



East Asian Seas  
Regional Coordinating Unit

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**United Nations Environment Programme**

**COBSEA Regional Workshop on Coordinating  
Coral Reef Monitoring and Management  
in the Seas of East Asia**

Pattaya, Thailand, 24-25 May 2006





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## List of Acronyms

ASEAN	Association of Southeast Asian Nations
COBSEA	Coordinating Body on the Seas of East Asia
EAS/ RCU	East Asian Seas Regional Coordinating Unit
GCRMN	Global Coral Reef Monitoring Network
GEF	Global Environment Facility
ICRAN	International Coral Reef Action Network
ICRI	International Coral Reef Initiative
LMMA	Locally Managed Marine Areas
MEAs	Multilateral Environmental Agreements
NGOs	Non-Governmental Organisations
RWG-C	Regional Working Group on Corals
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
SCS	UNEP/GEF Project “Reversing Environmental Degradation Trends in the South China Sea and the Gulf of Thailand”
SSME	Sulu-Sulawesi Marine Eco-region
UNEP	United Nations Environmental Programme
WWF	World Wildlife Fund

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# **COBSEA Regional Workshop on Coordinating Coral Reef Monitoring and Management in the Seas of East Asia**

*Pattaya, Thailand, 24-25 May 2006*

## **1. Background**

Many activities have been carried out through the International Coral Reef Action Network (ICRAN) and the International Coral Reef Initiative (ICRI) for the protection, preservation and management of coral reefs in the region, including various awareness-building, monitoring and educational programmes to raise awareness on the status of coral reef resources.

Generally, the aim of the ICRAN and ICRI projects in the East Asian Seas region has been to improve management of coral reefs at chosen sites throughout the region. Capacity building programmes based on sharing of experiences of demonstration sites with a history of good management practices have enabled countries to fill important capacity gaps. Awareness-building through the promotion of environmental journalism, translation of training and monitoring materials on coral reefs into local languages and enhanced networking have ensured that information on coral reefs reach more people in the region. New opportunities of alternative livelihoods through these projects have helped reduce the degradation of corals caused by the effects of poverty and lack of income opportunities in some of the countries.

Following the implementation and completion of various coral reef monitoring and management projects within the Seas of East Asia, Coordinating Body on the Seas of East Asia (COBSEA) engaged a consultant to review the projects to study their outcomes, determine their potential for self-sustenance after UNEP assistance ends, propose follow-up activities that can augment coral reef monitoring and management and to develop a resource guidebook that can serve as a tool for coral reef management.

COBSEA is also aware that there are numerous resources currently available that provide tools and solutions on various aspects of coral reef monitoring and management – these include technical and protocol guides, case studies, lessons-learned reviews, management strategies and status report to name a few – with particular focus on coral reefs within the Seas of East Asia. All these combined provide the coral reef community within the region with comprehensive information to aid them in formulating and implementing specific coral reef programmes or strategies.

What is lacking however, is a general guide to what these resources are, where they can be accessed, and their particular relevance and application to specific areas of coral reef monitoring and management. With this in mind, COBSEA is proposing a Resource Guidebook which bridges the gap between the information resources available and their specific application and use for better planning

and implementation of coral reef projects and programmes within the Seas of East Asia. This Resource Guidebook is specifically focused in the area of coral reef monitoring and management, and has been developed as a specific strategy based on some key elements that have been shown to contribute to successful coral reef management.

At the 18<sup>th</sup> COBSEA meeting, member countries identified three areas for COBSEA to focus on in her new strategic directions - information management, capacity building and project development. Therefore, in planning for future coral reef monitoring and management activities that are in line with the three focus areas, COBSEA required inputs and suggestions from focal points as well as other coral reef practitioners in the East Asian Seas region.

## 2. Opening of the Meeting

### Welcome Address

The workshop was opened with a welcome address by Dr. Maitree Duangwasadi, the Director General of Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment, followed by an introduction by Dr. Srisuda Jarayabhand, the Coordinator of the United Nations Environment Programme, East Asian Seas Regional Coordinating Unit.

### Introduction of Members

The representatives of the National Focal Points of Cambodia, China, Indonesia, Malaysia, Philippines, Republic of Korea, Thailand and Viet Nam, representatives of the United Nations and regional institutions, paper presenters and session chairpersons introduced themselves. The list of participants is attached as **Annex 1** to this report.

## 3. Organisation of work

The workshop was divided into three sessions spanning two days. The workshop programme is attached as **Annex 2** to this report. Session 1, on the morning of 24 May 2006, was the plenary session that focused on presentations which highlighted successful COBSEA implemented projects on coral reef monitoring and management in the Seas of East Asia.

Session 2, on the afternoon of 24 May 2006, was the plenary session that focused on presentations by key regional and global organizations involved in coral reef monitoring and management activities that are complementary to COBSEA's activities and initiatives.

