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For Fisheries Management

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# BAY OF BENGAL NEWS

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## **“Stimulating Community Bonding” in Phang-Nga Bay, Thailand**

*(See pages 12-16)*

# Share resources, delegate powers or lose both!

*The Director of BOBP points out that there's no alternative to resource-sharing in a world of dwindling resources. Governments must be willing to delegate management authority in favour of enlightened fisherfolk communities. A spirit of give-and-take is also needed between countries that share a common fish resource.*

*Vasudeva kutumbakam* (the world is one family) is a beautiful phrase from India's holy scriptures. It implies that the world family — like the smallest family anywhere — must share its all.

At the root of most human ills is the lack of sharing — of joys and sorrows, food, resources such as land and water, forests and fisheries.

The world's resources are finite. And limited — as an ever-expanding population discovers to ever-worsening discomfort.

The world's population has soared from 1 billion just a few decades ago to five billion now. It took the world 2,000 years to reach the figure of five billion, but the next five billion (a total population of nearly 10 billion) will take only 50 years!

In India, the population approaches the daunting landmark of a billion — twice that just a few decades ago. The resources haven't doubled — only the users and consumers of the resource!

What this implies is that everywhere, a large number of people uses up resources that were earlier available to just one person. This ratio is likely to get worse, not better. So sharing is no more a philosophical or moral concept. It is a grim necessity.

In the days of old, resource management was a community responsibility, because government as we know it today did not exist. Population pressure was also unheard of, so was resource use pressure. Today, such pressures are rampant. But resource management today, with exceptions, is the sole responsibility of

government — with little or no sharing, delegation or decentralization of such authority.

Resource-sharing is particularly critical for fisheries. Unbridled exploitation has wiped off certain fish species. Many other species are endangered. These may become extinct too, unless within every country, governments, private companies and fisherfolk exercise restraint and responsibility. The government must delegate some of its management power, so that fisherfolk who are close to the ground — or the sea, in this case — give of their time and effort to protect the sea and its resources, and enforce wise regulations designed to ensure that there's something in the sea for the Morrow.

Allocation and fair distribution of quotas, or a fair share among different types of fisherfolk, or among countries, must be worked out. Illegal fishing or encroachment by one group of fishermen into the waters earmarked for another group is an example of perceived lack of equitable resource-sharing.

In this context, the concept of community-based fisheries management (CBFM) needs wider awareness and emulation. It is being practised through a BOBP-supported project in Thailand. The article on community bonding in Phang-Nga Bay (see pages 12-16) tells the story of shared decision-making in planning and development in Thailand, including power-sharing in fisheries management leading to resource sustainability. To benefit as many people as possible, the system of fish production

must be efficient, stable, sustainable and equitable. The largest possible number of jobs must be created, consistent with the carrying capacity of the resource system and the environment.

To widen the practice of fisheries management, awareness-building and public outreach programmes are necessary. At a time when governments are downsizing and their revenues are shrinking, and there's a growing resistance to higher taxes, such 'smart partnerships' between Departments of Fisheries and the fisherfolk, through greater sharing, constitute the way of the future.

Internationally too, countries should learn to share — not merely the fruits of the resource, but their knowledge, their skills, their abilities, in understanding and harvesting the resource.

Fish know no boundaries. They migrate freely between international waters. To understand their behaviour, their biology, their mating habits and breeding cycles, all countries must accept the concept of migrating fish and shared resources. They must then actively share their knowledge and skills — so that together all countries can address and solve the problem of dwindling resources.

But joint action by countries to solve fishery resource problems is plagued by distrust, suspicion and past history. India and Bangladesh must co-operate in studies on the hilsa; Indonesia, Malaysia and Thailand must pool their resources in studies of the mackerel; the US and Canada must come together on the salmon; the north and the south must together understand the shrimp resource — the latter is a major exporter and the former a major importer.

Needed joint action on fishery resources on the international front also exemplifies the concept of sharing. In other words, *Vasudeva kutumbakam*. Truly, what the sages of old prescribed were solutions for eternity.

Finally a slogan — for peoples as well as governments. *Save*, when you can. *Spend*, when you must. *Share* — at all times.

Kee-Chai CHONG



# *The FAO's vision on fisheries management*

*This is the second and concluding part of the interview with Mr Moritaka Hayashi, Assistant Director-General (Fisheries) of the FAO. The interviewer is Dr Kee-Chai CHONG, Programme Coordinator of the Bay of Bengal Programme.*

**Chong:** *You are from Japan which is a leading world fish producer and consumer and therefore has a big stake in high fish production. But fish catches worldwide are stagnating, if not declining. How do you see the future for production? Does the future lie only in management?*

Hayashi: You are right, the *per caput* consumption of fish in Japan in recent years is over 70 kg/year, up from about 66 kg/year a few years ago. We see this growing demand as a good sign because it will translate into growing consumer pressure to call for more sustainable management of the remaining fisheries resources in our oceans.

The immediate priorities for the future lie in reversing trends of over-fishing and over-capacity from overcapitalization, as also cutting waste from improved post-harvest handling and processing, and greater utilization of the huge 22 million tons of by-catch presently not brought back to shore.

We need to tackle immediately the problem of continuing over-investment in fisheries by some countries. While a few countries have been quite successful in cutting such investments, others have not been able to control the entry of new capital into the fisheries. More attention and effort have to be put into these areas.

As for fisheries management, we should have paid more serious attention to it a long time ago. In fact, we are continuing to pay for the lack of good management today. Management has to be actively stepped up and improved immediately. I understand BOBP has been doing just that, and in its Third Phase, management holds the key to the long-term objective of resource sustainability.

**Q:** *The Bay of Bengal Programme has been serving its region for nearly 19 years, from 1979. Our first phase was devoted to higher production through technological innovation and transfer. The second phase was mainly concerned with extension. The present phase is devoted to management. Do you see this as a logical and natural evolution?*

Hayashi: I agree with the logical phase-to-phase natural evolution of the Bay of Bengal Programme up to now. The Programme is on the right track. The sequence of programme thrusts, with the current emphasis on management and sustainable development, is also quite right. The future of BOBP beyond the end of the present Third Phase lies with countries of the region in general and Bay stakeholder countries in particular. FAO welcomes the opportunity to continue its association and involvement with BOBP in whatever institutional character BOBP will assume beyond the present Third Phase.



**Q:** *Are you hopeful that empowering resource users and making them resource managers can succeed?*

Hayashi: Empowering resource users and involving them as resource managers is really a very good idea. I think many of them are ready to take on the new responsibility. The time is ripe for such a government-people partnership.

One policy governments can pursue is to decentralize management responsibility and authority to the local level. People at this level are responsible for managing the resources in their backyard — so to speak. It is also important to remember that people empowerment may not be universally applicable. We need to analyse the socio-economic, cultural and institutional background of the communities -- whether the proposed system of empowerment is useful and can work for that particular community at that particular time.

**Q:** *We have worked with three to four generations of fisherfolk. But fisherfolk in many countries are still very poor, living on the edge, as it were. They land a product that's valuable yet they do not benefit from it. Where have we gone wrong in fisheries development and management?*

**Hayashi:** Fisherfolk who are constantly poor despite their own effort and those of others need closer attention and constant follow-up. Right now, total engagement and commitment with them is lacking. Recent lessons show that conditions will turn around when follow-up is maintained and they are not left on their own.

I think that in some areas of the world, local communities have been able to improve their socio-economic status when

fisheries conditions improve. But there are many other cases where this did not happen.

There are lots of causes for the continuing poverty. One of the main causes has to do with the lack of regulation and control over fisheries by the higher authorities. If fisheries is not regulated, problems are bound to arise, and this is what we are witnessing. Other factors have to do with environmental degradation. This is beyond the reach of fisheries communities, it calls for wider co-operation with other authorities. An integrated approach such as ICAM is needed to prevent future degradation or reduce negative impact on fisheries resources and vice-versa. Management is also needed at the local level, and the local government can play a bigger role here.

**Q:** *What is your advice for small-scale fisheries projects like the BOBP? And for the fisherfolk communities we serve?*

Hayashi: You have been doing excellent work during the past 19 years. What you have achieved is quite impressive. With training hundreds of fisheries officials and fisherfolk, for example. With a sustained flow of new ideas. With pilot activities concerning a wide range of activities - initially technology, then extension, then management. With information dissemination. A project's impact is often difficult to assess but BOBP's work in the Bay of Bengal region is well known and widely acknowledged.

Let me say — continue the good work. Strengthen your current programme. I would like to ask BOBP member countries to use BOBP as an effective instrument for change in fisheries.

**Q:** *What new international agreements or conventions are on the anvil?*

Hayashi: All the international agreements adopted since 1992 are vital for future global sustainability. Agenda 21 of UNCED (UN Conference on Environment and Development) is one of the key instruments.

Although the global legal framework— i.e. the UN Convention on the Law of the Sea (UNCLOS) for the conservation of marine resources— has been established, it will be some time before it makes a difference. We need to go further to strengthen the regime of UNCLOS. Important work has been initiated in some areas through the 1993 FAO Compliance Agreement and the 1995 UN Agreement on Straddling and Highly Migratory Fish Stocks.

Besides these legally binding agreements, the FAO Code of Conduct for Responsible Fisheries (CCRF), is most comprehensive and covers all areas including those covered by UNCLOS. The CCRF is an all-important Code that lays down standards of conduct for every nation involved in fisheries and aquaculture.

