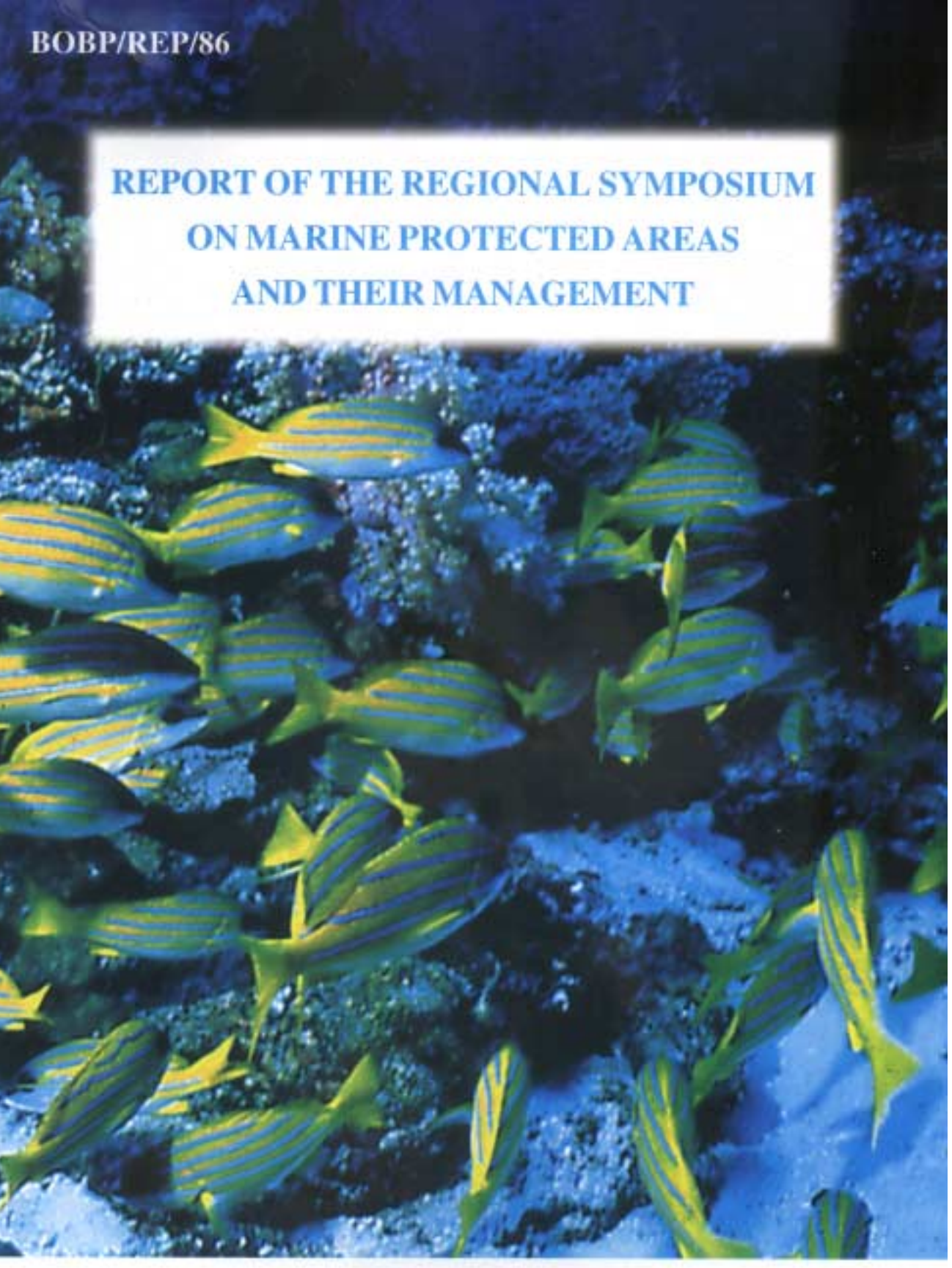
BOBP/REP/86

REPORT OF THE REGIONAL SYMPOSIUM ON MARINE PROTECTED AREAS AND THEIR MANAGEMENT



BOBP For Fisheries Management
BAY OF BENGAL PROGRAMME

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REPORT OF THE REGIONAL SYMPOSIUM ON MARINE PROTECTED AREAS AND THEIR MANAGEMENT

1-4 November, 1999
Alor Setar, Kedah, Malaysia

BAY OF BENGAL PROGRAMME
Chennai, India
2000

Preface

This document is the report of a regional symposium on marine protected areas and their management, held in Alor Setar, Kedah state, Malaysia, from 1 to 4 November, 1999. It was organised by the Department of Fisheries, Malaysia, with support from the Bay of Bengal Programme (BOBP) and was attended by representatives from the seven member-countries of the BOBP and resource persons from Australia and the Philippines.

The document contains the text of the Alor Setar Declaration passed by the symposium participants and papers presented at the symposium plus brief reports of question-and-answer sessions.

The BOBP is a multi-agency regional fisheries programme that covers seven countries around the Bay of Bengal – Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka, Thailand. The Programme plays a catalytic and consultative role in developing coastal fisheries management in the Bay of Bengal, thereby helping improve the conditions of small-scale fisherfolk in the member-countries.

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

Foreword

The Bay of Bengal Programme has carried out several pilot activities on management of marine aquatic resources during its Third Phase (1994-2000). One activity that has aroused great interest throughout the region relates to the Pulau Payar Marine Park in Malaysia. It has enabled the development and testing of methods and approaches to improve the management and conservation of marine parks.

The Regional Symposium on Marine Protected Areas and their Management, held early November 1999, was in a sense an extension of the work in Pulau Payar. It outlined the technical and the institutional context behind MPAs, explored legal and management issues, and evaluated social and economic prospects for developing countries. Four sessions were devoted to "Learnings and lessons".

The 40 delegates from member-countries of BOBP, and from Philippines and Australia who took part in the symposium, found it most instructive. A keynote address by Dr. Bernadette O'Neil of Environment Australia set the tone and outlined several issues. There were papers on management options, the size of MPAs and their impact on bio-diversity, planning, legislation, sustainable financing, enforcement. All of these are reproduced in this report, and will be found useful by scientists and researchers who are studying MPAs.

