samaranayake (Director, Coast Conservation), Mr H V C Fernando (Director, Planning and Monitoring), Mr A Hettiarachchi (Director, Export Development); and Dr D S Jayakodi (Director, National Aquatic Research and Development Agency) from Sri Lanka, and Mr Somsak Chullasorn from Thailand (Senior Marine Fisheries Adviser).

Representing the FAO were Mr M Mazlan Jusoh (FAO Representative in Sri Lanka and Maldives); Mr Rolf Willmann (Senior Fishery Planning Officer, FAO, Rome); Mr William R Edeson (Senior Legal Officer, FAO, Rome); and Mr Jacob T Sterringa (Country Project Officer, RAPR, Bangkok). Dr Y S Yadava, Interim IGO Coordinator, represented the BOBP.



BOBP/ REP/ 92 records the proceedings of the Meeting of Plenipotentiaries to set up the BOBP Inter-Governmental Organisation (BOBP-IGO). The document contains the Colombo Resolution, Progress Report for 2000 – 2002 (up to February) of the BOBP, Rules of Procedure, Financial Regulations, Staff Regulations, Employment Conditions, Proposed Schedule of Government Contributions and the Agreement for setting up the BOBP-IGO.



From 1979 to 2002 & Beyond: The BOBP Odyssey

UN projects are not known for longevity. A project that's alive and kicking after 10 years is a rarity. A UN project that goes on for 23 years, then goes into self-support mode, should be considered *exceptional*. But that's an adjective often used with BOBP.

BOBP means different things to different people.

- For hundreds of Nava fishermen in Andhra Pradesh and Orissa, BOBP stands for better, more comfortable small boats; for successful post-harvest practices like use of ice, low-cost ice boxes, fish drying racks and fish smoking.
- In Sri Lanka, BOBP means ornamental fisheries management, better Orus, offshore-bound small boats, radio programmes for fisherfolk, dolphin catch studies, tuna stock assessment...
- In Orissa, BOBP touches off waves of nostalgia. The world's best-known credit programme for fisherfolk – which defied logic and conventional wisdom and proved that fisherfolk are credit-worthy – was conceived and implemented here.
- Tamil Nadu is where a new philosophy of empowerment of fisherwomen was shaped and moulded... Being the home of BOBP, this state is also where many of BOBP's projects were conceived and developed
- Bangladesh? Improvements to set bagnets, motorisation of Chandi craft, prawn hatcheries, income-generating activities for fisherwomen, hilsa investigations, development of extension systems for fisherfolk, socio-economics of marine and estuarine fisherfolk, studies of shrimp fry collection, fisheries resources management.
- Maldives? Beach-hauling devices, reef resources management, studies of tuna, clam, beche-de-mer, socio-economics of fisherfolk.
- Thailand? Seabass culture that spread like wild fire in half a dozen provinces of Phang Nga bay; integrated extension activities in Ranong province; and the very successful community-based fisheries management in Phang Nga bay.
- Indonesia? Plank-built outrigger canoes, small-scale enterprise development, traditional fisheries management practices, improved earnings for Nias island fisherfolk, precautionary approach to fisheries management.

- Malaysia? Shrimp culture, oyster culture, mackerel and scad resources, marine parks as protected areas, bio-socioeconomics of shrimp fishing.
- For thousands of officials, scientists and fisherfolk in the region, BOBP has been known as a tremendous training resource, and as a forum for introduction of new ideas, skills and attitudes, and expansion of knowledge.



Multi-disciplinary approaches to fisherfolk development, flexibility in project design and execution, and innovative, systematic information dissemination – these have been distinctive features of the programme's work.

What is BOBP's impact on fisheries development and management in the many areas it has been active in? Here's an appraisal, necessarily very selective. Of the hundreds of projects tried out in the seven member countries over 23 years, only a few are mentioned here.

Fishing Technology

Fishing craft and gear: BOBP's focus during its first phase, in tune with thinking at that time, was on designing and developing new craft, improving traditional craft, introducing new types of gear. The idea was to improve comfort and operational ease, extend the area of operation, or improve catches and earnings. Some glimpses into the outcomes:

- Can the ubiquitous kattumaram, the centuries-old craft of India's east coast, used by thousands of fisherfolk, be improved? The BOBP carried out trials to increase the service life of kattumarams through chemical treatment, and experimented with inexpensive timber for kattumaram logs. The gains were marginal. The project arrived at the sombre conclusion that kattumaram technology cannot be substantially improved. "Centuries of evolution have led to a product that is next to perfect considering the environmental, technical and economic constraints within which it has to operate."

- Fourteen types of beachlanding craft suitable for India's surf-beaten coasts were constructed. Extensive work on design, testing and demonstration led to two successful prototypes, IND-20 (for Andhra Pradesh) and IND 25 (for Tamil Nadu). Pioneering work was done to develop engines and engine installations, sails and beach-hauling devices. The IND-20 got firmly established in Andhra Pradesh and Orissa (where resources were ample, markets existed, and repair and maintenance facilities were available). They tapped fish resources such as shark and large pelagics that are usually beyond the normal range of traditional craft. A few hundred IND beachcraft were built at government boatyards. (The widespread use of FRP technology for boatbuilding is a direct consequence of BOBP work.)

Many enterprising fishermen modified their Navas to incorporate features of IND-20. Such modified Navas continue to be an important part of small-scale fisheries in Andhra Pradesh. Thus the IND-20 beachcraft succeeded in increasing fisherfolk incomes, generating jobs and upgrading skills and technologies.

- One of the most positive results in fishing technology was the development of plank-built outrigger canoes in Nias island, Indonesia. These were used in the north and west coasts of Nias island with hook-and-line gear and an insulated fish box. The canoes increased fisherfolk catches and incomes. Spinoffs included construction of new canoes by private entrepreneurs and export of high-quality fish.
- Between 1979 and 1985, the project conducted the most



systematic and wide-ranging investigation ever done on Sri Lanka's demersal fisheries. A variety of fishing gear were tried out under the expert guidance of consultants. Result: earlier assumptions of demersal resource potential were recast, leading to more realistic plans for new craft and for investment projects.

- Since 1985, the BOBP has promoted cleaner fishery harbours in the region with support from IMO. Baseline studies on pollution in selected harbours were carried out in all seven countries. Pilot activities were conducted in India, Sri Lanka, Maldives and Thailand. These included studies, awareness programmes, exhibitions, some equipment (such as reception tanks for oily waste and portable skimmers to remove surface oil), regional and national workshops and consultations (which discussed issues ranging from the current status and problems of harbours to harbour infrastructure design, harbour management, handling and storing of fish on board, and cleanliness), very useful manuals, reports and awareness materials.

Aquaculture: The Programme's major success during the first phase was finfish cage culture in the west coast of Thailand. It began in six poor, remote fishing villages of Phang Nga and later spread to 26 villages in six provinces of southern Thailand. A combination of sound technology, low cost and active fisherfolk participation led to spectacular results. An appraisal mission that visited three of the six provinces in 1989, four years after the project's termination, found several indicators of new-found affluence in what was formerly a poverty belt: improved roads, asbestos-roofed houses in place of thatched huts, TVs and refrigerators, new cafes, shops selling fishing requisites. Earlier, noone from the villages had made a pilgrimage to Mecca, a rare privilege; in 1989, there were many Mecca returnees.



A well-attended Consultation on the Social Feasibility of Coastal Aquaculture (BOBP/MIS/2) held in 1984 in Chennai, provided many ideas, lessons, insights and experiences on how aquaculture can benefit the poor.

BOBP tried out shrimp culture in India (Tamil Nadu and Andhra Pradesh), Bangladesh, Sri Lanka, Malaysia, Thailand; seaweed farming in Malaysia and India (Tamil Nadu); cockle culture in Malaysia; oyster culture in Malaysia and Thailand; mussel culture in Thailand; artemia culture in India (Tamil Nadu). Shrimp hatcheries were demonstrated in Sri Lanka and Bangladesh; supply of shrimp seed was tried out in India (West Bengal) and Bangladesh. Shrimp feed manufacture was attempted in India (Tamil Nadu). There was also a silvi-pisciculture project in the Sunderbans (West Bengal, India).