These instruments together form the most comprehensive package for sustainable development of fisheries and aquaculture throughout the world. More effort is needed to promote the implementation of these instruments.

I don't think there is a need for any other major global instrument. But at the regional and sub-regional level, there is of course further need to review implementation of these agreements. Regional bodies are called upon to strengthen their functions and activities under the UN Agreement on Straddling and Highly Migratory Fish Stocks. I strongly urge that this be done immediately.







To facilitate this, the Agreement must be adapted to regional/sub-regional objectives for better conservation and management of the resources.

There is also a definite need to conclude bilateral, trilateral or sub-regional agreements to better manage shared stocks that straddle the exclusive zones of neighbouring countries. Very few agreements have squarely addressed this issue. More serious attention must be paid to better co-operative management of such stocks before they become over-exploited from either side or both sides of the border line.

**Q:** *What are the new threats that fisheries will face in the coming years? Where do the opportunities lie? Which are the areas of hope?*

Hayashi: Fortunately, there are no *new* threats to fisheries, as far as I can see! They have been identified — at least the major ones. We are coping with the problems and making progress in overcoming them. It has been a slow process but in the long run, I hope we will be able to attain resource sustainability, provided that all listen to the advice of FAO and co-operate in implementing the Code of Conduct.

New opportunities exist in aquaculture if we carry it out carefully and with sustainability in mind. Aquaculture in some cases has given rise to environmental concerns and these are being addressed. Another opportunity is to strengthen regional and sub-regional bodies to facilitate management of resources.

**Q:** *Do you think fisheries NGOs play a crucial role in the future, in helping steer fisherfolk communities through the management era?*

Hayashi: Some of the NGOs have done excellent work with the rural poor in general and the fisherfolk community in particular.

I have myself witnessed some of the activities of NGOs in bringing about change during and after UNCLOS, UNCED, the Agreement on Straddling and Highly Migratory Fish Stocks, etc. Some of their work has helped educate thousands of people about these agreements, and introduced some new ideas into the agreements. They have also played an important role in the drafting of the Code of Conduct. Now, many NGOs are working to implement these instruments. So I do value the serious work of NGOs.

**Q:** *Do you have any message for BOBP?*

Hayashi: Yes it is as much for member countries as for BOBP. They must think seriously about its future, how it can continue to assist and facilitate the work of member governments.

BOBP on its part, must take a good look at its current programme and try to broaden its impact. Your past work can be the basis for building and expanding activities to benefit fisherfolk communities of the region.

You also need to devote more effort to strengthen BOBP as an institution so that your Programme can continue and flourish. One way is to make it more independent and rely on resources from the region. It will thereby stimulate even greater effort within the region. Of course, FAO will continue to provide the best technical assistance it can.



# BOBP Evaluation Mission a Positive Report

*The major findings and observations of a 3-member evaluation mission of BOB representing Denmark, Japan and FAO—are summarized here.*

## **The BOBP's core project**

'Coastal fisheries management in the Bay of Bengal' has been 'successful in raising the profile of a people-centred consultative approach,' says an external evaluation mission of the project, comprising experts commissioned by donors Denmark and Japan and executing agency FAO.

The three-member mission consisted of Ms Sevaly Sen (Denmark), Dr Masamichi Hotta (Japan), and Mr John Markie (FAO). They visited member-countries of the Programme for 26 days during June-July 1997.

The mission's mandate was to 'assess the effectiveness of the programme in realizing its immediate objectives' and 'the extent to which they have set the foundation for achieving the long-term development objective.' It would also assess how the programme was meeting its immediate objectives, and identify factors that may have facilitated or deterred the programme's immediate and ultimate objectives.

## **Stakeholder analysis**

The mission said that the project's national activities had highlighted the importance of an approach to fisheries management that took account the interests of the people concerned — the stakeholders. There was a

high degree of integration of the projects into the national effort, which meant that the results would be sustainable after the third phase.

Stakeholder identification, analysis and consultation had been the main focus of the project. Training (provided to government officials) and subsequent field work had given the multi-stakeholder participants an improved understanding of the main stakeholders involved in the fisheries; their local knowledge of marine resources; their problems concerning overfishing and increasing fishing effort; as well as their ideas about solutions. The training had also enabled participants to improve their communication skills and increase their awareness about participatory processes.

## **Innovative national projects**

The report said that the national projects being assisted by BOBP were innovative. Most of them had lessons that could be transferred between countries. These included ornamental fish harvesting and marketing in Sri Lanka; integrated reef management in the Maldives; marine park management in Pulau Payar Park, Malaysia; conflict resolution and improved management in Bangladesh; interventions for management of the coastal fisheries resource in Indonesia and India and community based systems of management in Thailand.

*Dr Masamichi Hotta, Japan's representative in BOBP's evaluation mission, talks to fisheries officials from Thailand about the BOBP-supported project in Phang-Nga Bay.*





*Regional sharing of learnings from Malaysia's marine protected area on the 'process approach' to fisheries management will be stepped up.*

### **Training in fisheries management**

The mission said that the knowledge and skills of staff at the grassroots level about management processes needed to be further strengthened and periodically updated. A consultant should be engaged to prepare notes on community-based fisheries management, and hold one-day sessions for field workers from both governments and NGOs about what CBM is, the bio-technical and socio-economic conditions under which it is likely to work, and the types of management tasks which communities and stakeholders could carry out. The training sessions should also discuss other viable resource management options in communities where CBM is unlikely to be successful.

*Regional consciousness:* The mission expressed the view that if the advantages of the regionality of the Bay of Bengal Programme are to be fully utilized, lessons from national experiences will have to be documented and extended to the region. So far as the regional dimension goes, the Programme should focus on problems and opportunities common to several countries of the region producing outputs that can be used by several countries of the region; increasing the sharing of mutual experiences between countries; and networking of individuals both in and outside government.

### **Joint workshops**

The mission suggested joint organization of workshops by BOBP and other regional organizations such as INFOFISH, SEAFDEC and NACA. Duplication of effort should be avoided 'and greater co-operation promoted.

### **Study of CBFM in Japan**

The mission noted that Japan is one of the few countries with well-developed examples of Community-Based Fisheries Management (CBFM). An Advisory Committee meeting of the project could be organized in Japan, and combined with a workshop and study trips to CBFM locations in the country.

## **Fisheries legislation**

The mission also recommended that the project should conduct a study of management-related fisheries legislation, with support from the FAO Legal Office. It noted that most fisheries acts in the region did not provide for delegation of powers by Departments of Fisheries to the community or the private sector — or to incorporate existing community-based rights into national laws.

## **Information**

**On information, the mission suggested a 'shorter, punchier' newsletter, and regional distribution by BOBP of useful materials from a single member-country to other countries — such as the English-language marine education kit prepared in Malaysia.**



## **Monitoring and assessment**

The mission made several other suggestions on monitoring and assessment to utilize a fund of US \$ 250,000 remaining from the second phase. One of the main recommendations, that of a regional workshop on monitoring and evaluation, has already been implemented (see article on pages 17-18).

## **Lower priority**

The mission recommended lower priority than planned, to a regional study on values, attitudes and perceptions of fisherfolk towards ownership of fisheries resources and its exploitation, management and sustainability. This was originally intended for all seven member countries. An inventory of national fishery institutions, skill gaps and training needs assessment was also given lower priority.

# The Code of Conduct for Responsible Fisheries - Taking it to the People

by Kee-Chai CHONG

## Introduction

The Code of Conduct for Responsible Fisheries - questions have been raised about whose code and whose conduct it refers to. Whose behaviour and conduct is the Code meant to change? Like a dress code that has different prescriptions for different occasions, do fisherfolk have a code of conduct of their own — whether written or otherwise, for their daily fishing activities? A code to guide or regulate their fishing activities and the use of appropriate gear, fishing methods or practices? If it exists, is this code voluntary or compulsory? Who is to ensure that this code is observed? How does the code get formalized and accepted by the community?

Are the perceptions and attitudes of all the fisherfolk towards this code similar, or do they vary from fisherman to fisherman? Perceptions are usually not formalized until there is a need to express and articulate them. How is the code monitored, made binding or even enforced? These are very relevant questions and call for in-depth discussion so that a code, whether formulated by the fisherfolk themselves or by someone outside the fishing community, will be honoured. This is urgent since demand

for fish is soaring, the remaining resources are rapidly being depleted and their habitats rapidly degraded or destroyed, perhaps irreversibly. Does it matter where the Code comes from, whose behaviour and conduct it is meant to influence and change? Some possible answers follow.

## Background

The Code of Conduct for Responsible Fisheries came into being on 31 October 1995 (see box for definition). The Code sets out the key principles, standards, criteria, norms and targets for the effective conservation, management and development of all living aquatic resources, especially fisheries. The Code is further complemented by guidelines that will be elaborated, and/or revised from time to time. These guidelines are designed to assist with the operationalisation of the Code (see box for types of guidelines).

It is the culmination of diverse and continuing effort on the part of many organizations and the individuals who represent them to improve the management and orderly development of fisheries.

More specifically, the Code grew out of a recommendation of the FAO Committee on Fisheries (COFI) during its 19th session held in March 1991, which requested FAO to define a concept on responsible fisheries and prepare a Code of Conduct for Responsible Fisheries.