While a whole lot of issues were discussed, there were some pretty sharp and categorical conclusions as well. The Alor Setar declaration passed by the symposium called for awareness-building on the benefits of conserving coastal and marine ecosystems. It urged multi-disciplinary planning and implementation of integrated coastal zone management. It recommended mechanisms to promote inter-agency co-operation, and a legal framework to facilitate the regulation and management of MPAs.

The Alor Setar resolution also suggested that governments make funds available for the long-term management of MPAs. It suggested cost-sharing among agencies to finance MPAs, scientific research and long-term monitoring to ensure sustainability, and the sharing of knowledge, expertise and experience among MPAs.

Participants came away with a clearer, wider and better-rounded perception of MPAs. What is needed throughout the region is awareness-building and action on more, better and systematically researched and monitored MPAs.

I see this report is a modest contribution to the process.

Kee-Chai CHONG
Programme Coordinator, BOBP

Contents

SYMPOSIUM SUMMARY AND ALOR SETAR RESOLUTION

Some 40 delegates from member-countries, BOBP and Australia took part in this symposium, which was organised by the Department of Fisheries, Malaysia. with support from the BOBP. The symposium objectives were to discuss the need for conservation of fish and aquatic resources and their habitats; provide an overview of the scientific, technical and institutional context behind the use of MPAs for fisheries and aquatic resources management; explore the management strategy of MPAs, evaluate the social and economic prospects of MPAs for developing countries, evaluate and adapt to developing countries any available guidelines on establishing MPAs.

Resource persons were drawn from Environment Australia and the Australian Institute of Marine Science. The Director-General of Fisheries, Malaysia, Dato Mohd Mazlan b Jusoh, inagurated the symposium. He called for pro-active management of the marine environment and its biodiversity. He emphasised the efforts of the Department of Fisheries to create and build awareness on marine conservation, since the establishment of the Pulau Payar Marine Park in 1987. He said that the National Policy on Marine Biodiversity had been launched on 16 April 1998 to help the country implement strategies, action plans and programmes for the conservation and sustainable utilization of its resources.

Dr Bernadette O'Neil of Environment Australia delivered the keynote address on "The need for marine protected areas and marine parks: networks and transboundary management approaches for success." She also presented a paper on "Planning for performance assessment of marine protected areas and marine parks". Mr Al istair Cheal, Coordinator of Reef Fish Monitoring with the Australian Institute of Marine Sciences, presented a paper on "System of Monitoring of Marine Protected Areas and Marine Parks: Suggested Model and Experiences".

Four workshop sessions were devoted to "Learnings and lessons," based mainly on experiences from Malaysia, the Philippines and Australia. A field trip was organised to the Pulau Payar Marine Park.

The Symposium delegates passed the Alor Setar resolution, reproduced below.

The Alor Setar Resolution on Marine Protected Areas

Adopted in Alor Setar, Malaysia on Thursday, the 4th day of November 1999.

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 the coastal environment for their food and livelihood security;

Recognizing that marine ecosystems and, in particular, coastal aquatic ecosystems such as coral reefs, seagrass beds, mangroves, estuaries and lagoons not only harbour a wealth of biological resources of immense present and future benefit to humankind but also are the genetic banks of the oceans, which in addition. provide buffers to the coasts and protect them from storm surges, damage and erosion;

Concerned that coastal ecosystems are under increasing threat of degradation of habitats and depletion of resources resulting from unchecked and uncontrolled resources extraction, pollution from land and sea, construction, impacts of tourism and upstream activities such as agriculture and forestry;

Protected Areas does not in any way reduce focus on the need to conserve and sustain other ecosystems.

7. *Recommend* the evolution of mechanisms to promote inter-agency co-operation and coordination for comprehensive and integrated management of Marine Protected Areas in the context of integrated coastal zone management and development.

8. *Suggest* the need for systematic and integrated planning processes to keep in mind the inter-connected nature of coastal and other ecosystems.

9. *Recommend* the evolution of a legal framework to facilitate and enable the establishment, regulation and management of Marine Protected Areas.

10. *Propose* formulation and rigorous enforcement of rules and regulations with adequate staffing and financial support to promote and ensure compliance.

11. *Recommend* the evolution of legal and administrative mechanisms to adequately regulate and control impacts on Marine Protected Areas from upstream and adjacent activities.

12. *Suggest* that governments make available funds for the establishment and long-term management of Marine Protected Areas using among other sources a larger proportion of cess and duties on economic activities such as fisheries and ecotourism, which benefit directly from Marine Protected Areas.

13. *Recommend the* charging of rational tariffs for eco-friendly activities and use of Marine Protected Areas, which should be used in the maintenance and management of Marine Protected Areas.

14. *Suggest* the need to consider cost-sharing amongst agencies to finance the establishment of Marine Protected Areas, including trust funds, which may be needed to help those whose livelihoods are affected by the setting up of Marine Protected Areas.

15. *Recommend that* managers and technical staff of Marine Protected Areas should be adequately qualified and trained and be empowered adequately to take decisions, both financial and otherwise, to improve the management of Marine Protected Areas.

16. *Suggest the* promotion of scientific research and long-term monitoring to ensure the sustainability of Marine Protected Areas.

17. Strongly recommend the sharing of knowledge, expertise and experience amongst Marine Protected Areas, nationally and within the Bay of Bengal region, in the context of conserving and better managing the Bay of Bengal Large Marine Ecosystem.

SYMPOSIUM PROSPECTUS

"The marine environment – including the oceans and all the seas and adjacent coastal areas - forms an integrated whole that is an essential component of the global life-support system and a positive asset that presents opportunities for sustainable development".

Chapter 17, Agenda 21
1992 Rio Earth Summit

A four-day Regional Workshop on Marine Protected Aras (MPAs) and their Management will be held from 0 1-04 November, 1999 in Alor Setar, Kedah, Malaysia. It will be conducted by the Department of Fisheries, Malaysia, with support from the BOBP and the FAO/UN.