Session 3, on the morning of 25 May 2006, was a parallel group session, and was split into two parts:

- Parallel group discussions and subsequent presentations on the 5C's Strategy of Coral Reef Monitoring and Management, the outputs of which will feed into enhancing the proposed COBSEA Resource Guidebook; and

- Discussions on potential future COBSEA activities, which reflect COBSEA's new strategic direction on information management, capacity building and project development.

## 4. Objectives

The objectives for the COBSEA workshop on coral reef monitoring and management are:

- To spotlight successfully implemented COBSEA projects on coral reef monitoring and management, coral reef mapping and the Green Fins project;
- To highlight and introduce other complementary initiatives on coral reef monitoring and management within the Seas of East Asia that can potentially develop into COBSEA partner-programmes;
- To review and discuss the relevance, structure and contents of the 5C's Strategy of Coral Reef Monitoring and Management, which is part of the proposed COBSEA Resource Guidebook for Coral Reef Monitoring and Management in the Seas of East Asia; and
- To discuss potential future COBSEA activities in coral reef monitoring and management which reflect COBSEA's new strategic direction on information management, capacity building and project development.

## 5. Presentations

### **Session 1: Presentations of Case-Studies on Coral reef Monitoring and Management in the Seas of East Asia**

Session 1 was chaired by Dr. Hansa Changsang, and consisted of five presentations that highlighted successful case-studies on Coral Reef Monitoring and Management in the Seas of East Asia that demonstrated:

- Good management practices for alternative livelihood and capacity-building
- Sustainable tourism
- Coral reef monitoring through partnership
- Management through networking in relation to Green Fins
- Coral mapping and data management

#### ***Good Management Practices for Alternative Livelihood and Capacity Building***

The UNEP Small Grants Project on "*Developing Community-based Sanctuary for Coral Reefs in Wangkolabu Village, Indonesia*" was presented by Mr. Alimaturahim, Executive Director of Lembaga Konservasi & Pembangunan (LKP).

The primary objective of this project was to develop a community-based sanctuary in order to conserve the biodiversity of the coral reefs surrounding Wangkolabu Village, while concurrently developing sustainable rural economies. The project was implemented by applying participatory methods with which all stakeholders – both proponents and opponents – were fully involved in the planning, implementation, monitoring & evaluation of the project.

Several programmes were initiated, namely:

- An aquarium fish collection as an alternative livelihood programme
- A Crown of Thorns (CoTs) removal programme
- A Community-based sanctuary (CBS) for coral conservation in Wangkolabu programme
- Capacity building for local community in underwater fish and benthic surveys to support a biodiversity monitoring programme

The slides of the presentation are presented in **Annex 3**.

### ***Sustainable Tourism***

The UNEP Small Grants Project on “*Development of Community-based Ecotourism in Panggang Village, Seribu Islands*” was presented by Ms. Estradivari, Science Programme Manager of the Indonesian Coral Reef Foundation (TERANGI).

The primary objectives of the project were to:

- Improve capacity of the grassroot organization Elang Ekowisata in participatory survey and monitoring
- Facilitate the setting up of a community-based ecotourism organization
- Facilitate the establishment of ecotourism areas in Panggang Village
- Increase local community capacity and knowledge on coral reef surveys
- Identify operational support services owned by islanders and develop partnerships with government, private sectors, school, and service provider owned by community

Key outcomes that were achieved are:

- Coral reef data and information collected
- Increase in local community capacity in coral reef monitoring
- Organisational structure for community-based ecotourism organization formed
- A financial management training and market network development workshop was held
- One coral reef area was declared as a protected zone for biodiversity resource, with no extractive activities allowed in the zone
- Database of tourism services was established

- Potential ecotourism guides were identified to work as interns for Elang Ekowisata in tourism services
- Elang Ekowisata brochure was produced and distributed during an ecotourism awareness activity

The slides of the presentation are presented in **Annex 4**.

### ***Coral Reef Monitoring through Partnership***

The UNEP Small Grants Project on “*Community Resources Centre for Better Management of Karimunjawa National Park*” was presented by Mr. Abdullah Habibi, Director, TAKA Foundation.

The main objective of the project was to establish a Community Resources Centre which will support various community activities including capacity building for coral reef surveys and fisheries management, database development and media communication development.

Key outcomes of the project were:

- Collection of coral reef data and background information
- Increase in local community capacity in coral reef monitoring
- The establishment of three village community groups
- Management training on organizational structure and strategic workplan for the village community groups
- The development, publication and distribution of a village management strategic plan by the community groups
- The formation of a communication forum to facilitate communication and action between the three community groups
- Distribution of computers to each community group and training on computer usage and data entry
- The development of community awareness posters and videos

The slides of the presentation are presented in **Annex 5**.

### ***Management through Networking in Relation to Green Fins***

The UNEP project on “*Green Fins Implementation in Thailand*” was presented by Mr. Niphon Phongsuwan of the Phuket Marine Biological Center (PMBC).