Acting on this recommendation, the Government of Mexico in collaboration with FAO, convened the Conference on Responsible Fishing held in Cancun, Mexico in 1992. The Code reflects and/or contains some of the major articles, provisions and endorsements of the 1982 United Nations Convention on the Law of the Sea, strategies and approaches adopted at the 1984 World Conference on Fisheries Management and Development, the agreement for the implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982, relating to the Conservation and Management on Straddling Fish Stocks and Highly Migratory Fish Stocks, 1992 Rio Declaration and Agenda 21 of the 1992 Conference on Environment and Development (UNCED) and the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas. Addressed to States, NGOs and other fisheries stakeholders (individuals and organizations), the basic premise of the Code is that the right to fish carries with it the obligation to do so in a responsible way. Although voluntary, there are certain duties and responsibilities which States and other bodies wishing to give effect to it must observe and carry out. The Code has been put together in accordance with accepted rules and norms of international law to provide it with the necessary legitimacy for implementation by interested States and other national/regional/international organisations. The Code is thus a code with internationally

## What is Responsible Fisheries?

At the pre-harvest level responsible fisheries is the precautionary use of living aquatic resources that is sustainable, and in harmony with the environment. Its capture and culture technology do not impair or destroy the ecosystem and its biodiversity. Conservation is well integrated into development so that ecological quality and environmental integrity are maintained.

At the post-harvest level, responsible fisheries is the satisfaction of need for food and protection of a just and equitable livelihood. It effectively adds value to all catch landed through HACCP-based primary handling and secondary processing in producing wholesome non-health hazardous quality products for the consumers.

At the government and community level, all stakeholders must be enjoined to take part in responsible fisheries — in responsible fish production and utilization. Most of all, partners in management drawn from all stakeholder groups should form part of the framework of consultative, participatory and collaborative management.



accepted standards for responsible behaviour and conduct in fisheries. The Code can be considered as a basic reference document for all stakeholder organizations and individuals to:

(1) establish and provide standards of behaviour and conduct for responsible practices in 'fisheries

- responsible fish production
- responsible fish utilization

(2) establish principles and criteria in formulating policies for responsible fishing and other allied fisheries or fisheries-related activities, taking into account all relevant biological, physical, technological, economic, social, institutional, environmental and commercial factors and aspects

(3) establish the legal and institutional framework for responsible fisheries

(4) facilitate and promote technical and financial cooperation in the effective management, conservation, protection and development of fisheries

(5) promote the contribution of fisheries to food and livelihood security

(6) ensure the maintenance of required health standards and food quality, with emphasis on the food and nutritional needs of local communities

(7) establish business or commercial practices in fish trade that are fair or not detrimental to the interests of the producers and consumers

## Technical Guidelines

To support the implementation of the Code, the Department of Fisheries of the FAO/UN has published the following guidelines. Copies of these and the text of the Code of Conduct for Responsible Fisheries may be obtained from the addresses given below.

1. Fishing Operations
2. Precautionary Approach to Capture Fisheries and Species Introduction
3. Integration of Fisheries in Coastal Area Management
4. Fisheries Management
5. Aquaculture Development
6. Inland Fisheries

Guidelines for other topical aspects of the Code are under preparation. Further information can be obtained from:

1. Fisheries Department  
Food and Agriculture Organization of United Nations  
Viale delle Terme di Caracalla  
Rome Italy 00100
2. Bay of Bengal Programme  
FAO/UN  
Post Box 1054  
91 St Mary's Road  
Abhiramapuram, Chennai - 600 018  
India

(8) promote international cooperation in fisheries R&D and technology transfer

The Code strongly calls on all States and other interest groups to give effect to it urgently by operationalising it. To work, the Code must be accepted by all stakeholders and not questioned as to whose code and whose conduct it is

meant to influence and change. Such questions however, do not serve any purpose except to arouse opposition or inaction. Whether it is from the government or the people or from above or outside, such questions unnecessarily raise the issue of ownership of the Code. There is a potential mischief in raising the issue of ownership because what is

*FAO Literature relating to the Code of Conduct, the precautionary approach to fisheries management, etc (in the background), along with the BOBP comic books (in the foreground) that operationalize the Code of Conduct by explaining management concepts to fisherfolk.*





*Promoting "responsible aquaculture in support of rural communities" is one of the objectives of the Code of Conduct.*

not owned or as belonging to the stakeholders will not be acted on. If the Code is a good one, and it is, it should be accepted by one and all, irrespective of its origin. It belongs to all humanity. It is not germane to ask whether it is from the people or from the top. When given effect and assiduously practised, the future of fisheries can be and is assured. No more delay is warranted to act responsibly whether one is a producer or consumer or market intermediary. Unless all or most of the stakeholders assume ownership of the Code and carry it out, not much will come out of it. The Code cannot be foisted on an unwilling community.

#### Features of the Code

The Code clearly recognizes the nutritional, economic, social, cultural and environmental dimensions of fisheries and the interests of all those concerned with the fisheries sector. It takes into account the biological characteristics of the resources and their environment and the interests of consumers and other users.

The Code consists of seven substantive articles:

- general principles
- fisheries management

- fishing operations
- aquaculture development
- integration of fisheries into coastal area management
- post-harvest practices and trade
- fisheries research

#### Duties and Responsibilities of States

There is naturally a decidedly greater emphasis on fisheries and aquaculture management because of fundamental problems facing production. The standards of behaviour and conduct the Code elicit are principally as follows:

- States should ensure that fishing operations licensed or allowed by them are carried out within their territorial and EEZ waters and conducted in a responsible manner.
- States should ensure that users of aquatic resources should conserve and protect the aquatic ecosystem and environment, especially its biodiversity.
- States should protect the rights of the fishing community for a secure and just livelihood.
- States should involve the fishing community in policy formulation.

- States should develop and test fishing gears, methods and practices for their selectivity and avoidance of catching non-target species or by-catch/discards to minimize damage or protect the biodiversity and habitats/environment of the world's oceans and water bodies.
- States should adopt the precautionary approach as the guiding principle in fisheries and aquaculture management (see March 1997 issue of BOBN vol.11 no.5).
- States should ensure that aquaculture does not impair the livelihood of the local community and its access to fishing grounds.
- States should ensure that fishing is carried out with due regard to the safety of human life and to the IMO's Regulations for Preventing Collisions at Sea, organization of marine traffic, protection of marine environment and prevention of damage to or loss of fishing gear.

Although the Code is not compulsory, States should all the same ensure that their management laws and regulations have provisions for sanctions of violations such as revocation of fishing licenses.



## Information Seminars and Travelling Roadshows / Exhibitions

Unless the fisherfolk and the other user stakeholders understand the logic and reason behind any form of management regulations restricting their freedom where, when and how they fish, they would not observe or comply with such restrictions, especially if imposed from outside. They have to understand the reasons for such curtailment of their freedom which they have been used to for generations. To bring about more widespread participation of the Code, the Bay of Bengal Programme for Integrated Fisheries Management (BOBP), a multi-agency regional field programme of the FAO/UN, has embarked on a variety of activities to popularise the Code.

First of all, to bring the Code to the people and popularise it among all possible end users and other stakeholders, the Code has to be translated into the local language of the community. Efforts must be made to ensure that the translation is identical to the agreed text of the Code and Guidelines. However, to popularise the Code and to improve understanding of its provisions and action steps, efforts can be made to simplify the highly

technical concepts action measures and terminology used in the original Code. The Government of India and the BOBP are now working on such a translation; other translations for the other member countries will follow. Wherever possible, the translation can be supplemented with the use of comic books which graphically portray the ideas and concepts in the Code into action states. Preparation is also underway to use entertainment for social change through the media of village theatre and street plays. Such village plays will dramatize and operationalize the Code involving as many stakeholders as we can 'recruit' into the plays. Such plays can be videotaped for wider awareness building and public outreach.

Further, the Government of India, with assistance from BOBP, has initiated preparatory arrangements to mount a travelling roadshow and exhibition on fisheries management in general and the Code in particular for the east coast states of India. This will gradually be extended to the west coast states. Similar arrangements are being planned for the other member countries. Relevant video tapes on fisheries management and responsible practices in fisheries will be shown and posters exhibited. Informal

interactive Q&A sessions will also be held during such roadshows. In addition, information seminars to sensitize and socialize stakeholders on the Code and the Precautionary Approach to Fisheries Management (PA2FM) have also been regularly held in member countries for both government officials, fisherfolk and other stakeholders.

## Conclusion

Given that present-day fisheries are severely stressed because of uncontrolled fishing ever since fishing first started, there can be no remaining doubt on the need for and benefits of improved fisheries management-including approaches, methods and practices in responsible fisheries. The very welfare of the fisherfolk today hangs on immediate and urgent compliance with fisheries management.

The Code needs to be taken to the people and popularised so that they are aware that there is another and better alternative for them to sustainably develop and conserve the means of their livelihood.

The Code is a code of good conduct for all. It is never too late for responsible behaviour!



*An Information seminar on the code of conduct for Responsible Fisheries Management held in Maldives in February 1998*



# “Stimulating Community Bonding” in Phang-Nga Bay, Thailand

by Kee-Chai CHONG, Somsak Chullasorn, Jate Pimoiijinda, Suchat Sanchang

*Three years ago, the Department of Fisheries, Thailand, began the process of fisheries management through strengthening of community bonds in Phang-Nga Bay. The Bay's fisherfolk have since demonstrated that they are capable of looking after their livelihood. Phang-Nga Bay fisheries is now well on the way to sustainable exploitation. The authors discuss the process of community bonding and its impact.*

## The Phang-Nga Bay

Three Thai provinces straddle the Phang-Nga Bay on the Andaman sea coast of Thailand: Krabi, Phang-Nga and Phuket (see map). The 1,960 km<sup>2</sup> Bay has been classified as one of the most biologically productive and ecologically important bays in the world. Large monolithic limestone islands, as also many other small islands, are found scattered throughout the Bay. The Bay is rich in marine fauna and flora: it also provides shelter and habitats for a wide diversity of the Bay's wildlife.