1. Purpose and Objectives

The Regional Workshop on MPAs is being organised in the context of FAO/BOBP's continuing interest in strengthening the capacities of member countries to conserve and manage their fisheries and other aquatic resources. It will collate, compare notes and share information and learnings on conservation issues, action to promote conservation, and the management of MPAs, including what works and does not work in the management of such resources.

The Workshop will show that MPAs can be a soft, yet robust supplemental broad-based tool or approach to conservation and management of aquatic resources and habitats. The conventional hard narrow-based approaches call for expensive enforcement and patrolling to ensure compliance; MPAs also require enforcement and patrolling, but on a lesser scale, in particular if the community shares in its management responsibility. MPAs can either cover large areas (e.g. the 350,000 km2 Great Barrier Reef Marine Park in Australia) or just a small area (e.g. the uninhabited group of four small islands in Pulau Payar Marine Park in Malaysia). This Regional Workshop, however, will focus on small-area MPAs, including the need for a network of MPAs.

The Workshop will not suggest that MPAs are the panacea to all problems concerning resource depletion, ecosystem degradation and pollution. But they can be a valuable tool for conservation and sustainable use of our marine resources.

The Workshop's objectives are to

1. Discuss the need for conservation of fish and aquatic resources and their habitats; problems relating to conservation; political, legal, economic and consumer actions to promote conservation.
2. Provide a general overview of the scientific and technical considerations and the institutional context behind the establishment and use of MPAs for fisheries and aquatic resources management.
3. Explore the legal and institutional framework and outline of the management strategy of MPAs.
4. Evaluate the social and economic prospects of MPAs for developing countries, with special emphasis on BOBP countries.
5. Evaluate and adapt to developing countries any available guidelines on establishing MPAs.

2. Participants

The Regional Workshop will be especially useful for middle-level and senior-level policy-makers from government; representatives of industry (notably fisheries and coastal and marine tourism), NGOs, regional/international bodies and others who are interested in conservation issues and in MPAs. It will help them to conceptualise MPAs as a possible tool to bring together disparate stakeholders to manage marine fisheries and aquatic resources, and implement the setting up and use of MPAs around an "easy-to-relate to" visible land mass or water body.

The BOBP will sponsor two official nominees from each member-countn'. Other participants should secure other sources of/linding or meet their own costs.

3. Topics for Discussion

Concepts, Principles, Format and Framework of MPAs as a Supplemental Tool in Managing Fisheries and Aquatic Resources

Purpose, Use, Level of Protection of MPAs

Policy, Legislation, Boundaries and Zoning for MPAs

Monitoring and Management of MPAs

Training and R&D Needs for MPAs

Experiences and Practices of National MPAs

4. Resource Persons

Experts and key resource persons for the Regional Workshop will in part be drawn from Environment Australia, the Australian Institute of Marine Science, universities and other institutions with expertise on MPAs.

5. Background and Rationale

The marine ecosystem and environment harbour a wealth of biological resources of immense benefit to humankind. Besides, coasts buffer and protect the land from storm surges, damage and erosion. GESAMP' estimated (1988) that *ecosystem Junctions and services are worth about $20 trillion annually – a sum that is greater than the entire global gross domestic product!*

The marine ecosystems of many developing countries are, however, under serious attack because of the degradation and depletion of economically important resources, notably fisheries, corals and clean waters. They suffer from unchecked and uncontrolled pollution and destruction of vital habitats. Pollution results from human activities on land, mainly from agricultural and industrial run-off, deforestation, shipping and harbour construction and development, urban and residential encroachment, oil exploration and drilling.

Of late, luscious tropical corals and coral reefs are being destroyed at an alarming rate both by man (through dynamiting and cyanide poisoning) and by natural causes such as global warming. Close to 60% of the world's reefs are under threat of irreparable damage from unsustainable use, caused by

pollution and over-use. The over-use is a result of incessant demand for seafood and marine recreation from consumers with high purchasing power.

Pro-Active Management Critical

The marine environment can no longer be left on its own, to clean itself, filtering, detoxifying, digesting and absorbing all the waste dumped into it, and healing itself from all the damage inflicted on it. The quality of the marine environment has to be sustained to remove the insecurity of the people who depend on the seas for their food and livelihood. The marine environmental crisis will only get worse before it gets better, because more and more people choose to settle along the coast. This will only aggravate the pressure on coastal ecosystems.

Coastal and marine tourism depends on clean and pristine sea and ocean conditions, so that their manifold underwater marine treasures can be enjoyed. But the tourism industry harms its own cause by taking short cuts to maximise income and profits. There is a need to enlist its co-operation in ushering in a more reasonable and sustainable culture. Fishers are aware that they should not use destructive gears such as mosquito net meshes to catch fish, but they persist for reasons which need to be understood. They should be helped to give up such practices.

Pro-active management of the marine environment is critical and urgent. Past short-sightedness in producer and consumer attitudes toward the management of natural resources must be remedied and reversed.

Situation in the Bay of **Bengal**

Degradation of the seas and oceans in developing countries, notably in the Bay of Bengal, the Straits of Malacca and smaller bays and gulf within the Indian Ocean is visible. But very little is known about the magnitude, and there have been few studies about the specific causes of degradation. More than six million fisherfolk depend on the region's seas for their food and livelihood security, so healthy, biologically alive and productive oceans and seas are vital. Governments around the Bay have intervened in the management of their resources, but a lot remains to be done.

Needed: A People-Centred Ecosystem-Based Approach

An integrated multi-pronged approach to problem-solving of the marine environmental malaise is needed. It should seek comprehensive management of entire eco-systems through active people participation, especially the local community. In other words, a people-centred eco-system-based approach holds the key to sustainable use and management of the seas and oceans.

One important means of conserving and better managing whole marine eco-systems is the establishment of Marine Protected Areas (MPAs). MPAs are areas of land, water or marine terrain and environment which are earmarked and set aside to ensure that they are not subjected to further resource depletion and/or ecosystem damage. The flora and fauna, species, genetic and eco-system biodiversity of this marine environment are protected and managed for sustainable use. Result: the eco-systems in these designated areas recover, recuperate and rebuild, often acting as a source of recruitment for neighbouring eco-systems.