These projects were pioneers in their own way; they expanded knowledge and experience and generated useful lessons for further development.

Post-Harvest Fisheries: Between 1987 and 1998, the BOBP carried out a large number of pilot post-harvest activities in Bangladesh, India and Sri Lanka, through a UK-funded project. Some examples: Development and demonstration of insulated fish boxes aboard the navas of Andhra Pradesh, a permanent on-shore ice box, low-cost drying racks for anchovies in Kanyakumari, a hygienic, comfortable and cost-effective fish container for women in Tamil Nadu, analysis of problems of small-scale cycle fish traders of Sri Lanka and set bagnet communities in Bangladesh and income enhancement for small-scale communities in Bangladesh. Studies were carried out on discard of shrimp by-catch, better utilization of shark, village-level extraction of agar from seaweed. Reviews of post-harvest fisheries were carried out for Bangladesh, Sri Lanka, and the east coast of India. A detailed manual of information and guidelines was brought out on post-harvest fisheries in the three countries, with scores of case-studies. Thirteen issues of a quarterly newsletter, *PHF News*, 18 Information Bulletins, and several leaflets were part of the output.

Environment: The interaction between fisheries and the environment is often spoken about, but BOBP mobilised expertise on it during the second phase, with technical assistance from SWEDMAR and funding from SIDA.

One of the outcomes was a classic on environmental literature, the 260-page publication "An environmental assessment of the Bay of Bengal region". It is now an indispensable source of reference for environment-related fisheries projects in the region, and is used as a teaching tool in Swedish universities.

Fishery resources

The vast improvement in general information about fishery resources in the region is in large part due to BOBP activities including a 4-year UNDP-funded project (1983-86), workshops and publications.

The Programme's first activity concerning fishery resources was a regional stock assessment consultation held in 1980 in Bangladesh. It led two useful reports and the very popular paper BOBP/WP/8 ("Current knowledge of shelf resources in the Bay of Bengal" by B.T. Antony Raja). Together, they constituted an excellent summation of resource knowledge in the region.

The UNDP-funded project referred to earlier, strengthened knowledge of fish stocks such as the hilsa of Bangladesh, the tuna resources of Sri Lanka and Maldives, the scad and mackerel resources of Thailand, Malaysia and Indonesia in the Malacca Strait; and the tuna resources of Thailand and Indonesia in the Andaman Sea. There was extensive documentation in the form of reports. To mention just two, "Shrimp fisheries in the Bay of Bengal" by M. Van der Knaap (BOBP/WP/58) and "Atlas of deep-water demersal fishery resources in the Bay of Bengal" by T Nishida and K Sivasubramaniam (BOBP/WP/53). The project demonstrated computerization of data processing and stock assessment in the region. It trained national biologists to improve sampling techniques, identify and collect data, and analyse and interpret the results. The project conducted 19 workshops and training courses and brought out 15 publications.

In the Maldives, two useful publications – "Fishes of the Maldives" and "The shark fisheries of the Maldives" – were major contributions to resource knowledge.

Many studies on bio-socioeconomics were initiated in 1991. The idea was to (a) improve the catches and earnings of fisherfolk (b) ensure sound management through better resource knowledge and understanding and (c) ensure the participation of fisherfolk in management. The project carried out bio-socioeconomic assessments of fish aggregating devices in the tuna fishery of the Maldives; small pelagics along the southwest coast of Sri Lanka; the estuarine set bagnet of Bangladesh; artificial reef installations in Ranong province, Thailand; shrimp fishing in Kuala Septang, Malaysia and Langkat district, Sumatra, Indonesia. Training was also undertaken.

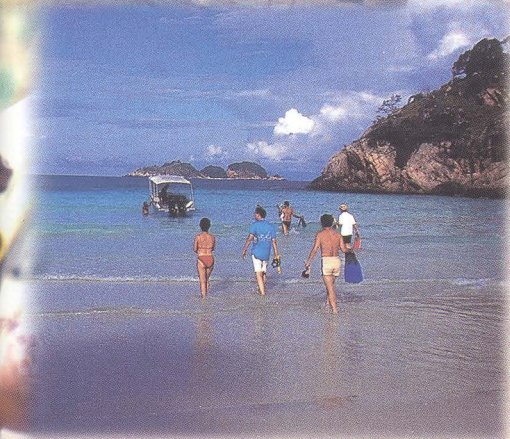
Useful data and insights into the shark fishery were provided by the December 1992 issue of the *Bay of Bengal News*. It contained articles on the pelagic shark of the Indian Ocean; shark-fishing in the Maldives; shark longlining on India's east coast; and the shark fin trade in the Bay of Bengal.

Fisheries Extension, Socio-Economics and Women's Empowerment

BOBP's wide-ranging activities relating to extension, socio-economics and women in fishing communities have inspired thinking, debate and action throughout the project area. Some snapshots:

- Extension training for 15 young marine fisheries extension officers in Orissa, India for 16 months during 1982-83. The aim was to impart attitudes, skills and knowledge useful for development work with artisanal marine fisherfolk. Training packages consisted of training courses, pilot activities and workshops in three modules – credit, community development, small-scale fishing methods.
- A credit project for 2 500 fisherfolk households of Orissa was an offshoot of the extension training project. It brought together nine banks, the extension officers and the fisherfolk.





A series of workshops and field studies including costs-and-earnings analysis preceded a credit scheme for thousands of fisherfolk. The credit was in the form of fishing craft, gear and bicycles for fish marketing. The rate of loan repayment was almost 100 per cent in some cases. The Orissa credit project has been a case-study at several international seminars on rural credit.

- **Non-formal education, Orissa:** Again an offshoot of the extension training programme. A package of pictorial booklets was developed for fisherfolk children of Orissa in co-operation with various central and state agencies. They were used by children in 40 NFE centres in Orissa's four coastal districts.

- **Non-formal adult education, Tamil Nadu:** Education should be "internalised", no external effort can make it effective. That's the assumption behind a package of non-formal education materials developed for Tamil Nadu fisherfolk, their animators (teachers) and the trainers of these animators. The package was developed with the co-operation of NFE specialists from government, academic and voluntary bodies, and followed field studies in marine villages. Two books that were part of the package — a Trainers' Manual (BOBP/MAG/1) and an Animators' Guide (BOBP/MAG/2) — generated insistent demand in India and abroad. The Government of India developed an NFE package for rural populations on the basis of these two booklets.

- **Pilot extension systems for fisherfolk** were tried out in Bangladesh and Maldives. In Bangladesh, fisheries and NGO staff from two districts were trained extensively in RRAs, participatory needs analysis, project planning and management, group mobilisation, savings and credit management. Training sessions were combined with field work and orientation workshops on freshwater

fish culture and post-harvest fish technology. Eighteen project proposals were taken up for implementation; nearly three-fourths of the resulting projects functioned well.

- Likewise, a small nucleus of extension staff in the Maldives was trained in PRA, needs analysis techniques, extension methodology and improved fish processing. In Langkat district, Indonesia, three women's groups and three men's groups were selected and trained in many aspects of small enterprise management. The men's groups took up a few small enterprises — engine repair and maintenance, petty shops, diversification of fishing gear. The women's groups took up rearing of goats, cows and poultry. It's the women's enterprises that succeeded.
- "People's participation" (PEP) is today a common buzzword in the region, thanks to BOBP's constant stress on it, and on people-oriented approaches to extension. An international consultation on PEP was held during the second phase; the many case-studies on PEP discussed at the consultation, and the book that followed, have left a permanent imprint.