The land fringing the southern shores of the Bay is covered with dense mangrove vegetation. The mangroves and the Bay's shallow waters (average depth of 35m) serve as valuable spawning and nursery grounds for the Bay's marine life. About 5,700 fishing villages lie scattered

around the Bay coastline. A typical Bay village consists of some 150 fisherfolk households whose main source of income is from fishery or fishery-related occupations. On average, about two-thirds of the population comprises young people under 18. Only 5% are more than 50 years old.

Phang-Nga Bay was once abundant with natural resources: dense mangrove forests, luxuriant seagrass beds and rich aquatic resources. Today, the rapid economic development and population growth, particularly in the coastal belt within 60 km of the sea, have impaired the health of the ecosystem and the natural wealth of the Bay.

As is the case with most developing country fisheries, the small-scale sector predominates. These small-scale fisherfolk comprise about 90% of the

fisherfolk population in the country. But they account for only a quarter of the total fish catch. In Thailand, the large-scale commercial sector is the dominant supplier of fish, unlike in other neighbouring countries.

In recent years, the water and the natural resources of the Bay have been degraded by uncontrolled fishing and pollution. Until recently, encroachment from off-shore fishing vessels was rampant, giving rise to conflicts between traditional small-scale fishermen and large-scale commercial operators such as trawlers and purse seiners, and also among small-scale fishermen themselves, especially because some of them used motorised pushnets, etc.

The small-scale fishermen are impoverished and outside the national economy's mainstream. The Department

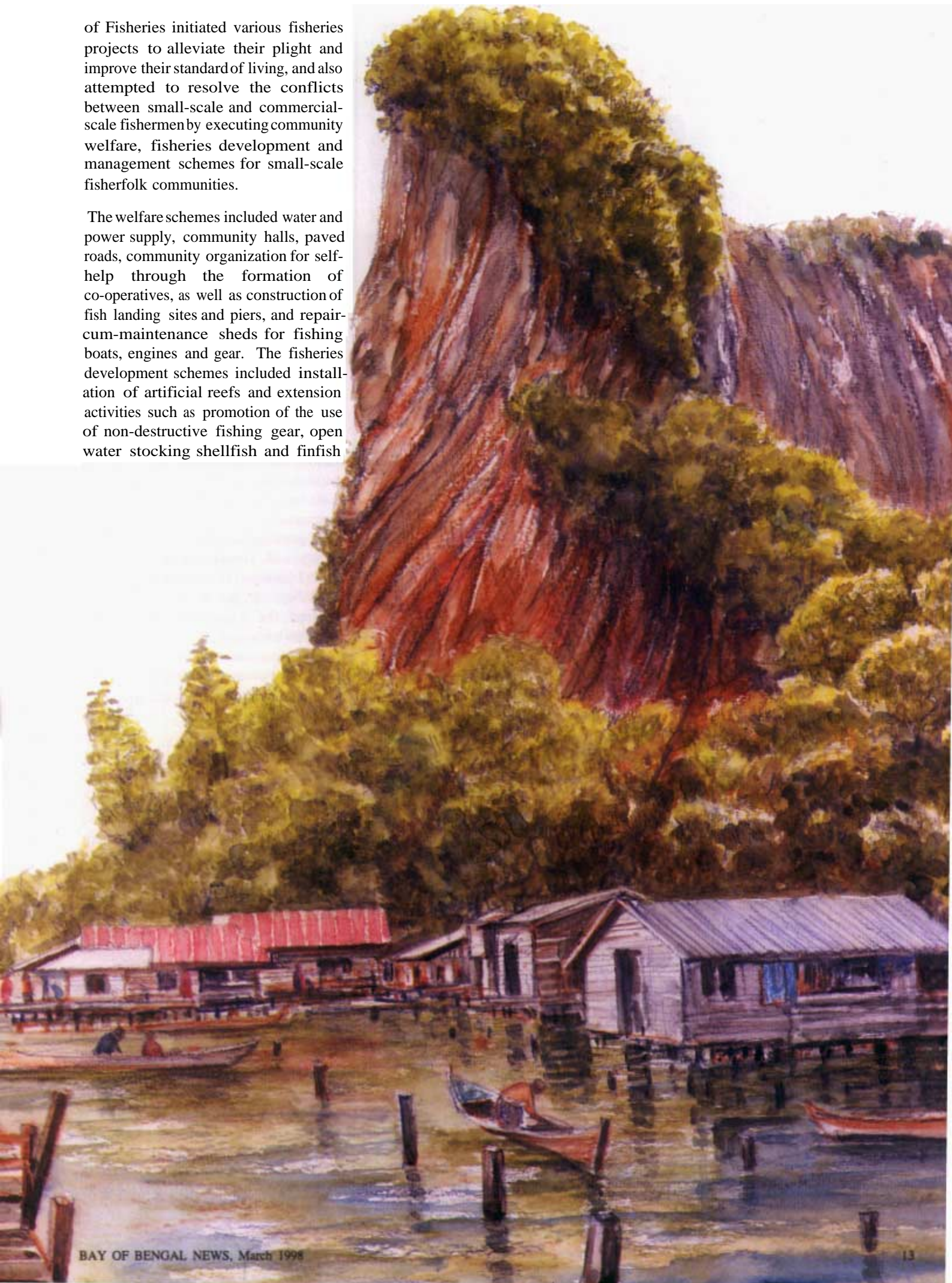
illustration by E. Amalore





of Fisheries initiated various fisheries projects to alleviate their plight and improve their standard of living, and also attempted to resolve the conflicts between small-scale and commercial-scale fishermen by executing community welfare, fisheries development and management schemes for small-scale fisherfolk communities.

The welfare schemes included water and power supply, community halls, paved roads, community organization for self-help through the formation of co-operatives, as well as construction of fish landing sites and piers, and repair-cum-maintenance sheds for fishing boats, engines and gear. The fisheries development schemes included installation of artificial reefs and extension activities such as promotion of the use of non-destructive fishing gear, open water stocking shellfish and finfish





culture (e.g. green mussel, oyster, grouper, sea basses and red snapper).

Management measures included marine protected areas or reserves, banning the use of trawls and motorised push nets within 3 km of the shoreline and within a radius of 400 m from any stationary gear and construction of more than 40 artificial reefs. Compliance with management regulations, however, was low due to enforcement problems. Fishing boats were able to evade the patrol boats because they are well equipped with the latest electronic communication gadgets such as mobile telephone or long-range radio system. Closed areas and seasons were similarly not effective until recently when fisherfolk began to understand the benefits of such management practices.

Unfortunately, the bio-socio-politico-economic impact of these government interventions – in terms of tangible benefits for small-scale fishermen – was not as successful or visible as planned. The Department of Fisheries therefore

re-examined its approach and strategies, and adopted a more consultative and participatory approach to development and resource management instead of the conventional government-driven top-down approach.

### Community - Based Fisheries Management

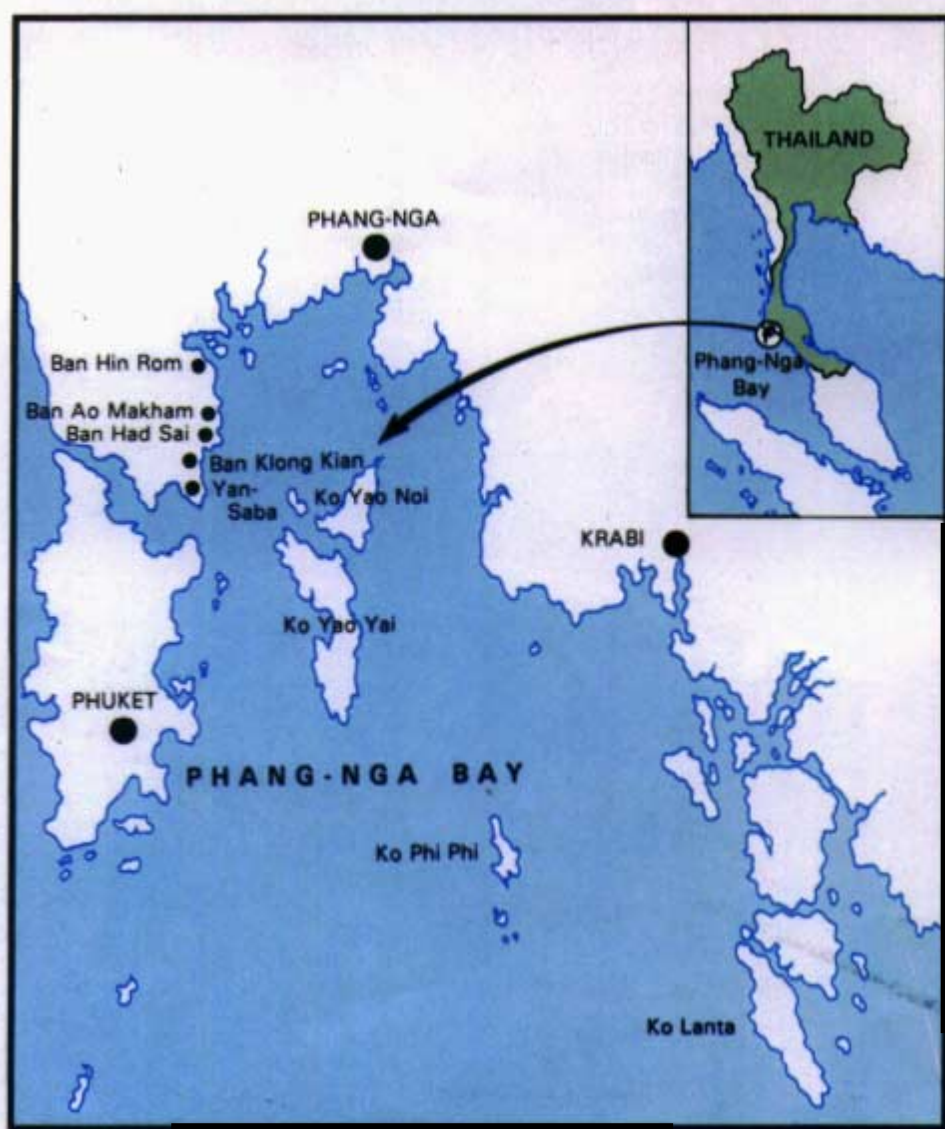
With BOBP support, the Department of Fisheries (DOF) embarked on a community-based system of fisheries management (CBFM). The Government first reviewed the existing status of fisheries, and of various fisheries management statutes and acts, to see how CBFM could be accommodated under the existing Thai fisheries management legal framework.