Though there are already at least more than 1,300 MPAs worldwide, more must be set up to ensure the sustainability of the commonwealth of the oceans and seas.

Empowerment and Participation

Long used to unwelcome do's and donts, fishers, coastal inhabitants, traders, weekend boaters, dive and tour operators and the population in general, often do not relish the idea of MPAs, or respond to it with enthusiasm. They perceive MPAs as valuable areas that will be off-limits to them. Since local community acceptance and active participation are crucial for the success of MPAs, a large enough constituency has to be built up for the management of MPAs – their needs, the benefits they will confer, the approaches they call for. This is a minimum prerequisite for success.

In some BOBP member countries, a few MPAs have already been established or attempted, though their performance has not been entirely satisfactory. There is a need to dissect the performance and analyse the reasons for success or failure. Example: the marine parks of Malaysia appear to be effective while those in Sri Lanka (e.g. Hikkaduwa Marine Sanctuary) are not. In Malaysia, anchovy fishing around the Pulau Payar Marine Park is now carried out round the year; before this park was established, anchovy fishing was viable only three months in the year. Coastal communities in the Philippines, notably on Apo Island, have benefited from marine reserves; stocks have recovered, catches and incomes have improved.

Because MPAs are integral components of Interated Coastal Area Management and whole eco-system management, they can overcome the problems of:

- Poor coordination among government agencies, NGOs as well as industry at one level, and at another level, in conserving and managing activities in the marine environment.
- Poor integration of planning, management and implementation of natural resources conservation, as also the inability to deal with adverse impacts of human activities on land and water, especially in the coastal zone and marine environment, in an integrated manner.
- *Adhoc* or piecemeal measures concerning fisheries and aquatic resources management – such as stand-alone mesh size regulation, closed seasons or areas, limited entry, catch quotas, size limitations.

6. Registration **and Information**

Early registration is recommended. A sum of RM$ 800 will be collected from non-sponsored participants to cover the cost of hotel and food and workshop materials, a dinner reception and a study tour to Pulau Payar Marine Park (PPMP). Further information may be obtained from:

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SYMPOSIUM PROGRAMME

1 November 1999 (Monday)

0830 — 0900	Registration	Secretariat
Inaugural Session		
0900 – 1030	Opening Ceremony	
0900 – 0910	Welcome Address	Kee-Chai CHONG/BOBP
0930-1000	Inaugural Address	Dato' Mazlan Jusoh/DOFM
Session **I**	Keynote Address *(Chairperson: Kee-Chai Chong/BOBP)*	
1030— 1230	The Need for Marine Protected Areas and Marine Parks: Networks and Transboundary Management Approaches For Success	Bernardette O'Neil/ Environment Australia
Session **II**	Learnings and Lessons *(Chairperson: Kee-Chai Chong/BOBP)*	
1330–1430	Marine Parks of Malaysia: A Tool for Fisheries Resource Management	Kevin Hiew/DOFM
1430–1530	Management Options for Marine Protected Areas	Ridzwan Abdul Rahman
1600–1800	Measuring and Showing Fisheries Benefits from Marine Protected Areas and Marine Parks: The Philippines Experience	Annadel Cabanban/UMS
2000 – 2200	Impact of Size of Marine Protected Areas and Marine Parks on Resources and Bio-Diversity Protection and Sustainability: Need For Movable Boundaries and Network of Protected Areas and Parks	Pauzi Abdullah/DOFM

2 November 1999 (Tuesday)

Session **III**	Learnings and Lessons *(Chairperson: Kevin Hiew/DOFM)*	
0830—0930	Monitoring of Coral Reefs in Marine Protected Areas and Marine Parks	Alistair Cheal/AIMS

0930 – 1030	Planning for Performance Assessment of Marine Protected Areas and Marine Parks	Bernadette O'Neil/ Environment Australia
1100— 1230	Malaysian Legislation on the Management of Marine Protected Areas and Marine Parks	Abdul Khalil Abdul Karim/ DOFM
Session **IV**	**Learnings and Lessons** *(Chairperson: Ibrahim Salleh/DOFM,)*	
1400— 1500	Managing Conflicts Between! Among Stakeholders	Rathin Roy/BOBP
1500 – 1600	Malaysian Experiences on Marine Parks Management: Public Education for Public Awareness	Ahmad Azahari Ahmad/ DOFM
1630 – 1730	Management of Ecotourism in Marine Protected Areas and Marine Parks	Wan Sabri Wan Mansor/ UPM
1730— 1930	Sustainable Financing of Marine Protected Areas and Marine Parks	Mohd. Najib Ramli/DOFM

3 November 1999 (Wednesday)

Session V	**Field Study Tour** *(Tour Leader: Gulamsarwar Jan Mohd/DOFM)*	
0800 – 0830	Leave Hotel to Kuala Kedah	
0830— 1000	Kuala Kedah to Pulau Payar Marine Park	
1000 – 1100	Management of Marine Protected Areas and Marine Parks at Micro Level	Ab. Rahim Gor Yaman/ DOFM
1100— 1200	Enforcement in Marine Protected Areas and Marine Parks	Salehan Lamin/DOFM
1330 – 1700	Recreational Activities	
1700 – 1800	Back to Hotel via Kuala Kedah	

4 **November 1999 (Thursday)**

Session VI	**Learnings and Lessons** *(Chairperson Raja Mohamad Noordin Raja Omar/DOFM)*	
0830 – 0930	Future of Marine Protected Areas and Marine Parks in Sustainable Resources Management	Kee-Chai CHONG/BOBP

0930—1030	Discussion in Small Groups
1100—1200	Discussion in Small Groups (continued)
Session VII	Wrap-Up/Follow-Up *(Kee-Chai CHONG/BOBP/Chairperson)*
1445—1600	Group Discussion
1600— 1700	Summary and Recommendations

WELCOME ADDRESS

by Y.Bhg. Dato' Mohd. Mazian b. Jusoh

Director-General of Fisheries, Malaysia

Dr Kee-Chai Chong, Programme Coordinator, BOBP; Mr. Gulamsarwar Jan Mohd, Kedah/Perlis State Fisheries Director; distinguished participants, resource persons and guests, ladies and gentlemen:

Assalamalaikum and a very good morning to all.