Says Venkatesh Salagrama, who heads the NGO Integrated Coastal Management in Kakinada: "Putting people first" will be an enduring legacy of BOBP. People-centred approaches, participatory development, bottom-up planning, sustainable livelihoods, alternative income-generating activities — all these issues were an integral part of BOBP's work before they became development buzzwords.

Women's empowerment: The BOBP has been a pioneer in the region in initiating and encouraging women's empowerment. The Programme's interventions concerning women can be classified into three types: (a) Training to improve the participation of women in their own development (b) Income-generation activities (c) Credit.



Training and capacity-building for women have been major BOBP activities in almost all the seven countries. Several thousand person-hours have been spent in training courses and workshops for women at various levels – fisherwomen, extensionists, officers and decision-makers.

“Organising women to play a more active role in their own development is vital,” said Mr L O Engvall, BOBP’s first director. “As individuals, women lack the strength to overcome the forces that thwart development.”

A workshop on women in Chennai (1980), and a consultation in Dhaka (1981) on activities to improve coastal fishing families, generated knowledge and ideas. The link worker scheme for fisherwomen, Tamil Nadu, in 1981, was the Programme’s first major pilot activity concerning fisherwomen. A group of 21 fisherwomen from several fishing villages trained by BOBP served as “links” between their villages and the outside world. These link workers then facilitated development programmes for their villages.

The link worker scheme gave the Programme useful experience in training women to acquire confidence and self-reliance.

Income-generating opportunities for women are sparse, and based on local needs and circumstances. Income-generating activities tried out by BOBP include a fish market for fisherwomen, a better fish marketing container, simple handicrafts such as basket-making, pottery, and seaweed culture

(Tamil Nadu); fish drying racks and fish smoking (Andhra Pradesh); net-making, fish farming, fish drying and marketing, poultry and duck rearing, raising of fruit trees (Bangladesh), rearing of goats, ducks and cows (Indonesia), shrimp paste-making (Thailand); coir-rope making, tailoring and lace-making (Sri Lanka). Planners and development agencies need to identify such income-generating opportunities and help women to tap them.

Fisherwomen throughout the Bay of Bengal region have identified credit as their major need. The standard procedure now for rural credit is to form self-help groups of women, initiate savings, and obtain bank loans on the strength of the savings. NABARD, India’s mother bank that refinances bank credit for agriculture, says one of its great success stories is credit to women. The women put the money to excellent use, starting small enterprises; the rate of repayment is excellent.

Lessons from BOBP activities with fisherwomen:

- The surest way to improve the status of fisherwomen in a community is to train them to improve their participation in their own development. In sum: training for empowerment.
- Credit schemes – through group formation, savings schemes and liaison with banks – invariably help women to improve the living standards of their families.
- Income-generating activities for fisherwomen depend on local

needs and circumstances. There are special challenges and opportunities in specific locations. These need to be identified and tapped.

- Training women to acquire production skills is no use, unless their access to markets is improved.

Fisheries management

During the 1990s, concern mounted about disturbing signs in fisheries everywhere – decline in fish catches, smaller sizes of catch, changes in species composition of catches. These were signs of fisheries stocks under stress. Consequently, the third phase of BOBP (1994 onwards) addressed concerns about declining resources and the need for management. The Programme’s mandate was to enable improved management of fisheries through awareness-building, strengthening the capacity of fisheries agencies to tackle management, and technical assistance.

A centralised approach to fisheries management is convenient but very often fails to win support, sympathy and co-operation from the many players in fisheries. The BOBP applied the stakeholder approach to fisheries management – which means bringing the many stakeholders together, getting them to discuss individual and collective problems, understand one another’s viewpoints, and agree if possible on solution options. This approach is slower than the centralised approach but surer. In fact, experts believe that it is the only approach to fisheries management with chances of success. About a dozen technical reports during this phase have enhanced understanding of the stakeholder approach to management.

The Programme tackled an impressive diversity of management problems in the seven member countries. Publications (technical reports and *Bay of Bengal News*) strengthened the process of understanding and awareness-building.

- In Bangladesh, the push net (PN) and the estuarine set bagnet (ESBN) fisheries damage fishery resources, but employ thousands

of the rural poor. BOBP organised many studies and workshops, including a unique first-of-its-kind meeting of coastal members of Parliament, and public hearings. Two pilot management projects were taken up — methods to reduce mortality of juvenile species and by-catch; and voluntary closed seasons among ESNB fisherfolk. The Department of Fisheries is now implementing these projects. Two major projects funded by UNDP and DFID have taken up the work initiated by BOBP.

- In Tamil Nadu, India, fisherfolk of Kanniyakumari district identified and prioritised their non-fisheries needs — which need action by departments other than fisheries. Another project used the tool of GIS (Geographic Information Systems) to produce maps of fishing intensity in the district. This identifies overlaps in fishing effort by different groups of fishermen, and defines potential problem areas in a district known for violent conflicts among different groups.
- In Andhra Pradesh, India, BOBP helped address technical, managerial and environmental problems resulting from an unrestrained boom in shrimp culture. Following stakeholder consultations and studies, three leaflets were brought out in Telugu. They dealt with selection of shrimp seed, management practices in shrimp culture, and shrimp diseases. Comic books



containing guidelines for shrimp farmers were also brought out in English and the vernacular (Telugu, Bengali). Many positive suggestions emerged from BOBP work — such as setting up clusters of farmers to modify the water drainage system; culture of alternative species such as crab and *Penaeus indicus*; and waste treatment to reduce environmental hazards.

- In Malaysia, a BOBP-supported project on the Pulau Payar Marine Park, a treasurehouse of marine wealth, has led to valuable lessons on the utility and management of marine protected areas, on strengthening ecotourism and on integrating land and water management.
- Coral reefs are vital to the Maldives, which comprises a thousand coral islands. The archipelago's reef resources have been under pressure since the 1980s. The project's objective is to develop a model for participatory community-based reef resources management in a pilot exercise that focuses on Vaavu, Meemu, Faafu and Dhaalu atolls.



The project's major multi-stakeholder activity was a 5-day national workshop on Integrated Reef Resources Management (IRRM), held in Male in March 1996. It brought together fisheries staff from various government departments, students and experts. From the workshop's recommendations, a workplan, a draft management plan and a draft IRRM implementation framework were developed.

Other activities include a sector-by-sector precautionary management plan, a study on traditional and local knowledge on fisheries and natural resources management. "Fishes of the Maldives," a 500-page identification catalogue of economically useful species was published by BOBP and the Ministry of Fisheries and Aquatic Resources. A poster on "Life of a coral reef" published by BOBP and the Marine Research Centre, is being used in school classrooms as an awareness-raising tool.

- Ornamental fish is an important industry in Sri Lanka, providing jobs, incomes and foreign exchange. The BOBP has brought various interests together in an effort to ensure sound management. The best available scientific information has been collated, and a well-researched review of the industry has been published. Other activities include identification catalogues of ornamental fish, insurance schemes for fisherfolk and divers, seminars among officials, short training courses for divers. An inter-governmental task force and a precautionary management plan have been suggested to ensure sound management.
- In Thailand, community-based fisheries management (CBFM) was brought into force in some 110 villages of Phang Nga bay where overfishing and resource stress were serious problems. Management measures included a ban on trawls and push nets within 3 km of the shoreline; culture of finfish, oysters and mussels;

voluntary surrender of resource-damaging push nets by fisherfolk in return for gillnets; installation of artificial reefs to keep out trawlers; sea ranching; floating pontoons on the sea; a multi-purpose community learning centre. The CBFM work in Thailand has been featured in a UNDP book of success stories on sustainable development from all over the world.