The main objective of the Green Fins programme is to protect and conserve coral reefs by establishing and implementing environmentally friendly guidelines to promote a sustainable diving tourism industry.

The first stage of the project was to develop resources and guidelines which will be promoted to dive and resort operators. These include:

- The Green Fins Code of Conduct
- Green Fins publicity and information posters and brochures
- Green Fins “Reef Watch” underwater notebooks

The project aims to attract the participation of dive and resort operators, individuals and companies through the provision of incentives like:

- Certificate of participation and flag or pennant of participation
- Certificate of excellence for levels of achievement
- Free/sponsored advertising through dive associations, networks, and regional media
- Increase in competitiveness of business
- International recognition and inter-governmental cooperation
- Website advertising (initially on UNEP EAS/RCU's pages)
- Sharing of scientific resources
- Capacity building programmes
- UNEP's support in establishing programmes (underwater cleanups, mooring buoy programmes, ReefCheck, Reef Watch)
- UNEP Collateral Support (handouts, multimedia, posters, education, advertising materials)
- Preservation of valuable dive sites and the preservation of coral reefs

The slides of the presentation are presented in **Annex 6**.

### ***Coral Mapping and Data Management***

UNEP project on “*Mapping Coral Reefs for Management in Ninh Thuan province, Viet Nam*” was presented by Ms. Karenne Tun, on behalf of Mr. Nguyen Van Long of the Institute of Oceanography, Nha Trang, Viet Nam.

The main objectives of this project were to investigate the possibility of using remote sensing and GIS tools in coral reef mapping in Ninh Thuan coastal waters, and to create adequate premises in establishing coral reefs distribution map (large scale) for the entire coastal waters of Viet Nam in the future.

The project's initial focus was to establish relevant methodology and to develop tools for interpreting coral reef habitats in specific conditions along Viet Nam's coastal zones using a variety of remote tools. The project also aimed to establish a GIS database on the distribution of coral reefs and other ecosystem in Ninh Thuan coastal waters, which will include layers such as environmental parameters, biodiversity characteristics, physical and socio-economic conditions of coastal areas of Ninh Thuan.



The outputs of the project included the development of a software tool to aid in the interpretation of coral reef and seagrass ecosystems. The project still requires further enhancement before it can have wider application.

The slides of the presentation are presented in **Annex 7**.

## **Session 2: Presentations by Key Regional and Global Organizations involved in Coral Reef Monitoring and Management Activities**

Session 2 was chaired by Dr. Hugh Kirkman, and consisted of five presentations by key regional and global organizations involved in coral reef monitoring and management activities in the region. As part of its new strategic directions, COBSEA aims to play an increasingly important role in improving data and information exchange in the region. This can be achieved through establishing partnerships and strengthening relationships with other programmes and organization in the region and beyond.

### ***Information Management***

The presentation on “*Linking Regional Coral Reef Monitoring and Management through Integrated Information Management*” was given by Mr. Marco Noordeloos of the WorldFish Center.

The presentation provided an overview of the mission and potential of ReefBase to serve as a database and web support for coral reef information for the EAS region, by drawing on her core competencies in GIS, database management, website development and information management. Information resources that have recently been loaded to the ReefBase website are:

- The International Coral Reef Symposium proceedings
- Reef status assessment based on Reefs at Risk Project
- Report on the Impacts of the 2004 Tsunami
- SocMon guidelines for socio-economic monitoring and
- ReefCheck Online Database

ReefBase Pacific that is a new regional database containing information about coral reefs in the Pacific Ocean was also introduced. It was noted that ReefBase has been authorized to develop GEF lessons and this experience could be shared with COBSEA.

The slides of the presentation are presented in **Annex 8**.

### ***Network Partnerships***

The presentation on “*Locally Managed Marine Areas (LMMA): Improving the Practice of Marine Conservation through Network Partnerships*” was given by Ms. Jovelyn T. Cleofe on behalf of the LMMA network.

The presentation highlighted the LMMA structure and mechanism in establishing an informal network of locally managed marine areas practitioners, and how such an informal network can be developed to provide resources and support for network members through the use of the LMMA Learning Framework in which sites can (a) share data and information and (b) collaborate on marine conservation.

The slides of the presentation are presented in **Annex 9**.

### ***Trans-boundary Collaboration***

The presentation on "*Managing Coral Reefs Across Boundaries: The Sulu Sulawesi Marine Eco-region (SSME) Experience*" was given by Mr. Jose A. Ingles of World Wildlife Fund (WWF) Philippines.

The presentation outlined the SSME conservation process, and highlighted mechanisms in achieving a three-nation collaboration between Indonesia, Philippines and Malaysia through the application of the Ecoregion Conservation Plan Process. The countries have agreed on the sharing of responsibilities for coral reef management in the transboundary areas. It was noted that transboundary issues are very complicated and negotiations best avoid political and territorial matters and only focus on conservation.