It gives me great pleasure to be present here today to say a few words which I strongly believe are pertinent, given the continuing interest of FAO/BOBP in strengthening the capacities of member-countries to conserve and manage their fisheries and other aquatic resources. It is a great pleasure for Malaysia to be chosen once again as host in addressing the issues of marine environment in the Bay of Bengal region. It is indeed a delight to see a gathering of senior officials from all member-countries at this symposium, and I hope that you will be able to share your views and knowledge on Marine Protected Areas and their future. To all the BOBP delegates, I bid you a warm welcome and sincerely hope that you will have a nice and pleasant stay in Alor Setar.

Ladies and Gentlemen

The marine environment harbours a wealth of biological resources of immense benefit to mankind. In this complex ecosystem, each of the marine components has a role to play to maintain the ecological balance towards a healthy and conducive environment. The destruction of any single element in the system will cause imbalance to the system, and at worst, destroy the whole system. Not only do many marine areas support a great diversity of flora and fauna, and natural habitats, but the oceans play an essential role in climatic cycles and other global processes. Marine ecosystems and resources are fundamental to the sustainable development of coastal countries, providing food, minerals, pharmaceuticals and construction materials, and a vast range of other products. Economically, the aesthetically pleasant underwater areas and the associated marine environment provide an area of growth for marine tourism. All these characteristics increase the conservation value of these marine resources.

Despite their seemingly positive value, and their natural beauty, the resources have been subjected to tremendous pressure due to ignorance and irresponsible behaviour. These include unchecked and uncontrolled pollution, over-exploitation, conflicting uses of resources, and destruction of vital habitats.. The marine environment can no longer be left on its own, to clean and heal itself from all the waste and pollutants dumped into it. Pro-active management of the marine environment and its biodiversity is therefore a priority and very important one.

Ladies & Gentlemen

Since 1986, the IUCN Commission on National Parks and Protected Areas (CNPPA) has been promoting the establishment and management of a global representative system of marine protected areas (MPAs). MPAs play a critical role in the conservation of biodiversity, and hence provide a mechanism for Parties to meet the commitments called for by the UN Convention of Biodiversity (CBD), the UN Law

of the Sea, Chapter 17 of Agenda 21, and several other international agreements. Thus, MPAs are growing in importance globally as practical and potentially effective options for the management of fisheries, the protection ofbiodiversity and the generation of income from eco-tourism. The effective management of MPAs to ensure that they meet their declared objectives poses many challenges. Steps must be taken to rectify shortfalls in the management of existing MPAs. This was stressed in the recent report on MPAs by the World Bank, IUCN and the Great Barrier Reef Marine Park Authority at the first meeting of experts on marine and coastal biodiversity, held in Indonesia in 1997.

At all levels of MPAs implementation, the strong support of policy-makers and the general public is required.

Ladies & Gentlemen,

The Malaysian Government has recognised the importance ofMPAs and the need for integrated planning and management of both land and sea to control and minimise adverse impacts on the marine environment. The principle behind the establishment of MPAs in Malaysia is to protect, conserve and manage in perpetuity marine ecosystems of significance in order that they remain undamaged for future generations, and to inculcate public understanding, appreciation and enjoyment of Malaysia's marine heritage. Nonetheless, the establishment of Marine Parks per se is no guarantee ofthe continuing health of the coral reefs and related ecosystem. The conservation of this natural heritage depends on knowledge and understanding oftheir nature and existence, and most important, a collective effort by all to address the issue.

Since the establishment of Pulau Payar as the first Marine Park in 1987, great efforts have been made by the Department of Fisheries to create and increase awareness of marine conservation. Environmental education forthe public is vital if there is to be a change in the attitude ofsociety towards the environment. Man must no longer see himself as the master of the earth. Instead he must view himself as a vital component of the planet, responsible and sensitive to the environment. This approach requires man to think ecologically. However, any attempt to convey this message would not be successfully implemented without seeking the co-operation ofothers in order to alleviate the mammoth task of marine conservation, and make it successful and fruitful.

To ensure preservation of the country's unique biological heritage, the National Policy on Biothgical Diversity was developed and launched on 16 April 1998. The aim was to give the nation direction to implement strategies, action plans and programmes on biological diversity for the conservation and sustainable utilisation of its resources. It is also the hope and aspiration ofthe Government to transform Malaysia into a world center of excellence in conservation, research and sustainable utilisation of tropical biological diversity by the year 2020.

Ladies & Gentlemen

This symposium is timely for countries bordering the Bay of Bengal, so that they may collate, compare notes and share information and learning on conservation issues, action to promote conservation, and the management of MPAs, including what works and does not work in the management of such-resources. Effective management of MPAs will require collaboration between countries to address common problems and to integrate ecological objectives, ecosystem approaches and biodiversity conservation into regional planning.

I sincerely hope that all participants, especially from member-countries, will take this opportunity to share and discuss in depth the various problems and suggest options for addressing the management strategies of MPAs towards conservation and sustainable use of our shared marine resources.

I would once again like to thank BOBP for reposing confidence in the Department to organise this symposium. I wish the symposium great success. I sincerely hope that the symposium leads to a fruitful outcome, ensuring the proper and efficient management ofMPAs into the next millennium. I appeal to all participants to take time and wander around Alor Setar, enjoy the warm hospitality ofthe Malaysian people and their array of local and international cuisines.

With that, in the name of Allah, the most Gracious and most Merciful, I officially inaugurate this Malaysia - BOBP/FAO Regional Symposium on Marine Protected Areas (MPAs) and Their Management.

Thank you.

LIST OF PARTICIPANTS

Mr Amalendu Mukkherjee	Senior Assistant Secretary Ministry of Fisheries and Livestock Bangladesh Secretariat Dhaka, Bangladesh
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Keynote address:

THE NEED FOR MARINE PROTECTED AREAS (MPAs) AND MARINE PARKS: NETWORKS AND TRANSBOUNDARY MANAGEMENT APPROACHES FOR SUCCESS.