Code of Conduct for Responsible Fisheries (CCRF)

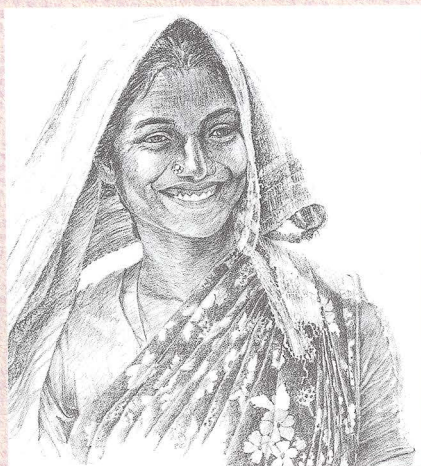
Promotion of the CCRF was a major activity during the BOBP's third phase. By common consent, it was BOBP that brought the issue to the forefront of development and management attention in member countries. It is now part of the fisheries development plans and budgets of a few countries in the region. Two major national workshops were conducted, in India and Bangladesh; the shorter and simpler version of the CCRF was translated and published, with Programme support, into ten languages (Tamil, Telugu, Oriya, Bengali, Hindi, Gujarati, Marathi, Thai, Dhivehi and Sinhalese).

A special issue of *Bay of Bengal News* (September 2000) focused on the provisions of the Code and its technical guidelines, and carried several articles discussing the meaning and implications of the Code. Street plays were organised by the Department of Fisheries in Tamil Nadu, and a video film based partly on these plays was made in English and Tamil.

During the past few years, a "fishermen's week" has been organised regularly in India, Maldives, Sri Lanka, Thailand and Malaysia. The event has brought officials and fisherfolk together, and focused media attention on fisheries and fisherfolk. The occasion has been used to promote CCRF, among fisherfolk.

Sea Safety

BOBP has been a consistent campaigner for safety at sea for fisherfolk, who pursue the world's most dangerous profession. The years of development work carried out on fishing craft — engines, engine installations, sails and beach-hauling devices — aimed at making craft safer, sturdier and more comfortable.



A Regional Workshop on Sea Safety held in October 2001 discussed the many issues the subject raises. A Chennai Declaration on Sea Safety for Artisanal and Small-Scale Fishermen made many recommendations — concerning legislation, fishing vessel construction, programmes for education, training and awareness, and integration of sea safety issues into the fisheries policy and management framework of member countries. The September 1998, March 2001 and June - September 2001 issues of *Bay of Bengal News*, and the outstanding publication "A safety guide for small offshore boats" by Oyvind Gulbrandsen (BOBP/MAG/16), which generated tremendous interest in Japan, highlight BOBP's interest.

Information Dissemination

A pro-active approach to documentation and information dissemination has characterised the BOBP's work from the very first phase. A visually appealing and professionally designed newsletter,

systematic preparation and production of technical reports on all aspects of BOBP work, a well-equipped library, photo documentation, impactful audio-visuals, video films, posters and comic books, CD-ROMs of the entire print output — together, these constitute a valuable body of knowledge. The Information Service has powered the BOBP's success and longevity, and also strengthened interest worldwide on small-scale fisherfolk communities in the Bay of Bengal.

The Future

A two-member mission that studied the learnings of the BOBP's management-oriented Third Phase said that the Programme had largely achieved its goals of management awareness-raising among various stakeholders. It urged that a follow-up programme should "move beyond the establishment of management processes" and seek delivery of management solutions". It should also actively foster and encourage closer working relationships between governments and NGOs.

Given its past record, its visibility, its contacts with fisheries-related organisations at all levels, and its ability to tap local and national expertise, the BOBP-IGO is an excellent cost-effective mechanism to promote global initiatives such as the CCRF, issues such as sea safety, women's empowerment, people's participation in fisheries management, or regional networking.

— S R Madhu and Y S Yadava





A Primer on Bangladesh

Location	: Between latitude 20°34' and 26°39' north and longitude 80°00' and 92°41' east
Length of Coastline	: 710 km
Population	: 123 million
Number of fishermen	: 1.2 million full-time, 11 million part time
Contribution of fisheries	: 6.15 per cent of the GDP, 6.28 per cent of foreign exchange earnings through export
Average annual growth rate of fish production	: 8 per cent
Total fish production	: 1 544 170 mt (1999)
No. of artisanal boats	: 45 500 (including 10 500 mechanised boats)
Export	: 28 477 mt (1998-99), mainly frozen shrimp & fish

Bangladesh lies between the Himalayan mountains and the Bay of Bengal in the delta of the River Ganges and Brahmaputra. It commands jurisdiction over 166 000 sq. km of water area including the 200 mile EEZ. One fifth of the population live in coastal areas. Most of them depend on marine resources for their livelihood. Fisheries plays a conspicuous role – through nutrition, employment generation and foreign exchange earnings.

Inland open water is the major source of fish production in the country. Marine fishing is largely confined within a depth of 100 meters. Nearly 70 trawlers and 51 000 mechanised and non-mechanised boats are active in fishing. Pelagic and deep-sea resources are still untapped.

Till the mid-1960s, fishing in the estuaries and coastal waters was carried out by traditional craft. Mechanisation of boats started in 1975 and has been steadily increasing since. Mechanised boats generally fish with drift gill nets and long lines and vary in length from 5 m to 15 m.

Small-scale fishermen, who contribute about 95 per cent of the total marine production of the country, make their living from the sea using craft such as *dinghies*, *chandi* and *balam*. The major fishing gear employed in the estuaries and coastal areas are gill net, set bag

net, trammel net, long line and beach seine.

The traditional estuarine set bagnet (ESBN) fishery is not merely the major employer of poor rural inhabitants, but is also responsible for much of the country's marine and brackishwater capture fisheries production.

The push net fishery, having evolved to supply Bangladesh's rapidly growing coastal aquaculture industry, is very destructive because over 90 per cent of its catch consists of juveniles of commercially important marine and brackishwater species, which are discarded. It employs several thousand poor people.

Exports: Frozen shrimp and fish together accounted for more than 26 000 mt, out of the total of 28 477mt of fish exported during 1998-99, About 95 per cent of fish products are exported to European countries, USA and Japan.

Some half a million people are engaged in marine artisanal fisheries. Most coastal fishermen operate in the coastal zone and a majority own neither land nor assets. They depend totally on money lenders, who seize the lion's share of their earnings. With the rapid increase in fisherfolk population, fishing in coastal areas is characterised by low catches and fishing rights conflicts.

The *Department of Fisheries (DOF)* (Ministry of Fisheries and Livestock, MOFL) provides institutional support to fisheries in Bangladesh. It is headed by a Director-General. The DOF operates three fish inspection and quality control stations, a Marine Fisheries Station, Fisheries Training Centres and farms and hatcheries.

The *Bangladesh Fisheries Research Institute (BFRI)*, an autonomous organisation under the MOFL, was established in 1984 and has six stations located at Mymensingh, Chandpur, Rangamati, Cox's Bazar, Paikgacha (Khulna) and Santahar (Naogaon). The *Bangladesh Fisheries Development Corporation (BFDC)*, established in 1964, helps to harvest fisheries resources and develop marketing facilities.

It is assumed that substantial harvestable resources exist for pelagic stocks like mackerel, tuna, shark, anchovy, sardine, cephalopod, etc. No detailed surveys have been conducted for pelagic fishery resource for a long time. Thus, there is a need for fresh surveys to assess the present stock position.

A national fisheries policy has been adopted to increase fish production through optimum utilisation of resources. Other objectives are employment generation and poverty alleviation.





A Primer on the Maldives

Population	: 300 000
No. of coral islands	: 1 190 (of which 200 are inhabited)
No. of full-time fishermen	: 19 108 (2000 census)
Contribution of fisheries	: 10 per cent of GDP, 76 per cent of exports.
Main fisheries	: Tuna, yellow fin, live bait, reef fish, grouper, aquarium, sea cucumber
No. of fishing vessels	: 5 187 (including 2009 mechanised masdhonis)
Fish production	: 123 000 metric tons
Exports	: 70 800 mt (1999) (frozen tuna, yellowfin tuna etc)

The Republic of Maldives consists of 1 190 coral islands spread over 90 000 sq kilometres in the Indian Ocean, some 400 miles southwest of Sri Lanka. Two hundred of the islands are inhabited and have a total population of about 300 000. In recent decades, tourism has become the highest foreign exchange earner, but fisheries and related industries have always been the main source of employment and nutrition. The fisheries sector employs nearly 20 000 people, accounts for about 10 per cent of the country's GDP and 76 per cent of the exports.