The slides of the presentation are presented in **Annex 10**.

### ***Coral Reef Management at the Regional, National and Site Levels***

The presentation on "*Actions at the Regional, National and Site Level for Coral Reef Management in the Framework of the UNEP/GEF SCS Project*" was given by Dr. Vo Si Tuan, Senior Expert of the UNEP/GEF Project Co-ordinating Unit.

The presentation touched on the goals of the UNEP SCS project and reviewed the regional, national and site level activities with regard to coral reef management. The framework for collaboration and coordination, development of a regional consensus for the sustainable management of coral reefs, the mechanisms in place for reporting and information management tools within the project were highlighted.

The slides of the presentation are presented in **Annex 11**.

### ***Global Coral Reef Initiatives***

The presentation on "*Experiences in the 5C's from the Global Perspective*" was given by Dr Kristian Teleki, Director, International Coral Reef Action Network (ICRAN).

The presentation outlined ICRAN's approach and experiences at the global level working with a network of partners in implementing or supporting coral reef projects in line with the 5Cs of Consensus, Communication, Collaboration, Community and Coordination.

The slides of the presentation are presented in **Annex 12**.

A general discussion followed the presentations of Session 2 and much was centered on how to effectively manage MPAs. Viet Nam, Indonesia, Philippines and Malaysia shared their experiences. It was noted that there are very few examples regarding how to assess the effectiveness of MPAs, especially in relation to their role in improving fisheries. The Malaysian representative noted that 75 Marine Parks had been established in Malaysia that has been effective in increasing the number of fish. He also noted that the development of coral reef based tourism is important to draw the attention of government for coral reef management and added that the Malaysian Government also intends to establish MPAs for all islands with coral reefs.

## 6. Discussions

### Session 3: Group Discussions

Workshop participants were divided into three groups to discuss different aspects of COBSEA 5C's strategy in coral reef monitoring and management, with each group led and directed by a facilitator. To aid the discussion process, a presentation on the outline of the 5C's strategy was given by Ms. Karenne Tun. The summary of the 5C's strategy is presented in **Annex 13**, and the slides of the presentation are presented in **Annex 14**.

Group 1 was facilitated by Dr. Hansa Chansang, and was tasked to discuss the attributes of "Consensus" and "Communication", using the following discussion guidelines:

1. Discuss the relevance, sufficiency, suitability and the application scale of the four key themes identified as the main objectives for initiating a coral reef monitoring and management plan in the Seas of East Asia. Are there other themes that can/should be incorporated?
2. Discuss the relevance, sufficiency, suitability and the application of the resources identified for each theme. Are there other resources that can/should be incorporated? Any other points?

Group 2 was facilitated by Dr. Hugh Kirkman and was tasked to discuss the attributes of "Collaboration" and "Community", using the following discussion guidelines:

1. Discuss the relevance, sufficiency, suitability and applicability of the 5 relationship levels for stakeholder collaboration, and their purpose, structure and process. Are there other relationship levels that can/should be incorporated? Discuss the context within which such relationships are relevant or suitable.
2. Discuss the relevance, sufficiency, suitability and the application of the collaboration framework in the context of coral reef monitoring and management. Are there other components that can/should be incorporated? Any other points?

Group 3 was facilitated by Dr. Chou Loke Ming and was tasked to discuss the attributes of "Coordination", using the following discussion guidelines:

1. What is the purpose of coordination? (with relevance to effective reef monitoring and management)
2. What needs to be coordinated for better monitoring and management? (Activities, results, resources, strategies)
3. Strategies for achieving coordination at the following levels (based on outcome of point 2):
  - a Project/Local
  - b National
  - c Regional

The topics, facilitators and members of the respective groups are as per the groupings shown in **Annex 15**. The presentation of the outcome of the group discussions was facilitated by Dr. Kristian A. Teleki.

### ***Group 1: Consensus and Communication***

The presentation of Group 1 discussion outcomes was made by Ms. Birgitta Liss. The group considered the draft resource guidebook on consensus and communication as a good start, but that more thought was needed to determine the application scales, specific themes and resources.

It was felt that “Communication” is a crucial component in enhancing coral reef monitoring and management, and explored several mechanisms by which communication can be enhanced. Successful communication depends largely on content, and the group highlighted the need to focus on producing useful resources for coral reef monitoring and management. One useful resource is the proposed resource guidebook, which can serve as a useful tool for coral reef practitioners. Caution was however advised in preparing the resource guidebook – the contents of the guidebook needs to be thoroughly scrutinized and discussed to ensure its relevance and applicability.