Bernadette O'Neil
Environment Australia

Introduction

It is a great privilege to be invited here by the Bay of Bengal Programme and the Malaysian Government as the keynote speaker for the Symposium on Marine Protected Areas and Marine Park Management. It is an unusual opportunity to be exposed to and learn from so many countries' experiences in one workshop.

In my presentation I will primarily draw on recent Australian experience and try to place this in an international context. There are lessons to be drawn form each country that is represented here today and hopefully the Australian story will be useful. National experience has shown that marine protected area development is challenging, difficult and expensive, but shared experiences will help with the process.

Why have MPAs?

First, let's define marine protected areas. The IUCN general definition (IUCN 1994) of protected areas applies to marine protected areas as follows:

> An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

Development of a national system of MPAs fulfils Australia's international responsibilities and obligations as a signatory to the Convention on Biological Diversity (UNEP 1994) and the major components of the Jakarta Mandate developed under that Convention.

Within the Jakarta Mandate, five thematic issues have been identified:

- Integrated Marine and Coastal Area Management
- Sustainable Use of Marine and Coastal Living Resources
- Marine and Coastal Protected Areas
- Mariculture
- Alien Species

Australia's system also provides a means of meeting obligations under the Convention on Migratory Species (Bonn Convention) and responsibilities under bilateral agreements for migratory birds (JAMBA and CAMBA). It also supports the World Conservation Union (IUCN) World Commission on Protected

Areas program of promoting the establishment and management of a global representative system of MPAs (Kelleher et al. 1995) and recent developments within the Convention on Sustainable Development.

Goals of MPAs – Conservation and resource management

The two main drivers for establishing MPAs consistently emerge as biodiversity conservation and sustainable resource management. We are aiming to conserve biodiversity and natural systems and ensure that economic development and uses of marine resources are ecologically sustainable.

While Australia's national system has as its primary goal:

- to establish and manage a comprehensive, adequate and representative system of MPAs to contribute to the long-term ecological viability of marine and estuarine systems, to maintain ecological processes and systems, and to protect Australia's biological diversity at all levels.

The system also has secondary goals to

- incorporate integrated ecosystem management
- manage human activities
- provide for the needs of species and ecological communities and
- provide for recreational, aesthetic, cultural and economic needs of indigenous and non-indigenous people

Interestingly many of the 300-odd MPAs in the Australian national system are declared primarily as fisheries reserves.

Integrated ecosystem management

Marine protected areas are a component of integrated ecosystem management of the oceans. By this we really mean integrated human use management to maintain:

- ecological processes in the ocean including, for example, water and nutrient flows, community structures and food webs, and ecosystem links
- marine biological diversity, including the capacity for evolutionary change and
- viable populations of all native marine species in functioning biological communities.

Urban and infrastructure development in the coastal zone, together with the development of marine industries, continues to place increasing demands on our coastline and oceans.

Ocean ecosystems and their marine biological diversity are core national assets. Ifwe manage their use well, they can meet a broad range of economic, social and cultural aspirations.

One way of maintaining marine ecosystems is to establish protected areas which represent the natural range of ecosystems.

Collapse of marine ecosystems and fisheries internationally, with the associated economic damage and social dislocation, is a stark warning of the vulnerability of marine systems. In Australian waters, the

degrading of our unique temperate seagrasses and serious declines in stock of important commercial fish species such as southern bluefin tuna, southern sharks, orange roughy and gemfish, show that we are not immune from such threats.

Australia has recently made a commitment to ecosystem-based oceans management by developing an Australia's Oceans Policy.

The basis of Australia's Oceans Policy is to:

- meet international obligations under UNCLOS and other international treaties
- understand and protect Australia's marine resources & biological diversity
- establish integrated planning and management of marine resources and
- ensure economic development and uses of marine resources that are ecologically sustainable

The Oceans Policy is to be implemented through development of Regional Marine Plans based on large marine ecosystems.

Management of our oceans purely on a sectoral or industry-by-industry basis will not be sustainable in the long run. We need to recognise and manage for ecosystem health by seeing that activities such as fishing, tourism, shipping, aquaculture, coastal development and petroleum production are compatible with each other and with the ecological health of the oceans.

Under Australia's oceans policy regional marine plans are the basis for integrated management across State and Commonwealth waters based on large marine ecosystems and will integrate environmental, economic, social and cultural interests.

While broad-scale ecosystem-based management has not been achieved yet, our experience shows that committing to and developing MPAs helps this agenda.

MPAs as flexible tools

MPAs are just one of a range of tools available to managers. The art is in choosing the right tool or combination of tools for the job. Integrated management of course makes this a lot easier.

Other conservation/management tools include species-based conservation of marine biota; the regulation and management of marine resource use; the promotion of the principles and practices of ecologically sustainable development; and reduction and management of pollution

MPAs themselves can be established and managed for a range of desirable outcomes as highlighted in the discussion on managing for conservation and resource use.

The World Conservation Union has developed a set of six protected area management categories which are applied to both terrestrial and MPAs (IUCN 1994). They range from strict nature reserve to managed resource protected areas.

While the categories are not a driver for developing MPAs they are a very useful way of being able to understand across internal and national boundaries the reasons for establishing MPAs and the management intentions. They are not a commentary on management effectiveness and should be

interpreted with flexibility at national and regional levels. They are a means of comparison and an assessment of protected areas systems.

The categories imply a gradation of human intervention but are not a hierarchical structure as they all contribute to biodiversity conservation. All MPAs across all management categories must be formally established primarily for biodiversity conservation.

The IUCN Management Categories are:

Ia Strict Nature Reserve: for science

lb Wilderness Area: wilderness protection

II National Park: ecosystem conservation & recreation

Ill Natural Monument: conservation of natural features

IV Habitat/Species Management Area: for conservation through management intervention

V Protected Landscape/Seascape: for landscape! seascape conservation & recreation

VI Managed Resource Protected Areas: for sustainable use of natural ecosystems

Managing human uses in MPAs

Fundamental to deciding what sort of MPAs we will establish is how we manage human use within those declared areas.

Any system of protected areas needs to be accepted and supported by the stakeholders if it is to succeed in its primary purpose of biodiversity conservation. The recognition of social, cultural and economic considerations relating to proposed protected areas is fundamental to the process of determining a system.