The fishing waters of the Maldives are divided into two zones – the Coastal Fishery Zone and the Exclusive Economic Zone (EEZ). The Coastal Fishery Zone, extending to 75 miles offshore, is meant for the exclusive use of Maldivian fishermen. The EEZ has an area of about 1.2 million sq. km, and prior consent is required for the entry of fishing vessels to this zone.

Main Fisheries

The main fisheries in the Maldives are the tuna, large yellow fin, live bait, reef fish, grouper, aquarium and sea cucumber fisheries. The main tuna species caught are skipjack tuna (*Katsuwonus pelamis*), yellow fin tuna (*Thunnus albacares*), and to a lesser extent, bigeye tuna (*Thunnus obesus*). These fish are caught in open waters, around fish aggregating devices

(FADs), drifting flotsam and along the reef edge. Pole and line fishing for tuna takes place throughout the year.

Since the early 1980s, Maldives has seen the emergence of new fisheries that target reef species. These include the export-oriented grouper fishery, the marine aquarium fish trade, the beche-de-mer fishery and the giant clam fishery. High export demand and a small resource base have together caused severe pressure on these fisheries. Maldives has therefore initiated a Reef Resources Management Programme.

Fish Production & Processing

The total fish landings in Maldives have increased in recent years from some 104 000 metric tons to 123 000 metric tons between 1995 and 2000 with an average increase of 4 per cent per annum. Exports, comprising mainly of frozen tuna, chilled or fresh yellow fin tuna, chilled or live grouper, canned tuna, traditionally processed fish and others, totalled 70 800 mt during 1999.

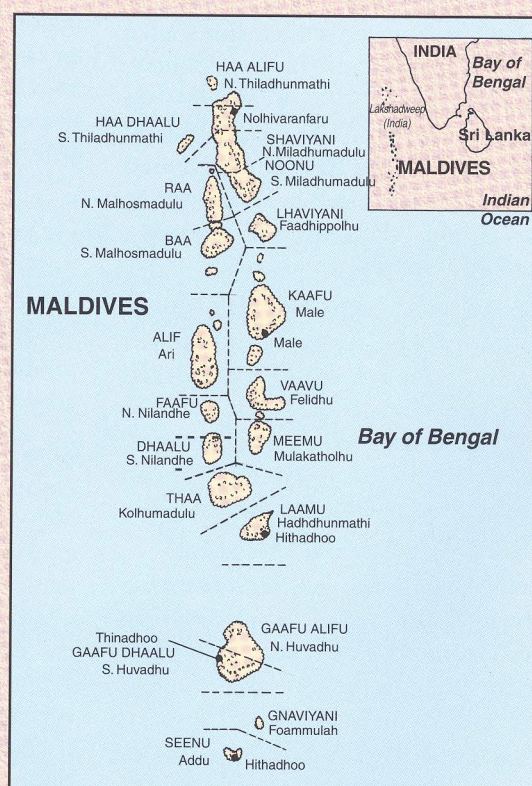
Traditionally-processed fish in the Maldives falls into four broad categories based on processing: smoked - dried

skipjack, salted-dried skipjack, salted-dried reef fish and reef-associated fish. Smoked-dried skipjack, also known as 'Maldivian Fish' is highly sought after in Sri Lanka where it is sold at a premium.

Fishing fleet

During 2000, a total of 5 187 fishing vessels were enumerated in the Republic. Mechanised masdhonis formed the bulk (2 009) of the fleet. A dramatic change has taken place in the design and construction of fishing vessels in the Maldives during the past three years. The change has primarily been an increase in vessel size, now 20-30 metres in length, with bigger engines. The fishing range has also extended, to over 75 miles offshore. There are 82 such vessels in operation, with about 30 more under construction.

The Ministry of Fisheries, Agriculture and Marine Resources is the nodal ministry for fisheries development in the country. To ensure sustainable resource development, Maldives plans to strengthen its institutional capacity to monitor and enforce fisheries management, improve knowledge and ensure better utilisation of tuna and pelagic resources in the EEZ area; and organise long-term scientific research.





A Primer on India

Coastline	: 8 118 km
Total population	: 1 000 million
Annual fish production (1999 - 2000)	: 5.65 million metric tons (2.83 million mt marine fish, 2.82 million mt inland fish)
Contribution of fisheries to GDP	: Rs 2 222 million (1999-2000) (1.4 per cent of GDP)
Harvestable resource potential	: 3.934 million mt (1.94 million mt demersal, 1.74 mn mt pelagic, 0.25 mn oceanic)
Export of fish & fish products	: Rs 5 957.05 million (2001-2002)
Fishing craft	: 280 491 (181 284 traditional craft, 44 578 motorized traditional, 53 684 mechanised, 810 FRP catamarans and 135 beach landing crafts)

India is the second most populous country in the world (after China), the seventh largest in land area, and the largest democracy. After independence in 1947, India has made impressive progress on many fronts. Examples: the Green Revolution in agriculture, a strong infrastructure in industry, education, science and technology, and skilled manpower that's in demand worldwide.

Fisheries plays an important socio-economic role – it supplies cheap and nutritious food, generates employment and income, earns foreign exchange through export, stimulates subsidiary industries. More than six million fishermen and fish farmers in the country depend on fisheries and aquaculture for their livelihood.

Fishery Resources

The annual harvestable potential of marine fishery resources in the Indian EEZ has been estimated at about 3.934 million tonnes (mt). About 58 per cent of the resources are available at a depth of 0-50 metres, 35 per cent at 50-200 metre depth and 7 per cent in depths beyond 200 metres.

Fish Production

India's inshore waters have been exploited almost to the sustainable level, but the contribution to production from the deep-sea has been insignificant. Annual fish production in 1999-2000 was estimated at 5.65 mt — 2.83 mt from the marine sector (against a potential of 3.934 mt), and 2.82 mt from the inland sector against a potential of 4.5 mt.

The major pelagic resources identified for exploitation are coastal tuna, carangid, ribbon fish, mackerel and pelagic shark; and yellow fin tuna and skipjack tuna in the EEZ. Tuna and cephalopods are the two least exploited fisheries because of the limited operational range of the majority of present fishing fleet and the lack of suitable technology.

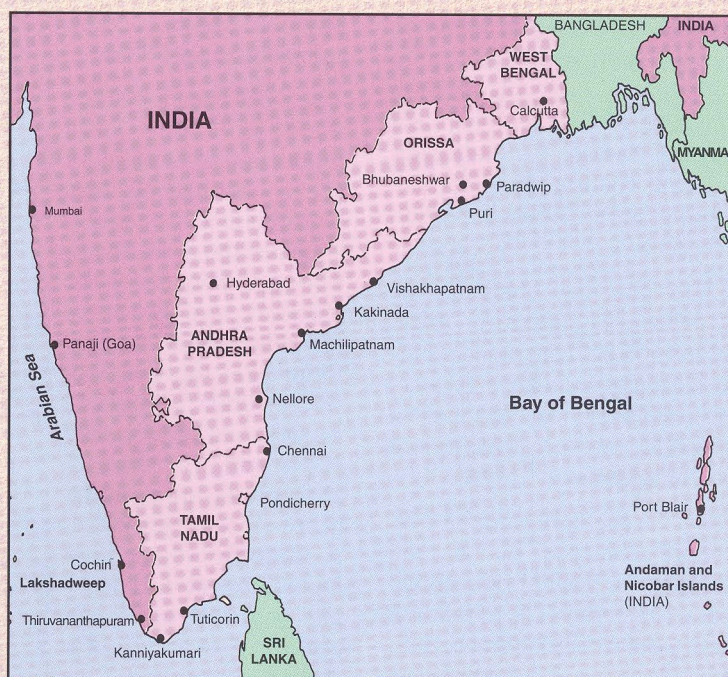
India exported marine fish and fish products worth Rs. 5 957.05 million in 2001-2002 against Rs. 17 674.3 million during 1992-1993. Shrimp at one time accounted for about 28 per cent of the export (in terms of volume) and about 66 per cent in terms of value, but the export base has since

diversified, and extended to frozen squid, cuttle fish/ fillets, etc. Imports, so far, are negligible.