The group drafted a table highlighting key themes in the area of coral reef monitoring and management, their relevant components and their possible application scales (Table 1). It was acknowledged that a lot of information and resources are already available for each of the themes and components. The overall issues that the group felt needed to be addressed were:

1. Language – most information and resources are published in English, and are not useful to many end users.
2. The need to coordinate all available information and resources – somebody needs to be responsible.
3. Compilation and dissemination of relevant information and media resources to stakeholders in the region – not all information is useful or up to date; there is a need to sieve through all the available information and resources and compile them into various forms of information packages with a channel for dissemination.

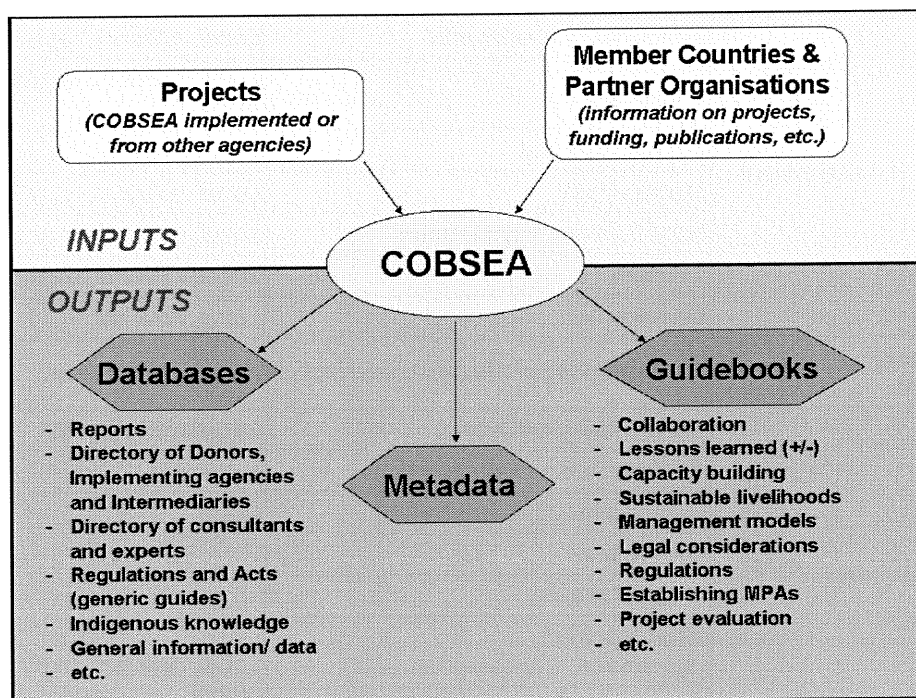
**Table 1: Key themes, their components and their possible application scales in the area of coral reef monitoring and management**

Theme	Resource Focus	Application Scale
Protection, Management and Governance	Establishment of MPAs	Local, national
	Management Models/Strategies <ul style="list-style-type: none"> <li>- Community based resources</li> <li>- Co-Management</li> <li>- Locally Managed Marine Areas</li> <li>- Adaptive Management</li> <li>- Enterprise Strategy</li> <li>- Green Certification</li> <li>- Financing Options</li> </ul>	Local, national
	Legislation	Local, national
Socio-Economic	Economic Valuation	Local, national, regional
	Alternative Livelihoods	Local
Monitoring and Assessment	Biological/Environmental	Local, national, regional
	Mapping	Local, national, regional, global
	Socio-Economic	Local, national
	Management	Local, national, regional
	Reef fisheries management	Local, national, regional
	Tourism	Local, national, regional
	Development	Local, national
Restoration and Enhancement	Reef restoration – needs specification	Local and national
Data and Information Management	Coral Transplantation	Local and national
	Artificial Reefs / Structures	Local
	Restocking (eg, Giant clams)	Local
	Databases	Local, national, regional, global
	Metadatabases	
	GIS/Mapping (eg, source "Conservation GIS")	
	Remote Sensing (eg, Source "HB for remote sensing of tropical coastal areas", etc)	
	Data Analysis (Indicators)	
Outreach and Awareness	Publications	Local, national, regional, global
	CD-ROMs	
	Training	
	Workshops	

**Group 2: Collaboration and Community**

The presentation of Group 2 discussion outcomes was made by Mr. Vellayutham Pachaimuthu. Group 2 agreed that the components of collaboration and community are key attributes for successful coral reef monitoring and management, but did not discuss the details of the

components in the draft resource guidebook. The discussion was instead focused on the larger picture of coordination within the Seas of East Asia, with COBSEA playing a pivotal role in the process. The entire process was summarized in the conceptual model as shown in Figure 1, with COBSEA serving as the intermediary that receives inputs in various formats from various sources and compiles the inputs into specific outputs – either as metadata, summary data or guidebooks that focus on specific themes or topics. The task of compiling data and information into databases or metadatabases is more or less a straightforward process that will take time and resources, but the production of guidebooks will require a lot more effort. It will be important to first identify the gaps in available knowledge and information, then conceptualise the guidebooks that can be developed to fill the gaps, using data and information collected and compiled from various sources. It is a long-term task that will take time and effort to build up.