The Thai government is not only willing to devolve and share its fisheries management authority and responsibility, it is also going ahead to legitimise community participation (see section on induction of fisherfolk as sea rangers and Bay wardens by the Governor).

In 1995, DOF stepped up several preparatory activities to lay the foundation for greater community participation in fisheries management. The various types of stakeholders in the community were identified and consulted. Their perceptions of problems and solution options were analysed. Communication channels they preferred were used. Any conflicts in viewpoints or approaches were resolved through a process of mediation. A workshop on CBFM which brought together fisheries officials from national, provincial and local levels, other government officials in the coastal zone, fisherfolk, and other coastal stakeholders such as NGOs, universities etc. was successfully held. The aim of all these activities is to eventually introduce a system of territorial use rights in fisheries or TURF.

During the three-day workshop, the various stakeholders took active part in the discussions and deliberations. Small scale fisherfolk pointed a finger at certain government officials for their bias and their preference to work with certain groups of fisherfolk and coastal stakeholders. A key result of the workshop was that it consolidated and unified the objectives, roles and responsibilities of the community of stakeholders on sustainable management and conservation of the Bay's resources.

Co-management of Phang-Nga Bay fisheries was further formalized when the Governor of Phang-Nga Province inducted and authorised Bay fisherfolk as volunteer Bay wardens and sea rangers to enforce the government's monitoring, control and surveillance (MCS) programme. They were to supplement the Department's enforcement officers and patrol boats. Illegal fishing by push net boats was one of the first targets of this combined enforcement force. Wilting under the regular enforcement pressure of patrol boats and volunteer Bay wardens, push net fishermen eventually had to give up their operations. With the removal of the push nets, Bay fish stocks have a greater chance of growing to market size – as these push nets have very fine cod-end mesh size (2cm). Based on the data of the Andaman Sea Fisheries Development Centre, a push net can catch an average of 60-70kg/fishing operation of 3-to 4 hours per night. Also, conflicts between push net fishermen and the other fishermen stopped immediately.





The Department then put aside the stick and draw out a carrot – offering push net operators alternative gear such as gill nets. The government also offered Bay fisherfolk, including the 290 displaced push net operators, opportunities in coastal aquaculture, including cage culture and oyster/mussel culture, and open water stocking to enhance fish stocks.

Mostheartening of all is the commitment of the push net fishermen and the government towards the management process. The former gave their push nets to be burnt and the government replaced them with gill nets. In the recent past, one group of fisherfolk burnt the boats and gear of another group they were in conflict with. Today, they voluntarily burn their own gear to signify their commitment, a result of aroused awareness and better information.

Two types of artificial reefs are constructed and placed on the sand bottom of the Bay: large hollow rectangular cubic concrete blocks and structures within 3-5 km of the shore, and smaller community reefs in front of Bay villages. These 1mx1mx1m, 1.5 x 1.5m x 1.5m and 2mx2mx2m, size cubic frames were mainly placed at a depth of 25m. As a result of a combined effort to keep trawlers and push netters out of the 3 km zone, stocks have steadily recovered around the artificial reefs and Bay waters. A 3-4 hour night fishing stint off these artificial reefs, using hook and line, nets the small-scale fisherman about US\$20. More concretely, a fisheries research survey undertaken by the Andaman Sea Fisheries Development Centre, showed that the catch per unit effort (CPUE) has steadily increased from 34.66 kg/hr in 1986 to 136.77 kg/hr in 1995. This reverses the trend reflected by an earlier survey, which showed the CPUE declining from 160 kg/hr 1969 to 38 kg/hr in 1988. At that time, management of the fisheries was still in its infancy, and enforcement was lacking. The fisherfolk have obviously begun to benefit from the "managed fisheries" process.

#### Training of Fisherfolk: Changing their Mind-Set and Attitude

Training provides an excellent means to sensitize, socialize and re-awaken a group of people, not just about new information, knowledge and skills but more importantly about a sense of togetherness and belonging. In the past,



*Resource-damaging push nets voluntarily given up by fishermen are being burnt in Thailand. Resource awareness and full co-operation on the part of fishermen are important elements of (CBFM) Community-Based Fisheries Management*

fishermen regarded the fisheries resources as something meant for exploitation; they were not responsible for its sustainability. They perceived it to be the government's responsibility. The Thai Department of Fisheries has been working very hard to change this attitude and move towards a system of community ownership of fisheries resources under its proposed TURF programme.

When the DOF works with the same group of people over an extended period of time, it not only promotes goodwill and improves understanding and relationships but also facilitates people—bonding. This has indeed taken hold in Bay villages. This is amply demonstrated by the DOF/BOBP training and public hearing sessions for the Phang-Nga Bay fisheries community, held regularly since 1995. Building up the confidence of these people is essential to the success of CBFM, especially to provide them with an opportunity to experiment with and experience the "managed fisheries" process.

The fishing communities were first exposed to different models and experiences of traditional CBFM systems. This was followed by discussion on more recent experiences such as the system practised in Japan. Contrary to popular perception, the Japanese system of community-driven management of fisheries is not based on any traditional system but developed by the fishing communities themselves with the support of the government (Prof Tadashi

Yamamoto, *per comm*). To put it differently, the DOF started out with the "educational" and "advisory" role of a community-based system. This has now evolved into a more mature partnership between the government and fisherfolk and other Bay stakeholders. Eventually the government expects to relinquish management to the community. Here, the fisherfolk have not only shown their interest and willingness to assume more responsibility in managing the fisheries in their local waters but are ready to carry it out on their own.

#### Collective Community Force

Bringing fisherfolk and other stakeholders together in an open forum and making available a mechanism to air their concerns, frustrations and grievances has enabled fishermen to open up, and adopt a healthy and positive rather than a fatalistic attitude towards their source and means of livelihood. They realize that they can ward off marginalization and fight impoverishment only if they act as a collective community force. Sessions on the need for community self-help are bonding the people together. It is during such sessions that fisherfolk and other stakeholders understand and appreciate their problems, and begin to see their respective roles and responsibilities in CBFM. This also leads to better community and neighbourly relationships among stakeholder community members, critical to ensure that every group of stakeholders understands and contributes to the success of the system.



*Fisherman of Phang-Nga Bay displays gravid female crab caught by him which he has deposited into a spawning cage. After hatching, the spent crab will be sold in the market. Proceeds from the sale are used for community work.*

### Community Bonding: Bringing People Together and Improving Relationships

Community bonds and neighbourly relationships were strong in the days of old. To revive this spirit, it is important to restore traditional values such as regard for each other's opinions, respect for authority and for law and order. The concept of respect for elders and adherence to a code of honor had broken down with the pursuit of materialism and the modernization of societal behaviour. Loyalty to traditional leaders can ensure compliance with community laws and social restraint, especially self-restraint.

In community bonding, the position of the leader is important. She has to be seen as acceptable to all community constituents. After all, compliance has to do with the values, perceptions and attitudes of the community toward this leader, and their loyalty to the leadership. Government officials must be seen as honest or credible, and working for the community's welfare.

Community bonding can be strong when fisheries resource boundaries are clearly identified and the community structure is cohesive and homogeneous. Management structures must be visible and tangible so that the community can relate to them. Protected marine areas or reserves offer an example. Such factors exist in the approximately 5,700 fishing villages of Phang-Nga Bay where the fishermen are all Thai, and share common cultural and religious beliefs. Such bonding makes it relatively easy for the community to assist the government in managing fisheries resources through

their support and participation. The community of stakeholders is rediscovering the benefits of working together as good neighbours should.

Community bonding is taking place even between trawler owners/operators and small-scale fisherfolk. Being made aware of the damage inflicted by their trawling operations, trawler owners have agreed not to encroach into the Bay. To further strengthen their commitment, trawler owners are even financing the construction and installation of artificial reefs at the entrance to the Bay to ensure that their fishing boat captains or master fishermen do not enter into the Bay... illegally. They, along with local chambers of commerce, are also providing uniforms to volunteer sea rangers and Bay wardens.