Development and management of marine fishery resources poses problems for a number of reasons. The fishery resources are diverse; artisanal and small-scale fishermen operate from thousands of landing sites dispersed along the coast. Responsibilities and programmes for fisheries management and development are split between the Union Government and State/ Union Territory Governments, which differ in their policies, programmes and approaches.

The open-access nature of marine capture fisheries in India is one of the major reasons for depletion, economic waste and conflict among user groups. There are laws that restrict fishing seasons, fishing areas and the mesh sizes of gear, but the monitoring and surveillance mechanism is inadequate. The country is now adopting a rationalised approach to optimise the number and size of fishing vessels.

A growth rate of 2.5 per cent has been proposed for marine fisheries during the Tenth Five- Year Plan (2002 – 2007), and a growth rate of 8 per cent for inland open water fisheries and aquaculture development. This will enable a total fish production of 8.09 mt (3.26 mt from the marine sector and 4.83 mt from the inland sector) at the end of the Tenth Plan, according to estimates.





A Primer on Sri Lanka

Area & population	: 65 000 sq. km, 15 million.
Length of coastline	: 1 800 km
Shelf area (up to 180m depth)	: 31 250 sq km
Strength of fishing fleet	: 28 000 craft (including 1 500 multi-day boats)
Fishing methods	: Drift gillnetting, longlining, trawling, line fishing, trolling, beach seining
National fish production	: 304 380mt (2000) (marine 267 680 mt, inland 29 730 mt, aquaculture 6 970mt)
Fisherfolk population	: 150 000
Maximum sustainable yield	: 250 000 mt (170 000 mt pelagic, 80 000 mt demersal)
Pelagic species	: sardine, scad, mackerel, anchovy, seer fish, tuna
Demersal species	: Bream, snappers, groupers.
Exports / Imports	: Rs 10 328 million (2000) / Rs 4 951 million
Export of ornamental fish	: Rs 500 million (1997)

Fishing and fish production are vital to the Sri Lankan economy in terms of employment, food and nutrition security and foreign exchange earnings. Over 700 000 people depend on fisheries for their livelihood.

Sri Lanka's continental shelf area is estimated at 31 250 sq. km but its width varies. The 1 800 km-long coastline comprises a vast area of marine habitat - sandy beaches, extensive lagoons, mangroves and coastal marshes. Over 50 per cent of the population resides in the coastal areas of the country.

Of the island's 28 000 craft, some 46 per cent are motorised. The main fishing method is drift gill netting, which accounts for about 60 per cent of the total catch. Long-lining, trawling, line fishing, trolling and beach seining are the other important types of fishing.

Some 1 500 multi-day boats operate in the offshore/ oceanic area. Presently, over 75 per cent of the multi-day boats are equipped with SSB radio, and satellite navigators have been provided under various government development schemes.

Fisheries on the shelf are supported by a wide range of coastal pelagic and demersal species, typical of tropical multi-species fisheries. The maximum sustainable yield (MSY) of the coastal marine resources in Sri Lanka was

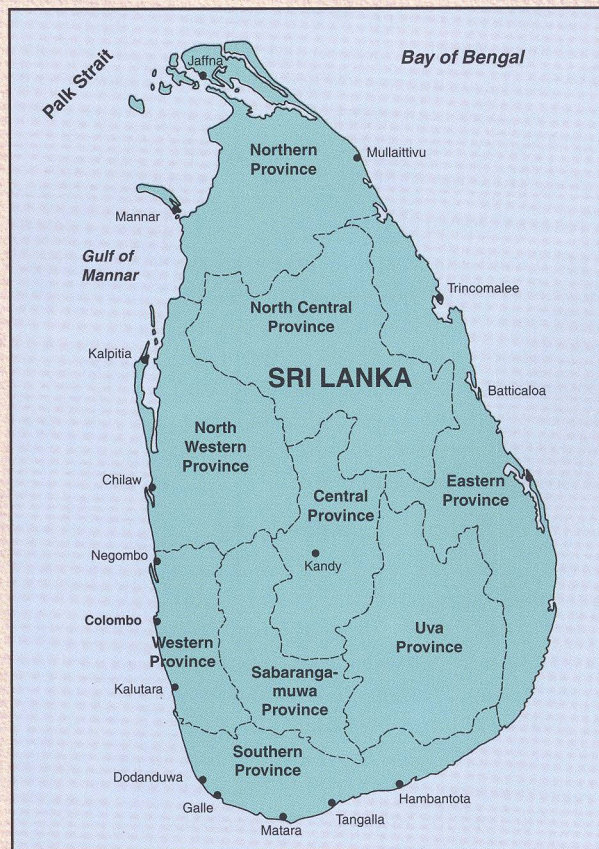
estimated in 1979-1980 at about 250 000 metric tonnes (mt), of which up to 170 000 mt were pelagic fish (small- and medium-sized sardine, scad, mackerel, anchovy, seer fish and tuna) and up to 80 000 mt were demersal or semi-demersal (bream, snappers, groupers, etc). Fisheries in the deep-sea waters are supported by medium-sized and large pelagics, mainly tuna, and an exotic range of deep-water demersal species. The MSY for these species has been estimated at 90 000 mt.

There has been a marked increase in fish production from offshore areas owing to the introduction of better-equipped multi-day boats. The production from the offshore and deep-sea sector increased from 800 mt in 1972 to 84 400 mt in 2000. Coastal aquaculture in Sri Lanka is presently confined to shrimp farming in the north-western province. A National Aquaculture Development Authority has been set up in the country to regulate shrimp aquaculture.

The ornamental fish trade in Sri Lanka has developed into a valuable foreign exchange earner. Sixty freshwater species and over 200 marine species are collected and exported to over 25 countries. Total value of ornamental fish exports from Sri Lanka is around Rs 500 million (1997). Supplies from the wild of both marine and fresh water species are going down and management measures are urgent for the sustainability of the industry.

The export of fish and fish products is an important source of foreign exchange. However, Sri Lanka is a net importer of fish. With high per capita consumption (around 16/kg), demand exceeds supply. Fish imports consist mainly of dried and canned fish.

A new Fisheries and Aquatic Resources Act was promulgated by Sri Lanka in 1996, following clear evidence that coastal fishing exceeded sustainable limits. This Act lays greater emphasis on management and sustainable development of fisheries through licencing of all major fishing operations, declaration of areas for fisheries management and conservation of fisheries and aquatic resources.



As Others See Us

The emergence of the BOBP-IGO has been welcomed by all. Here's a sampling of comments received from a few senior fisheries scientists and administrators worldwide about BOBP's past work and future role.

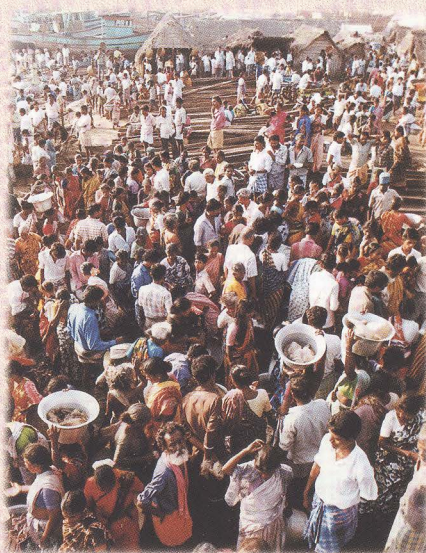
An Active Player in Regional Co-operation

S M Garcia, Director, and P Martosubroto, Senior Fishery Resources Officer, FAO, Rome

The BOBP is the longest-living donor-funded regional fisheries programme in Asia. This probably reflects the long-term vision and constancy of its donors as well as the perception about the high quality of BOBP's work. As fishery biologists specialising in fisheries management, we have always been impressed by the Programme and its staff. They ought to be commended for their outputs and their impact on various fisheries stakeholders – Government, fishers and fish farmers and NGOs.