**Figure 1: Conceptual model showing the links between funding channels, project outcomes and communication channels, and the possible role COBSEA can play in the process.**

Again, the importance of producing useful and relevant resources for enhancing coral reef monitoring and management was reiterated by Group 2. The group felt that development of resource guidebooks that addressed specific coral reef monitoring and management questions within the context of East Asia is an important activity that COBSEA, as a coordinating body can take a lead in, by working in collaboration with other coral reef practitioners like WWF, LMMA and other organizations/agencies.

### Group 3: Coordination

The presentation of Group 3 discussion outcomes was made by Dr. Chou Loke Ming. The discussion in Group 3 focused largely on addressing the “big picture” of coordination within the Seas of East Asia, with coordination of information identified as a key component in the overall strategy.

There was general consensus within the group that COBSEA can play a role as a One-Stop-Shop for regional information on coral reef monitoring and management. By identifying and coordinating regional information, COBSEA can be in a position to provide information for decision-making by donors and focal points on issues related to coral reef monitoring and management in the region, providing an important resource that is currently lacking in the region.

The group also recognized that regional and sub-regional activities are numerous and in many cases, quite well broadcasted. At the national and local levels, activities are also numerous, but the information is not as well advertised. The focal points suggested that national and local level information should to be made more accessible across the region, with COBSEA possibly serving as the link for coordinating the information across all three levels.

The discussions in Group 3 led to the development of a “Facilitation Framework” for coral reef monitoring and management, which identifies the underlying situation within the region, and proposes mechanisms to address the situation through the development of a knowledgebase and coordination between donors, focal points and other networks/agencies (Figure 2).

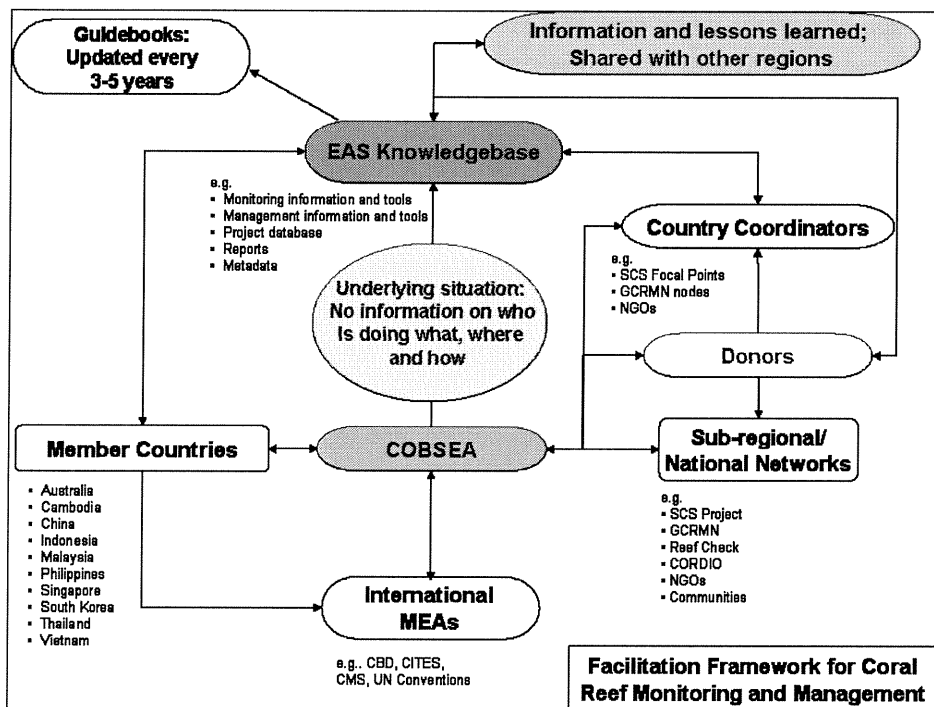


Figure 2: The proposed “Facilitation Framework” for coral reef monitoring and management in the Seas of East Asia, showing COBSEA’s potential role as the link between donors, sub-regional/national players and COBSEA focal points.

## **Conclusions from Group Discussions**

There was general consensus that the proposed COBSEA Resource Guidebook is a positive step towards providing a useful and relevant tool for enhancing coral reef monitoring and management in the Seas of East Asia. However, concerns were expressed to the use of the word "Guidebook", as it may cause confusion of its purpose, and be misinterpreted. Since the proposed COBSEA Guidebook is only one of the tools being proposed for development in COBSEA's new strategic plans, the term "EAS Knowledgebase" or EAS Knowledge Portal" was proposed, which will incorporate the resource guidebook as one of the products.