### Beyond Phang-Nga

Bay fisherfolk, especially their leaders, have come a long way since those days when they were tutored on organization of meetings, and on democratic decision-making. Community halls built by the DOF are now more fully utilized than when they were first built with fisherfolk still unsure of their livelihood.

After three years of DOF experiments with the stakeholder approach to CBFM, Bay fisherfolk have demonstrated that they are capable of looking after their livelihood if given the opportunity. Phang-Nga Bay fisheries is well on the way to sustainable exploitation. Bay fisheries stocks now have a better than even chance of sustaining themselves,

given that trawlers and push nets are no longer operating in Bay waters.

For a country that has no history or tradition of CBFM, these fisherfolk have taken to it readily. They have demonstrated that co-management works when government policy is supportive and government fisheries managers are committed to the concept of community-based management. Awareness, especially aroused awareness is powerful in rallying people together, it creates and builds the cooperative spirit and sense of community – a willingness to pull together! In essence, communities can help themselves ... through self-help.

This recent Thai experience in the management of Phang-Nga Bay fisheries shows that management is possible when the "behaviour" of the stakeholders is changed through the process of socialization by improving their awareness. In sum: can communities of poor, illiterate and largely ignorant inhabitants as found in many of our fishing villages help themselves? The answer is a resounding yes!

Thus, the prospects of fisheries management are beginning to look bright as our most recent experience from Thailand shows (see also BOBP report on Emerging Trends and Prospects in Fisheries Management). The power of sharing, whether in sharing of power or in shared planning and decision-making, unifies and bonds people. Problems arise when there is no sharing. The Phang-Nga experience will doubtless be gradually replicated elsewhere in Thailand – and beyond.



# Monitoring and evaluation: What can it accomplish and how?

## *BOBP workshop in Negombo, Sri Lanka, discusses tools and techniques*

A three-day BOBP-supported workshop on monitoring and evaluation (M&E) held in Negombo, Sri Lanka, from 23 to 25 March 1998, was attended by 36 persons, including representatives of member-countries, workshop facilitators and FAO/BOBP staff. The workshop preceded the 23rd meeting of the BOBP's Advisory Committee.


The workshop aimed at developing the M&E capability of fisheries departments in the region, also at providing a

framework by which the impact of BOBP could be evaluated.

Mr Max Wilkie (consultant), Mr George Mathew (Officer in the Social and Economic Unit, UK-DFID Post-Harvest Fisheries Project of the BOBP) and BOBP staff served as workshop facilitators. Mr Vibhu Perera, President of the Ornamental Live Fish Exporters Association of Sri Lanka, Mr S U K Ekaratne, Professor of the Department of Zoology in the University of

Sri Lanka, and Mr Arjan Rajasuriya, Senior Research Officer of NARA, functioned as resource persons for discussions on the ornamental fishery of Sri Lanka.

The workshop was structured into two parts. After an introductory presentation on monitoring and evaluation, participants spent almost two days in a GOPP (goal-oriented project planning) exercise relating to the ornamental fishery in Sri Lanka. Two working groups

<h3>Monitoring.....</h3> <p><b>Monitoring</b> is a routine management activity, undertaken by <u>all managers</u> during planning and implementation in order to:</p> <ul style="list-style-type: none"> <li>● assess progress and achievements</li> <li>● identify and overcome problems</li> <li>● improve the effectiveness and efficiency of the work undertaken.</li> </ul>	<h3>Evaluation.....</h3>  <ul style="list-style-type: none"> <li>● Evaluation enables managers to understand: <ul style="list-style-type: none"> <li>● Whether plans are relevant</li> <li>● The results of the plans</li> <li>● How these results occur</li> <li>● Who benefits</li> <li>● Why</li> </ul> </li> </ul>
<h3>Monitoring vs. Evaluation</h3> <ul style="list-style-type: none"> <li>● <b>Monitoring</b> is the process of measuring, recording, collecting, processing and communicating data information to <u>assist management decision making</u>.</li> <li>● <b>Evaluation</b> is the <u>critical analysis of the achievements and results</u> of a project, programme or policy compared to the intended objectives.</li> </ul>	<h3>Planning for M&amp;E</h3> <ul style="list-style-type: none"> <li>● Pre-conditions for the development of effective M&amp;E systems: <ul style="list-style-type: none"> <li>● Development projects and programmes <b>must be well designed</b></li> <li>● Monitoring and evaluation <b>must be planned</b></li> <li>● Resources (people, funds) <b>must be allocated</b></li> </ul> </li> </ul>
<h3>How M&amp;E Can Help</h3> <ul style="list-style-type: none"> <li>● <b>During Implementation</b> <ul style="list-style-type: none"> <li>— Identifying success and problems</li> </ul> </li> <li>● <b>Before a Second Phase</b> <ul style="list-style-type: none"> <li>— Have target outputs been accomplished?</li> </ul> </li> <li>● <b>At Termination, or Ex-Post</b> <ul style="list-style-type: none"> <li>— Has the programme achieved its objectives?</li> <li>— What lessons can be learned?</li> </ul> </li> </ul>	<h3>The Limitations of M&amp;E</h3> <ul style="list-style-type: none"> <li>● An M&amp;E system can supply timely information for use by management.</li> <li>● M&amp;E <b>cannot</b> directly improve planning or management.</li> <li>● Monitoring and evaluation may be regarded as a threat.</li> <li>● Collecting and processing data costs time and money</li> </ul>



<h2>Monitoring in a DoF</h2> <ul style="list-style-type: none"> <li>● Physical <ul style="list-style-type: none"> <li>● status or physical assets (buildings, vehicles)</li> <li>● staff levels</li> </ul> </li> <li>● Financial (expenditures, replenishments)</li> <li>● Action programmes (research, extension)</li> <li>● Statistics: Landings, prices, etc</li> <li>● MCS - licencing, law enforcement</li> <li>● Development (including aided project)</li> </ul>	<h2>Evaluation in a DoF</h2> <ul style="list-style-type: none"> <li>● Assess the efficacy of the department in implementing routine activities and action programmes.</li> <li>● Question the relevance of the programmes</li> <li>● Identify whether the policies and programmes of the department are resulting in the achievement of sectoral goals.</li> </ul>
<h2>Objectives of BOBP M&amp;E Component</h2> <ul style="list-style-type: none"> <li>● Enable lessons to be learned from national projects so that these may be communicated throughout the region.</li> <li>● Assist 2 fisheries departments to strengthen Management Information Systems.</li> <li>● Strengthen BOBP Management Information Systems.</li> </ul>	<h2>Objectives of the Workshop</h2> <ul style="list-style-type: none"> <li>● Plan for M&amp;E of National BOBP-assisted Projects <ul style="list-style-type: none"> <li>● Agree how projects will be analysed to enable them to be monitored and evaluated.</li> <li>● Schedule project means/ends analysis</li> </ul> </li> <li>● Review of National Fisheries M&amp;E Systems. <ul style="list-style-type: none"> <li>● Identify which departmental systems could be developed with BOBP assistance</li> </ul> </li> </ul>

produced “problem trees” on the subject. These were used to identify possible strategies and solutions. The exercise provided insights into how national projects should be analysed to plan for monitoring and evaluation.

After a presentation on Logical Framework Analysis by Mr Wilkie, participants drafted elements of logical frameworks for two projects – management of coral reef habitats; and the marine ornamental fishery of Sri Lanka.

On the third day of the workshop, country papers on existing M&E systems used in the fisheries departments of member countries were reviewed. These

papers had been prepared prior to the workshop. They discussed monitoring systems and evaluation practices, and plans to strengthen these systems.

### Lessons for the conduct of future workshops on GOPP

a) M&E logframe training workshops are best conducted with actual project stakeholders. A workshop such as the one in Negombo can only introduce participants to the tools and techniques of M&E.

b) Workshop participants should be carefully selected. It is difficult to train

participants from all levels of fisheries departments in a single forum.

As a follow-up to this workshop, M&E logframe training workshops are to be conducted in all member-countries. Logical frameworks will be formulated for selected BOBP-assisted national projects.

Within the framework of the M&E component of the BOBP, assistance will be provided to the fisheries departments of Sri Lanka and Tamil Nadu, India, to identify M&E needs; review systems already in place; develop proposals for system enhancement; and pilot improvements.

### Workshop evaluation

Twenty one workshop participants filled in evaluation questionnaires about the workshop.

Twenty of them indicated that the workshop content was either “relevant” or “very relevant” to their work.

Seventeen respondents found the project planning tools and M&E system design procedures discussed during the workshop “very useful”. Likewise, 17 participants wanted follow-up activities. Many specifically requested national workshops, so that logical frameworks could be developed for nationally executed BOBP projects.

*Dr Y.S. Yadava, India's Fisheries Development Commissioner, makes a point at the monitoring and evaluation workshop in Negombo, Sri Lanka.*





# BOBP in the Field

## BOBP Advisory Committee Meets in Sri Lanka

The 23rd Meeting of BOBP's Advisory Committee was held in Negombo, Sri Lanka, on 27 and 28 March, 1998. There were 28 participants representing member countries, the FAO and BOBP, plus an observer each from the World Bank and NACA.