- In the area of fish handling and processing, BOBP effectively developed awareness and action among policy-makers in the region about the need for improvement – for example, in artisanal fisheries in India and Bangladesh
- The Programme helped build awareness about the limits to fish resources. It was innovative with bottom-up approaches, and the use of comics and “radio stations” on the beach to convey messages about resource limits, conflict resolution and the causes of depletion. With the birth of the FAO Code of Conduct in 1995, such efforts intensified. Video films were produced for coastal communities. The successful promotion of community-based fisheries management (CBFM) in Phang Nga bay is an effort the Thai Government is still proud of.
- BOBP has always been an active player in regional co-operation. It has also been the driving force for the development of a GEF project on the Large Marine Ecosystem.

These concrete achievements apart, the BOBP has pioneered an integrated approach to coastal communities in the Bay of Bengal region. Its magnificent



collection of photographs and drawings on fisheries, fisherfolk, craft and gear, markets and small-scale industries is perhaps unmatched.

Our compliments to BOBP and best wishes for a long life of service to coastal fisherfolk communities.

A Big Step Forward

Ulf Wijkstrom, Chief, Fishery Policy and Planning Division, & Rolf Willmann, Senior Fisheries Officer FAO, Rome.

The birth of the BOBP-IGO is certainly a big step forward. It reflects both the value of BOBP activities to countries of the region and the commitment of governments to sustainable fisheries development.

There has been a gradual shift in the focus of BOBP's work during the last two decades from technology development and fish production to addressing the serious and complex tasks of management and conservation of fisheries resources, fish habitats and the marine and coastal environment. Enhanced regional co-operation in these tasks is urgently needed, not least to protect and improve the livelihoods of millions of mostly poor small-scale fishing families living on the shores of the Bay of Bengal. Strong regional co-operation is also in keeping with the spirit of the 1982 UN Law of the Sea, the 1995 UN Fish Stocks Agreement

and the 1995 Code of Conduct for Responsible Fisheries.

A key task of the BOBP-IGO is thus to help countries individually and collectively to undertake the reforms that are needed in various fields and at different levels to (a) achieve effective fisheries management and (b) increase the social and economic benefits from the marine fisheries resources while conserving the health of the marine ecosystem for future generations.

Currently, fisheries in the region continues by and large to be open-access in nature. Result: fishing fleets are much too large and much too powerful in relation to the amount of fish that can be taken out of the sea on a sustainable and economical basis. Large sums of money are wasted annually, instead of being invested in alternative livelihoods, human resources development and social infrastructure and services. Limiting access to fishery resources and reducing the size of excess fleets are challenging but indispensable tasks, and will require concerted efforts by countries in the region and support from the international community. A critical task of the BOBP-IGO is to help countries in these efforts and mobilise international support.

Dr Meryl Williams, Director General, ICLARM, Penang, Malaysia

We have been closely following the work of BOBP and have a very high regard for the initiatives the organisation has taken for over two decades for sustainable development of fisheries in the Bay of Bengal region while at the same time focusing on improving the livelihoods and alleviating poverty among coastal fishers who are the poorest among the poor. A large number of projects on a broad front were undertaken by the organisation, ranging from improving the efficiency of craft and gear used by small-scale fishers, developing coastal aquaculture technologies, and socio-economic research, to creating awareness among fishers of the need

for sustainable fishing and maintaining quality of the fish harvested. The volume of work BOBP has undertaken is evident from the large number of quality publications that address coastal resource management and are directed towards policy makers, extension workers, fishers and farmers.

We are pleased to see the number of member countries agreeing to turn BOBP from a donor-funded project to an inter-governmental organisation, as this indicates the commitment of the governments to continue the work initiated by BOBP and testifies to the contribution made by the organisation over the years.

We at the WorldFish Center will be happy to collaborate with BOBP in areas of strategic research importance to the mission of the Center.

Now A Centre of Excellence in the Region

Jeremy Turner, Chief, Fisheries Industries Division, FAO, Rome

Over the last 23 years, the BOBP has gradually been transformed from a programme of technical projects into a centre of excellence in the region. In addition to carrying out its broad functions, it has provided the FAO headquarters with an outpost from which we have been able to reach our target groups of the region more directly and effectively than through the more official channels of communication normally available to us. This is largely due to the close working relationships developed by BOBP staff with senior and middle-level administrators, NGOs, community leaders, industry representatives, and of course, the communities themselves. The information, advice and assistance made available to FAO HQ by BOBP has, I believe, enhanced the quality and effectiveness of FAO's work programmes in the region.

I anticipate that BOBP will continue to influence our work in the Bay of Bengal region. Above all, the effectiveness of our work is based on a correct understanding of the problems of small-scale fisheries, and the constraints, which prevent them



from fully realising the social and economic potential of the sector. BOBP's intimate knowledge of the region will assist us at the HQ in identifying these constraints, and through close dialogue with its members, in prioritising the activities through which these constraints might be removed. We are happy to continue our long and valuable working relationship.

As regards priorities for the future, I recall some observations and suggestions of the ACFR.

- Poverty is not a static condition but a dynamic condition. Individuals and households not only progressed out of poverty but also fell into it.
- Often, poverty in fishing communities cannot be analysed separately from the public, economic and social policies affecting development in poor fishing communities. Sometimes, poverty originates not in spite of development efforts, but because of them.
- In conducting studies of poverty in fishing communities, it may be important to distinguish between marine fisheries and inland fisheries.
- Research should aim at a more detailed, nuanced understanding of the various types and shapes of poverty in fisheries. Such research may include studies that compare the quality of life in fishing communities with the quality of life in the country or region of which they were part. This could be done by comparing indicators. Studies of the economic, social and physical vulnerability of fishing

communities would be a very useful addition to such studies.

- Empirical research on poverty in fishing communities can be divided into several areas. These would include studies on mechanisms that induce poverty as well as those that enable escape from poverty; studies on how fishery management regimes that reduce fishing effort affect poverty in fishing communities; studies that compare the economic and social rationale of industrial type fishing versus small-scale fisheries; and studies of aquaculture as a mechanism to combat poverty. Once a thorough understanding of the mechanisms of poverty is obtained, one could consider developing an instrument for poverty impact assessment analogous to that for environmental impact assessment.
- I believe that there is great potential for useful work on Cleaner Fishing Harbours throughout the region.

Continuity and Progress

S Subasinghe, Director, INFOFISH, Kuala Lumpur, Malaysia

The birth of BOBP in 1979 gave a new dimension to the lives of millions of fisherfolk and their dependents, in countries bordering the Bay of Bengal. The BOBP's efforts during the past 23 years in the areas of technology transfer, socio-economic betterment of small-scale fisherfolk communities, and promotion of sustainable development and management, are certainly bearing fruit. It has also played a vital role in promoting co-operation in the region. These efforts must go on. The establishment of the BOBP-IGO is a step in the right direction: it ensures both continuity and progress.

Impact on Fishing Craft Development

Oyvind Gulbrandsen, Consultant Naval Architect, Norway

Twenty years ago, all fishing craft in use on the east coast of India – apart from shrimp trawlers – were sail-powered log kattumarams and wooden nava open boats. BOBP's main priority was to develop a beachlanding craft powered by an inboard diesel engine that could operate further out to sea in

fishing areas not reached by the traditional craft.