There was also general consensus that more thought needs to be given in developing the contents of the draft guidebook - it can perhaps start with a summary of case-studies of successfully implemented COBSEA projects, and later be enhanced with lessons-learned scenarios and specific themes. It was emphasized that coordinating coral reef monitoring and management at a regional level will require a certain amount of "incubation time", and COBSEA should therefore approach it as a long-term goal through a step-by-step approach, starting from small project implementation and working up to providing project support through resource development and information management.

## **7. Recommendations for future COBSEA Activities**

There was a general consensus among the workshop participants that the structure and implementation of the UNEP Small Grants scheme was an effective way in achieving targeted results which can be shared with the larger coral reef community through the production of specific resource guidebooks. There was also recognition that COBSEA has to refocus her operational strategy, and focus more on information management, capacity building and project development as mandated by the National Focal Points (NFPs) at the 18<sup>th</sup> COBSEA Meeting in 2006.

The inherent difficulty for COBSEA to play a leading role in coordination of coral reef activities lies in the fact that COBSEA's operational units - the NFPs - are political and formal in nature, as compared to other agencies like the GCRMN for example, where the focal points for coral reefs are more technical and informal in nature.

There is a need to distinguish between political and technical coordination. By virtue of her operational structure, COBSEA is largely a political network, with the mandate by the focal points to increase its role in technical coordination.

The weakness in the region was identified as the absence of any organization/agency that can be involved in various meetings with the same focus – coral reefs. As far as coral reef monitoring is concerned, there is no one organization/agency in any East Asian country that keeps tab on all coral reef activities within her country. It was suggested that since the SCS project already has Regional Working Group for coral reefs (RWG-CR), it may be possible for COBSEA to augment that and work with the RWG-CR to further her activities within the region. The other suggestion was for



COBSEA to work with the GCRMN network within the region, as the focal points for GCRMN are the same as SCS.

It was also highlighted that there are numerous projects within the EAS region – at the *local* (through NGO, academic institutions, etc), *national* (through national agencies, consortium of agencies, etc) and *regional* levels (through regional projects like SCS, PEMSEA, WWF, LMMA, etc). There were also awareness of the presence of various online data and information resources, which are mostly managed and maintained by individual groups and incorporating information about their individual projects. Workshop participants also noted the lack of dedicated online information resources that brings together all the regional players involved in coral reef monitoring and management – who they are, what they are doing, where they are operating, etc.

It was acknowledged that developing such information can potentially have numerous significant benefits, and the participants at the workshop supported the suggestion that COBSEA embark on developing an EAS Knowledgebase, which will serve as a vital portal for information and resources on coral reef monitoring and management in the Seas of East Asia.

From a donors point of view, the EAS Knowledgebase can enable them to assess the regional situation, assess where funds are being channeled as well as where it is not going to, and plan their funding strategies more effectively, etc

For coral reef practitioners, the EAS Knowledgebase will enable them to identify target areas to focus on, identify potential collaborators, “advertise” their project to potential donors, learn from lessons learned summaries, etc

The Facilitation Framework outlined in Figure 2 puts into context the relevance of a Knowledgebase within the framework of coral reef management within the EAS region.

Discussions on the possible structure and content of the EAS Knowledgebase led to the recommendation that the EAS Knowledgebase could serve as a One-Stop-Shop for the following information and resources:

1. Directories
  - a Donors – who they are, what are they funding
  - b Implementers
  - c Consultants
  - d Experts
  - e Bibliography
2. Resources by Themes
  - a Protection and Management/Governance
  - b Socio-economic (alternative livelihoods?)
  - c Monitoring and Assessment

- d Restoration and Enhancement
  - e Data and Information Management
  - f Outreach and Awareness
  - g Rules and regulations (Marine parks)
  - h Sustainable financing for marine parks
3. Metadata on coral reef projects and activities
  4. Project/Agency Reports
  5. Lessons learned – Guidebooks
  6. Online discussion groups

Participants stressed on the timeliness of developing the EAS Knowledgebase, and encouraged COBSEA to pursue this aggressively, starting with encouraging the focal points to support the idea. A tentative timeline for the development of the EAS Knowledgebase was proposed, and outlined in Table 2 below.

**Table 2: The proposed tentative timeline for the establishment of the EAS Knowledgebase**

Key Focus Area	Key Activity/ies	Timeline	Implementing Agency
Publicize and promote proposed framework among potential partners  <i>(eg, Relevant working groups of SCS, GCRMN, ASEAN, APEC representatives, ICRAN partners, TNC Learning Network, ReefBase)</i>	<ul style="list-style-type: none"> <li>- Identify potential partners</li> <li>- Establish networks</li> <li>- Draft project proposal for establishing the EAS Knowledgebase</li> </ul>	6 months – 1 year  Target Deadline: 2 <sup>nd</sup> Qtr 2007	COBSEA Secretariat
Identify information needed and establish database for archiving information	<ul style="list-style-type: none"> <li>- Assess information availability and information gaps in the EAS Region</li> <li>- Conduct needs assessments through structured questionnaires to assess the needs of various agencies/ groups/partners in the EAS Region</li> <li>- Establish initial GIS database for the proposed EAS Knowledgebase</li> </ul>	6 months – 1 year  Target Deadline: 4 <sup>th</sup> Qtr 2007	COBSEA Secretariat, project partners, consultants
Synthesize information for lessons learned and	<ul style="list-style-type: none"> <li>- Synthesize lessons-learned summaries from COBSEA</li> </ul>	1– 3 years	COBSEA Secretariat, project partners,