There is a range of human activities that may potentially occur within an MPA. Uses within MPAs can range from relatively low-impact activities, such as swimming, to extractive resource use, such as fishing. All these uses need to be managed. Multiple use is simply where there is more than one human use of an area. How you manage this process can be particularly significant if you are managing extractive uses such as fishing or petroleum.

In the Commonwealth waters of Australia's EEZ, we have adopted a case-by-case approach to multiple use issues. This approach aims to ensure protection of biodiversity values while allowing for the management of a range of appropriate uses on a precautionary basis, so that activities are consistent with biodiversity protection.

Four fundamental principles for multiple-use management have been developed for general application to the marine environment and the selection and management of MPAs. They are:

- maintenance of ecosystem integrity
- wealth generation and resource use
- equity and
- participatory framework for decision-making

In consultation with stakeholders, the application of these principles can assist in reaching a negotiated outcome. For activities to take place, they must be consistent with the objectives of an MPA.

Given the range of processes for dealing with management issues, stakeholders have a right to know what principles and processes will apply in discussions relating to MPAs, and how they will be involved in any process concerning areas that interest them. This way community involvement can be maximised. Any proposal for an MPA should involve consultation with stakeholders at the earliest stages of consideration.

Resources need to be allocated to appropriate assessment processes to understand current and potential uses of any nominated area. Then processes dealing explicitly with those uses and any related costs or benefits need to be agreed with stakeholders.

Why have a network of MPAs?

The Convention on Biological Diversity states that a system of protected areas forms a central element of any national strategy to conserve biological diversity. Under the Convention the term network implies that the various components of a system of protected areas of a country or region, may conserve different portions of biological diversity, often using a variety of approaches to management. Again it recognises the flexibility of MPAs to achieve differing outcomes.

What does a network allow that individual MPAs or other fisheries management tools do not allow? PAs are basically islands of protection surrounded by vast unmanaged areas of exploitation. MPAs will not advunce marine conservation in a broader context unless they are declared and managed in a systematic way to take account of the broader ecosystems in which they function.

The advantages of a network are that it encourages the consideration of:

- broader ecosystem context
- integrated management
- designing and implementing ways of co-operation
- sharing resources
- learning from successes and mistakes
- performance assessment across the network and
- building community involvement.

Australia's network: National Representative System of MPAs (NRSMPA)

The characteristics of MPAs in the NRSMPA are that they:

- **have been established primarily for biodiversity conservation**
- **meet one or more of the IUCN management categories**
- must have secure status and
- contribute to representativeness, comprehensiveness, adequacy of the system.

The NRSMPA is based on agreed national co-operation between seven state governments and the federal government. It is being established within a bioregional framework that identifies marine regions across jurisdictional boundaries. The framework recognises the interconnectivity of marine systems, allowing for the marine environment to be understood and planned for on an ecosystem basis.

The NRSMPA is a national system ofMPAs that contains representative samples ofAustralialEs marine ecosystems. Individual MPAs are declared under the appropriate legislation for each jurisdiction. Jurisdictions are at varying stages of development and progress for components of the NRSMPA. Progress across jurisdictions will also be contingent on available resources, determined to some extent by the level of commitment of governments. Cross-jurisdictional co-operation is an essential element in achieving the NRSMPA.

In an attempt to achieve and understand a national system we have agreed Guidelines for establishing the System and have recently developed a three year Strategic Plan with a set of34 Actions. This plan is agreed nationally at Ministerial level.

Development of the NRSMPA

The system's development is based on the following principles:

- apply a bioregional planning framework
- address comprehensiveness / adequacy! representativeness
- include a proportion of highly protected areas
- apply a precautionary approach
- practise effective consultation
- support indigenous involvement and
- use decision making to integrate long and short-term issues.

This set of principles and some agreed processes for how MPAs are developed and managed allows us to find the commonalities in our work which leads to increased cooperation.

Transboundary management approaches for success

Australia shares maritime boundaries with Indonesia, Papua New Guinea, New Zealand, the French Territories, the Solomon Islands, and in the Antarctic also with the Norwegian, French and New Zealand claims. The world's oceans are inter-connected and many of our management concerns are part of a larger regional or global concern that can only be addressed through international co-operation.

Through the Oceans Policy, Australia is committed to participating internationally in bilateral and multilateral arrangements to establish and implement international regimes that are effective in identifying and addressing issues in transboundary ocean management.

Regionally Australia is interested working with countries in the region. In an effort to support Malaysian initiatives to conserve marine biodiversity, two Malaysian scientists identified by the Malaysian Department of Fisheries, will visit Australia during November 1999 to participate in seagrass and

dugong surveys being undertaken by James Cook University (JCU) and the Great Barrier Reef Marine Park Authority (GBRMPA) off the coast of northern Queensland.

Adding to this capacity-building exercise, Australia is also planning a one-week operational training course for Malaysian marine park managers. The training will occur later this year or early in 2000 and will be conducted in Malaysia. Similar planning is under way for a workshop for senior managers on MPA policy development and management and strategic planning for integrated coastal zone management.

While there are many international transboundary issues there is a shortage of international models for transboundary MPAs.

In September 1997 the IUCN launched a major new initiative: Parks for Peace in Transboundary Protected Areas as a Vehicle for International Co-operation. This initiative began with a major international conference in Cape Town, South Africa. One of the outputs of this conference was the Declaration of Principles.

This included support for

- the use of full range of IUCN categories
- fully engaging local and indigenous people
- building strategic partnerships between government, NGOs, private sector and local communities
- integrating initiatives into broader programs for conservation and sustainable development
- effective implementation of international and regional initiatives for biodiversity conservation.

Subsequently a draft Code of Conduct has been developed.

One example of true international co-operation is the Wadden Sea which extends along the North Sea coasts of the Netherlands, Germany and Denmark. It is one of the world's most important tidal wetlands both for species and habitats and for its high recreational value. Situated next to densely populated and industrialised areas, the Wadden Sea is endangered by human activities such as coastal engineering, eutrophication, pollution, gas and oil exploitation, tourism and fisheries.