The widespread use of imported outboard engines, as seen in Kerala, was not considered a good example to follow. Instead, Indian-made diesel engines were utilised in an installation that permitted the propeller and rudder to be retracted when landing on the beach. Several prototype hulls were built of plywood, aluminium and fibreglass reinforced plastic (FRP), but eventually the FRP technology was selected and introduced by BOBP in Kakinada. This technology has spread, and a number of FRP boatyards are now found in Andhra Pradesh and Orissa. Local boatyards have continued the development of new boat types and many thousand FRP craft powered by diesel engines now operate along the east coast of India. This development would not have been possible without BOBP's initiative and assistance.

Fishermen lead a very hard and risky life. Sudden storms and hurricanes can spell death to hundreds of fishermen at sea. The BOBP's main emphasis in future should be on improved safety at sea. Governments in the region need assistance in developing regulations for improved safety of fishing craft, their construction and equipment, and training programmes for inspectors and fishermen. This assistance can also include assistance to local boatyards in the design of safer fishing boats.



BOBP and Small-Scale Fisheries

Sebastian Mathew, International Collective in Support of Fishworkers (ICSF), Chennai

Let me attempt an objective assessment of the BOBP's role in sustainable development of fisheries. In 1990, while evaluating BOBP's beachlanding craft project together with Jeremy Turner, I remember reading the original project document of BOBP. It was a well-prepared document from the perspective of small-scale fisheries development. I particularly liked the emphasis on sustainable fisheries development for poverty alleviation. In practice, however, BOBP, in my opinion, placed too much emphasis on the "hardware" part of capacity-building during its early years.

Of course, there were notable exceptions. What comes to mind are publications resulting from the study on costs and earnings in small-scale fisheries, fishing co-operatives in Kerala, and coastal marine pollution. Many issues of *Bay of Bengal News* were also very instructive. I often wonder though, how far BOBP was able to read the minds of the fishermen and women fish vendors in the region.

Considering the radical changes in small-scale fisheries in the Indian Ocean Region, perhaps the scope of coastal marine fisheries should now cover the entire EEZs of member countries. There is need for better cohesion as regards perspectives on sustainable development among member countries as well. A consensus ought to be evolved on sustainable fisheries management.

The BOBP-IGO should explore areas that are yet not part of fisheries decision-making mechanisms in the developing world. It should, for example, try to involve the ministries of forests and environment, irrigation and pollution control in decision-making arrangements for marine coastal fisheries at the national level. All principal stakeholders should be involved in decision-making and implementing mechanisms; this will generate a greater sense of ownership amongst them.

Our Donors

Sweden could perhaps be described as the mother of BOBP, but over the years, the Programme attracted several donors and patrons. The diversity of support enabled BOBP to become a strong player in small-scale fisheries development and management in and around the Bay of Bengal region for more than two decades.

The donors were of many kinds. Some (Sweden, Denmark, Japan) contributed to the Programme's core funding. Some others (such as UK, AGFUND, Holland, Norway) supported specific projects. The UK (through DFID), for example, implemented an entire post-harvest project under the BOBP umbrella for many years. The UNDP supported a fishery resources assessment project, the IMO funded the Cleaner Fishery Harbours project. Women's activities attracted support from Holland and UNICEF, AGFUND supported training, Norway lent strength to fishing craft activities. In addition to core support, Sweden also funded specific activities such as the study of the environment. Many

countries (US, Canada, UK, Norway, Sweden, Denmark, Belgium, Holland, Japan) contributed staff support, mainly through the FAO's APO (Associate Professional Officer) programme.

The FAO, the BOBP's executing agency, made a few TCP projects available to the region for implementation by BOBP.

Member countries of the BOBP were also important donors. For several years, they made annual contributions for the Programme's Information Service. And Government of India continuously hosted the office at Chennai, India and provided the vital support facilities.

This listing is incomplete. To all these and other donors, the BOBP expresses its heartfelt and appreciative thanks. It's their vision, their conviction and their dedication to the cause of small-scale fisheries that's responsible for any impact the BOBP achieved in the development and management of small-scale fisheries in the region.

Safety at sea is an area of extreme interest. The BOBP-IGO should also address vexing problems related to the arrest and detention of fishermen from member countries in each other's waters. This would mean establishing working relationships with the Ministries of External Affairs and Home Affairs in India as well as other countries.

As an IGO, BOBP will perhaps have greater flexibility than it did as a FAO/UN-executed body. I hope it will be able to successfully build up durable initiatives to achieve sustainable fisheries in a way that matters to both fishers and fisheries.

Impact on the Environment

Steffan Holmgren

(Formerly Adviser on the Environment, BOBP)

BOBP's transition to an IGO gives me the opportunity to stress the importance of environmental studies in the protection of fishery resources. In Sweden, we have to ban all cod fishing from 2003 because of overfishing and environmental damage. Hundreds of fishermen will not be able to earn their living.

The BOBP's report "Impact of the Environment on the Fisheries of the Bay of Bengal" (BOBP/REP/67) has been used for 10 years now in Swedish universities, for teaching the tropical environment.

Impact on Government

Marten Bavinck, Center for Maritime Research, Amsterdam, Netherlands

Congratulations on getting the IGO off the ground! BOBP has made its biggest impact not at the grassroot level, but in government circles, preparing the ground as it were for shifts in orientation. Concern for fishery management has not come easily to the region, and it is to BOBP's credit that it is now on the agenda. Resource



management is of paramount concern for the future as well, and BOBP has an enduring task in this area.

Impact on Post-harvest Issues

Tim Bostock, Executive Secretary, SIFAR, FAO, Rome

For over a decade during the mid-'80s to '90s, the Bay of Bengal Post-Harvest Fisheries Project funded by the Department for International Development (UK) collaborated with other BOBP projects in helping implement a programme of support to small-scale fish processors and traders in India, Bangladesh and Sri Lanka. The target groups covered by the project were wide – including for example, set bagnet communities in coastal Bangladesh, by-catch processors in Andhra, itinerant women "head loader" fish vendors in Tamil Nadu, anchovy driers in South India, and cycle traders in Sri Lanka. The common denominator of all these people was pressing poverty – small-scale fisherfolk in the South Asia region typically get extremely low returns for their labour. All of them however, possess a surprising diversity of livelihood strategies, helping mitigate the typical chronic problems of seasonal shortage, periodic gluts,

rapid spoilage, dearth of investment capital, or even getting thrown off the bus – often the only form of regular transport open to itinerant traders. The project worked closely with these groups to better understand problems, needs and solutions. The knowledge gained was then used to derive common lessons on how best to respond with sustainable solutions. Support was mainly provided through simple social or technological innovations derived through close interaction.

The processing, marketing and distribution of low-value fish by small-scale fisherfolk in South Asia is of inestimable importance for poor people in the region, representing a vital buffer against vulnerability and household food insecurity. The project estimated, for example, that there were at least 10 000 women in the South India project area alone operating on very low margins, buying between 20 and 35 kg a day of fish at the beach for resale in local markets. Despite the low status often accorded to them by society, the role that women in particular play in low-cost fish processing and subsequent distribution is extremely important. The markets supplied by them are often rural areas with strongly traditional demands.

BOBP provided the vehicle to foster a better understanding of these complex systems, issues and possible solutions. Knowledge in this regard was virtually absent before the programme existed. By developing widely acknowledged, close working relationships with communities of poor fisherfolk, BOBP and the Post-Harvest Project were able to foster increased recognition of this previously marginalised section of the population and hopefully contribute – albeit in a very small way – to supporting them in their arduous daily labours.

BAY OF BENGAL NEWS

Bay of Bengal News is a quarterly publication of the Bay of Bengal Programme (BOBP), a regional multi-agency fisheries programme which covers seven countries around the Bay of Bengal - Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka and Thailand. The programme plays a catalytic and consultative role; it develops, demonstrates and promotes new methodologies, techniques, technologies or ideas to help improve the conditions of small-scale fisherfolk communities in the member countries. The BOBP is sponsored by the governments of Denmark and Japan, and by member governments in the Bay of Bengal region. The main executing agency is the FAO (Food and Agriculture Organization of the United Nations).