Mr Mahinda Rajapaksa, Minister for Fisheries and Aquatic Resources Development, inaugurated the meeting. Mr Neville Piyadigama, Secretary in the Ministry, was elected Chairperson of the Committee. **He will hold office for a year till the next meeting.**

*Highlights of the Committee's recommendations, and the views of participants:*

- Member-countries, FAO and donors should consider the evolution of an inter-governmental body in the Bay of Bengal region after the termination of BOBP's third phase.
- Member-countries and the FAO should jointly address the external onslaught of non-tariff trade barriers, which threaten the food and livelihood security of a large number of fishers.
- Bangladesh sought assistance to promote alternative income-generation options for fisherfolk engaged in the ESN (estuarine set bagnet) and PN (push net) fisheries. Fishing effort in these two fisheries needs to be reduced.
- Indonesia requested that a consultant be identified to improve the handling and processing of anchovies.
- Maldives emphasized the urgency of a study to learn from traditional management practices in the context of its integrated reef resources management project.
- Sri Lanka is interested in reducing the extraction of coral, so that its coral reef resources are better managed. It sought assistance in identifying appropriate technologies and alternative sources of lime, which is the primary product of coral.
- Sri Lanka also requested assistance to strengthen the Monitoring and Evaluation and Management Information Systems in the Ministry of Fisheries and Aquatic Resources Development.
- Thailand sought assistance to carry out an impact assessment study of the current BOBP-assisted project on Community-Based Fisheries Management in Phang-Nga Bay, Thailand. FAO and BOBP joined India, Bangladesh and Sri Lanka in expressing their appreciation for the efforts of the Post-Harvest Fisheries Project (executed by the UK's Department for International Development) and the benefits that had accrued from it. The project ceased operations on 31 March 1998.
- The Cleaner Fishery Harbours project has been completed in Sri Lanka and nears completion in the Maldives. A manual with guidelines that summarizes the project's learnings is being developed and produced.

- Member-countries expressed their interest in a regional workshop that would expose them to the social, environmental and legal implications of coastal aquaculture, so that they may take a precautionary approach to management. They requested FAO to explore possibilities.
- Member-countries also expressed the need for awareness-building about international conventions, regulations and laws relating to the environment and to fisheries, which often have important national and regional implications.
- The Committee was told that the Secretariat of the Global Environment Facility (GEF), World Bank had given its final approval (to governments of the region and various international development agencies) for a "Block B grant" for developing a proposed Strategic Action Plan (SAP) for the Sustainable Management of the Bay of Bengal Large Marine Ecosystem (designed as a component of GEF to be based in the Bay of Bengal region). It was clarified that the eventual GEF project, while building on the results of the BOBP, would not constitute an extension of the current Programme.
- The FAO informed the Committee about important current initiatives in fisheries and aquaculture development and management, specially the forthcoming consultations on conservation and management of sharks and reducing the incidental catch of seabirds in longline fisheries.
- The Committee proposed that efforts be taken to provide the fishery agencies of Sri Lanka and Tamil Nadu, India, with assistance and develop and strengthen their monitoring and evaluation and management information systems.
- **Both Bangladesh and Thailand have offered to host the next meeting of the Advisory Committee, which will be held in conjunction with the 11th Session of the Bay of Bengal Committee of the Indian Ocean Fishery Commission.**

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## Mapping fishing areas and surveying communities' needs in Kanniyakumari

Capt. Paul Martin Siluvai, 59, who retired as Assistant Director of Fisheries in Kanniyakumari in May 1996, has been in charge of a team of 68 field data enumerators who completed a survey of 39 fishing villages of the district in February 1998 (see *Bay of Bengal News*, Dec 1997). They interviewed fishers of *kattumarams*, *vallams* and small trawlers in these villages. A separate survey was undertaken to identify the infrastructure needs of fishing communities — such as electricity, roads and **water supply**.

The two surveys aimed at obtaining a better understanding of the fishing patterns of the three groups of fishermen and to map the grounds they fish, in order to understand areas of overlap and conflict among the groups. They will also facilitate discussion and decision-making to resolve such conflicts. In the words of Mr. Siluvai, "The ultimate aim of



*Field investigators with the trainers after the survey orientation.*



*The field investigators included several women.*

the surveys is to improve management of the fishing grounds and better utilization of the resources.”

Capt. Siluvai told *Bay of Bengal News* in Madras that the interviewers were mainly young men and women from the fishing community. Their ages ranged from 16 to 25, their education varied widely. Some of them had completed secondary school, a few had obtained graduate degrees or even master's degrees.

Few of the investigators had had previous experience with such a survey. They were briefed and trained for a day in Kanniyakumari about the purpose of the survey and the survey tools – a printed questionnaire in English and a map.

“Looking back on the exercise, the training was perhaps insufficient,” says Mr. Siluvai. “On the whole the investigators did a credible job, but there are gaps in the information, and some of the data obtained was unclear.” He suggested a follow-up visit to the villages to obtain further clarification and verification of the data.

Mr. Rene Verduijn and Ms. Barbara Bierhuizen of BOBP are now analyzing the maps and the filled-in questionnaires. “We had hoped to find teams sufficiently familiar with the English language,” says Barbara. “Apparently, not all the concepts we explained were understood, such as the difference between a fishing ground and a so-called fishing range. Next time, we need to pay more attention to providing survey materials in the local language.”

“A first glance at results of the second survey make it clear that land availability, sanitation and drinking water supply are the main infrastructure problems in the villages,” says Rene.

Rene and Barbara will be processing and analysing the information during May and June 1998. They will clarify ambiguities in the data with the data collectors, and fill in information gaps, so that the data are right, accurate and reasonably robust.

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## **Meeting skill gaps for fisheries management in Department of Fisheries, Tamil Nadu**

The BOBP has engaged a management consultancy firm to do a 4-month participatory human resources development (HRD) study of the Department of Fisheries (DOF), Tamil Nadu, to enable improved coastal fisheries management.

A number of management and fishery experts will be involved in the study. Their activities will be coordinated by Bangalore-based Om Consultants, which will identify gaps in skills and assess the training needs of the Department in order to facilitate better coastal fisheries management in particular Tamil Nadu in Chennai and Kanniyakumari districts. Om Consultants will work in close consultation with the BOBP and the Department of Fisheries for the study.



A sampling of Om Consultants' activities during the course of the study:

Carry out a participatory appraisal of the DOF, Tamil Nadu to review its mandate, its present manpower status and future role to enable coastal fisheries management.

Identify the 'needs of the DOF so that its capacity can be built up to enable participatory fisheries management. Needs that can be addressed through training and education inputs will be identified.

Review and revise job descriptions for positions in the DOF responsible for fisheries management and recommend organizational changes to strengthen the Department's capacity to enable fisheries management, consistent with government laws and regulations.

Briefly describe education and training objectives  
Recommend institutions and agencies both in India and abroad that can provide the needed education and training inputs.

### **Guidelines for sustainable aquaculture : Mission visits Andhra Pradesh**

Aquaculture consultant Charles Angell (formerly on the staff of BOBP), visited a cluster of shrimp culture farms in West Godavari, East Godavari and Krishna districts of Andhra Pradesh from March 30 to April 5, 1998. He observed the culture practices of farmers, met staff from the Department of Fisheries who are undertaking farming systems research, and held discussions with them about their findings.

Mr. Angell was accompanied by Ms Barbara Bierhuizen, Associate Professional Officer (Geographical Information Systems).

The purpose of Mr Angell's visit was to draw up guidelines for sustainable small-scale coastal aquaculture. These guidelines may later be converted into extension material for farmers

*Aquaculturist Charles Angell (2nd from right), who conducted a survey of shrimp culture in Andhra Pradesh, with a shrimp farmer and a fisheries official at the former's shrimp pond near Narsapur.*



Om Consultants has so far conducted separate workshops with BOBP and DOF in Chennai; a consultation with stakeholders, mainly fisherfolk, in Chennai; and a workshop with several types of stakeholders (fisherfolk, processors, officials and former officials) in Cuddalore district.

Says Mr. M.S.S. Varadan, Managing Director of Om Consultants. "The study is based on identifying the stakeholders and their interests, work out the DOFs response to the expectations of stakeholders, identify the skills and competencies of DOF personnel. This exercise was done through a participative workshop using the OOPP (Objectives Oriented Project Planning) approach.

"Cuddalore, which has both marine and inland fisheries, was chosen for field work. The workshop in Cuddalore tried to identify current gaps and steps to meet them with the co-operative effort of all agencies...

"The study will continue during the next two months. We will look at all aspects of skill requirements. The aim will be to help both individuals and the organization to develop the capabilities to meet current and future needs."

*Fish farmer (centre) briefs fisheries officials and Mr Angell at his polyculture farm along the Matlapalem creek near Kakinada.*



# Review of the State of World Fishery Resources: Marine Fisheries – Eastern Indian Ocean

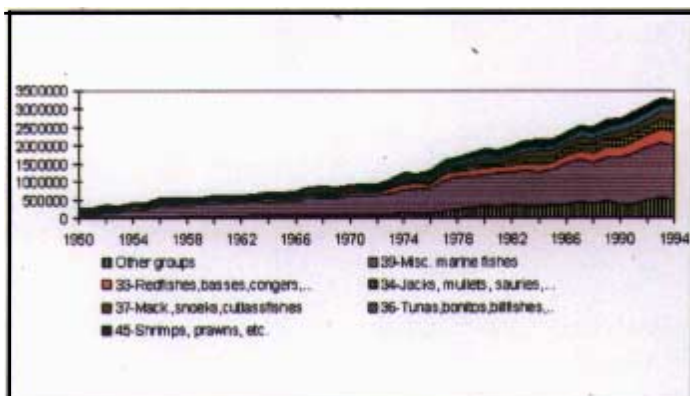
*We take pleasure in reproducing for readers an FAQ Fisheries Department circular about marine fishery resources on the Eastern Indian Ocean.*

## Introduction

The Eastern Indian Ocean (Figure 1) includes the Bay of Bengal in the north, the Andaman Sea and northern part of the Malacca Straits in the east, and the waters around the west and south of Australia. The main shelf areas include those of the Bays of Bengal and Martaban and the narrower shelf areas on the western and southern sides of Indonesia and Australia. Most of the coastal fisheries are concentrated in these shelf areas and are the main fisheries in the region. The resources range from typical tropical species found in the northern part of the area to temperate species in the waters of the southern latitudes west and south of Australia.