Some 25 years ago, the Netherlands, Germany and Denmark started initiatives to establish protected areas, national parks and nature and wildlife reserves. This resulted in the protection of the Wadden Sea by an almost unbroken stretch of reserves and parks, through a series of national initiatives in the three countries. Trilateral cooperation was formalised by adoption of the Joint Declaration on the Protection of the Wadden Sea, following three Trilateral Governmental Conferences between 1978 and 1982. The recently adopted Wadden Sea Plan entails political agreements with regard to common policy and management of the Wadden Sea Area.

Transboundary management approaches for success

Within Australia we have found that some elements in the process have assisted in developing transboundary cooperation on MPAs. They are complementary legislation, a memorandum of understanding or similar agreement, a functional inter-governmental committee, an advisory group or groups involving government and non-government representation and a commitment to information and resource sharing.

The recent Australian experience may have some generic lessons. In our national system we have eight governments cooperating and we have established MPAs that straddle internal borders. There are some issues that have arisen in doing this work and probably some lessons that can be applied elsewhere. Taking an ecosystem approach to our establishment and management of MPAs means that we have to think across the boundaries that usually divide us.

At a federal level we are currently cooperating with state governments to declare and manage a number of MPAs:

- Great Australian Bight Marine Park
- Ningaloo Marine Park
- Mermaid Reef/Rowley Shoals
- Solitary Islands
- Macquarie Island

We have discovered that even with commitment and goodwill there are many challenges. I have listed some elements that we have found to be essential to success. Ifa MPA is lobe declared across traditional boundaries with a consistent aim then a complementary legislative base is needed.

A memorandum of understanding or similar document at a high level (ministerial or heads of agencies) can help you work through unforeseen problems that may arise in a joint process.

A formalised structure such as an inter-governmental committee can again provide guidance and a broad base for issue resolution.

An advisory group or groups made up of government and non-government representatives can build support for a proposal and give notice of issues in the broader community that could impact on a process.

A strong conirnitment to information and resource sharing is essential. This relates to planning for an MPA and also managing it.

Some lessons we have learnt in transboundary management cooperation are that goodwill is essential. That it will take more time than you would think. Always have a faliback plan that will allow you to continue with your own priorities if the cooperative venture does not succeed.

Conclusion

We know that while the State and Federal governments of Australia have taken some pro-active steps in establishing MPAs, the challenges to achieving the goals of the National Representative System of MPAs remains daunting. But we see ourselves in an international context for this work.

At the international level, the challenges to achieving meaningful marine conservation were recently acknowleged at the Seventh Session of the Commission on Sustainable Development (New York, April 1999), when it re-affirmed its strong encouragement to States to *establish and manage marine protected areas, along with other appropriate management tools, consistent with the provisions of UNCLOS and on a basis consistent with the program of work under the Convention on Biological*

Diversity and its Jakarta Mandate in order to ensure the conservation of biological diversity and the sustainable management and use of oceans.'

In making a formal statement at the Seventh Session, the Australian Commonwealth Environment Minister noted that there is currently no international mechanism to allow the declaration of MPAs in the high seas. *... measures will become essential if we are to achieve sustainable multiple use management of the resources of the high seas, their ecosystems and their natural productivity. At stake is the biodiversity and important industries which depend on it. A suggested approach to address this issue, proposed at the Session, would be to utilise the 'Open-Ended Working Group on Oceans', to consider mechanisms that will allow the international community to establish protected areas on the high seas.* '(Robert Hill 1999).

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Question-and-answer session following the keynote address

Dr. Kee Chui Chong - BOBP

Q Have MPAs succeeded? Has the success anything to do with the size of the MPAs?

A. Success depends on the objectives set when setting up MPAs, and is not dependent on the size. However, MPAs have helped conserve the marine environment.

Dr. Kee Chai Chong - BOBP

Q. Has there been any increase in terms of fish size and quantity?

A. It is still not clear, but in total protected areas, a general increase in size and numbers of fish has been observed.

Ms. Thalathiah Saidin - Malaysia

Q. Why is a National Ocean Policy needed since there is already a MPA Policy?

A. A National Ocean Policy is needed to resolve conflicts of usage e.g. between the petroleum industry and the fishery industry. The National Policy covers a wider area than the MPA policy, because MPAs may sometimes be in small pockets.

Ibrahim Salleh - Malaysia

Q. In the setting up of MoUs, who were the signatories?

A. In Western Australia, the MoUs were between different agencies e.g between the Environment Department and the Fishery Conservation Department. MoUs normally define what is to be done and how it is to be done. They increase cooperation among parties involved.

Ibrahim Salleh - Malaysia

Q. Is there any overlap between the Intergovernmental Committee and the Advisory Group set to manage the MPAs and what are the Terms of Reference (TOR)?

A. The MoU signed is normally done at a high level between the policy-makers, while the Intergovernmental Committee consists of people at the implementation level.

Dr Purwanto - Indonesia

Q. What is the level of community involvement in surveillance activities in MPAs?

A. The level of participation is limited but co-operation has been good.

R.A.D.B. Samaranayake - Sri Lanka

Q How many countries are involved in transboundary management of MPAs?

A. Presently the arrangements are being made through interstate legislation to allow transboundary jurisdiction.

Mr. Anser Ali - India

Q. What kind of penalties are being meted out to offenders of MPA regulations?

A. There are penalties, but complementary regulatory arrangements are still needed.

Mr. S. M. Md. Ishaque Bhaiyan- Bangladesh

Q. When an MPA is set up, is there a loss of fishing grounds, especially ifa lot of small islands are **turned into MPAs.?**

A. Setting up of MPAs should take into consideration the geographical location and the goals set up.

Thalathiah Saidin - Malaysia

Q. Is the setting up of a national network of representative useful in managing MPAs?

A. It is an effective tool in order to get the commitments of the various parties involved.

R.A. D.B. Samaranayake - Sri Lanka

Q. **Why does Australia use the IUCN category for management?**

A. Australia happens to be one of the parties that agreed to it.

Dr. Kee Chal Chong - BOBP

Q. Why is an MPA regarded as a flexible tool?

A. MPAs can be highly protective of a fishery, but there should be fall back plans should the primary objectives be not met due to some unavoidable reasons.