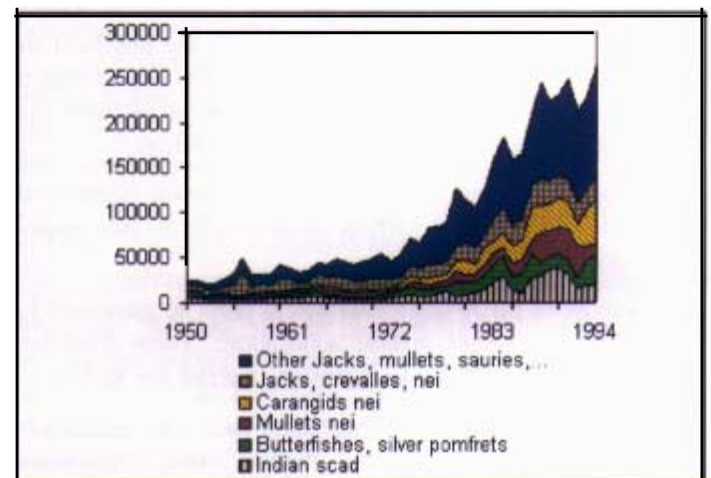


The fisheries of the Eastern Indian Ocean are characterized by increased fishing pressure, especially in inshore areas. The coastal areas off the east of India, the west of Thailand and the south coast of central Java are good examples of areas where fishing pressure has kept increasing. Knowledge of the fish stocks is generally poor and management actions taken have usually been on an ad hoc basis, in most cases with lack of scientific backup.



## Profile of catches

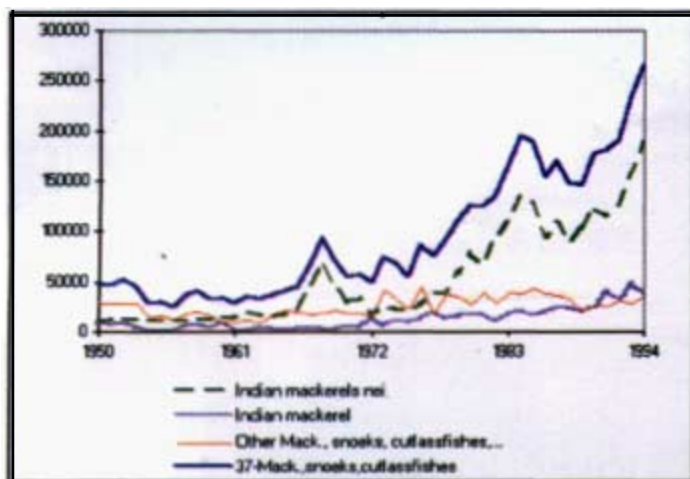
Catches in this region (Figure 2) have increased since 1950. In the mid 1970s, the rate of increase nearly doubled and has remained at a higher level since, although catches stabilized during 1993 - 1994. Catches of five countries (India, Indonesia, Malaysia, Myanmar and Thailand) accounted for 90% of the total in 1994. The absence of Bangladesh as a major marine fishing nation, despite a large population, is due to the historical focus on the large freshwater fishery resources. The catches of Australia made up only 3% of total catches by weight but contributed a much higher proportion in terms of their economic value.



Seven major ISSCAAP (International Standard Statistical Classification of Aquatic Animals and Plants) Groups account for 84% of the total catches: miscellaneous marine fishes (Species Group No 39); redfishes (33); herrings (35); jacks (34); mackerels (37); tunas (36) and shrimps (45). The catch reported as miscellaneous fishes (principally made up of small fishes and juveniles of some high-valued fishes) accounted for 39% of the total catches in 1994. Although the continued increase in catches of this group may indicate augmented fishing pressure, the relatively high figure has been also caused by the incomplete or poor statistical collection of some member countries, on which assistance is needed.

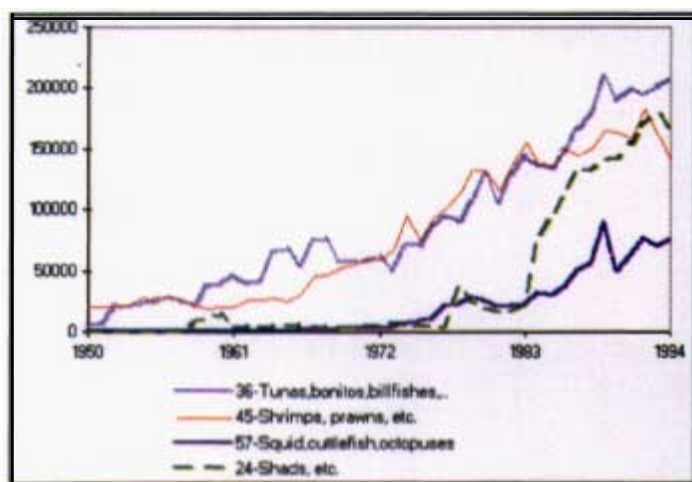
Other than miscellaneous fishes, the contribution of the other main ISSCAAP Groups is approximately equal, and no single identified group dominates the total catches. Catches at a species level within ISSCAAP Groups are also generally distributed relatively equally among a large number of species, none of





which can be identified as the key factor in explaining the pattern of total catches within each group (For example, Figure 3 shows the catches by main species within ISSCAAP Group 34). However, in certain ISSCAAP Groups, single species or species groups stand out (i.e. the catches of Indian mackerels shown in Figure 4).

The rate of increase of catches by ISSCAAP Groups generally shows the same trend as that of total catches, with a slow increase from 1950 to 1970, followed by a more rapid increase in the last 20 or so years. However, the rate of increase in catches of shrimp has slowed since the early 1980s while catches of shads have apparently climbed sharply since the early 1980s (Figure 5). The slowing rate of increases of shrimp catches is thought to be due to local overexploitation of the resource (see below). Shads are traditionally the main catches of marine fisheries in Bangladesh. The sudden increase in catches in the mid-1980s is caused by the fact that Bangladeshi statistics on shad catches started in 1984.



## Resource status and management

### Northern areas

Most of the catch from coastal fisheries is used for local consumption. Fish are generally considered an affordable source of protein by most people in the region. Shrimp and tuna are the main export commodities. Overexploitation of shrimp resources in coastal waters has reduced the amount of exports from capture fisheries, and there is a growing tendency for exports to come from the aquaculture sector in almost all countries in the region. While the majority of tuna catches are

from coastal fisheries, the skipjack and yellowfin tuna, which form the major part of the tuna exports, are caught offshore. During the last decade, some countries have developed offshore fishing for tuna, notably longlining in the case of Indonesia and purse seining in the case of Thailand.

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*"The rate of increase in catches of shrimp has slowed since the early 1980s, while catches of shads have apparently climbed sharply since the early 1980s"*

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Though squid is commercially important, its production is small, with only Thailand producing relatively high catches (40 000 t in 1994 compared to only 15 000 t in 1984). Thailand contributed more than 50% of the total catch. Some of the Thai fleets also fish in other countries through various joint venture agreements. It is likely that the potential for development of this fishery exists in the region, although further work is still needed to assess the resources.

Overexploitation of the resources in coastal waters is related very much to population pressure in the coastal area. With the limited access of waste treatment in most countries of the region, organic material and nutrification seem to be major factor behind aquatic pollution. The cyclones that enter the Bay of Bengal are a considerable natural hazard to fishers, particularly given the absence of good weather forecasts and the poor level of electronic equipment on most fishing vessels. A consequence is high casualties among fishermen during the cyclone season.

### Southern areas

The main fisheries in the southern part of the Eastern Indian Ocean are the fisheries off the west and southwest of Australia. The lobster fishery is one of the important fisheries in this area. The fisheries have been relatively steady since the 1980s, and the catch in 1994 amounted to 16,000 t. On the other hand, tuna catches that had increased and reached the peak of 19,700 t in 1985, have declined since, and the catch in 1994 amounted to only 5,900 t. In response to the decline, Australia has promoted the management of the southern bluefin tuna. Japan and New Zealand have also participated in the management effort. The catches of the herrings group (ISSCAAP Group 35) showed a pattern similar to that of tuna, with a 1989 peak of 17 000 t after which the catch declined. In 1994, the catch was about 11,000 t. It is not clear whether the decline is attributable to increase of fishing pressure or environmental changes or both.

The catches of miscellaneous fishes (ISSCAAP Group 39) show an interesting trend. The peak catches of about 28 000 t occurred in 1975 and 1993 but in between the catch was as low as 1000 t (in 1985). A similar pattern is seen in the catch of scallops (ISSCAAP Group 55), which showed peaks in 1984 and 1993 of about 27 000 t but in 1989 catches were down to 1000 t. No clear explanation could be found for this pattern of catches among these two resource groups.'



# Do you want this T-shirt?

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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, by member governments in the Bay of Bengal region. The main executing agency is the FAO (Food and Agriculture Organization of the United Nations.)