Key Focus Area	Key Activity/ies	Timeline	Implementing Agency
identifying information gaps	<ul style="list-style-type: none"> <li>- implemented projects and other past projects</li> <li>- Expand lessons-learned synthesis to other projects, through collaboration with partners</li> </ul>	<ul style="list-style-type: none"> <li>- Target Deadline for lessons-learned from COBSEA projects: 2<sup>nd</sup> Qtr 2007</li> </ul>	consultants
Establish and populate EAS Knowledgebase	<ul style="list-style-type: none"> <li>- Develop beta version of the EAS Knowledgebase online portal</li> <li>- Populate and expand content of the EAS Knowledgebase</li> </ul>	<ul style="list-style-type: none"> <li>- 2– 4 years</li> <li>- Target Deadline : 2<sup>nd</sup> Qtr 2008</li> </ul>	COBSEA Secretariat, project partners, consultants
Feed information (eg, lessons learned, etc) back to Focal Points and donors	<ul style="list-style-type: none"> <li>- Work with focal points and partners to provide relevant synthesized information</li> </ul>	<ul style="list-style-type: none"> <li>- 2– 4 years</li> </ul>	COBSEA Secretariat, project partners, consultants
Develop relevant regional guidelines drawn from Knowledgebase and in collaboration with ASEAN; including synthesis of regional reports for updating specific MEAs	<ul style="list-style-type: none"> <li>- Provide support to member countries in meeting and delivering on various international MEAs</li> </ul>	<ul style="list-style-type: none"> <li>- &gt; 4 years</li> </ul>	COBSEA Secretariat, project partners, consultants

## 8. Closure of the meeting

Dr. Kristian A. Teleki addressing the participants in his closing remarks commented that there was a general consensus that the workshop had succeeded in achieving its objectives. He noted that many COBSEA implemented activities in the region have yielded successful outcomes for local communities. There was also a clear signal from participants the need for better information coordination and management within the Seas of East Asia, and their desire to see COBSEA play a more pivotal role in information coordination. Dr. Srisuda, the UNEP EAS/RCU Coordinator thanked the participants for their hard work and contributions and assured that the secretariat will follow-up on the recommendations for a clear plan of action by COBSEA. The meeting was formally closed at 17.30 hours, 25 May 2006.

## ANNEX 1: List of Participants

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## ANNEX 2: Workshop Programme

<b>Day 1: Tuesday, 23 May 2006 – Arrivals and Check-in</b>	
1300-1800	Arrival and check into Hotel Aisawan Resort & Spa, Pattaya

<b>Day 2: Wednesday, 24 May 2006 – Presentations and Workshop Dinner</b>	
0830-0900	Registration
0900-0915	Welcome address – Dr. Maitree DUANGSAWASDI, Director General, Department of Marine and Coastal Resources, Thailand
0915-0930	General introduction, workshop objectives and structure – Dr.Srisuda JARAYABHAND, Coordinator EAS/RCU
<b>Session 1: Presentations on successful case-studies on Coral Reef Monitoring and Management in the Seas of East Asia – Chairperson: Dr. Hansa CHANSANG</b>	
0930-0950	<b>Presentation - Good management practices for alternative livelihood and capacity-building</b>  Project on “Developing Community-based Sanctuary for Coral Reefs in Wangkolabu Village, Indonesia” – <i>Mr. Alimaturahim</i>
0950-1010	<b>Presentation – Sustainable tourism</b>  Development of Community-based Ecotourism in Panggang Village, Seribu Islands – <i>Ms. Estradivari</i>
1010-1030	Coffee break
1030-1050	<b>Presentation - Coral reef monitoring through partnership</b>  Project on “Community resources centre for better management of Karimunjawa National Park” – <i>Mr. Abdullah Habibi</i>
1050-1110	<b>Presentation – Management through networking in relation to Green Fins</b>  Project on “Green Fins Implementation in Thailand” – <i>Mr. Nipon PHONGSUWAN</i>
1110-1130	<b>Presentation - Coral mapping and data management</b>  Project on “Mapping Coral Reefs for Management in Ninh Thuan Province, Viet

	Nam" – <i>Mr. Nguyen Van LONG</i>
1130-1230	<b>Discussion</b>
1230-1330	Lunch
<b>Session 2: Presentations by key regional and global organizations involved in coral reef monitoring and management activities – Chairperson: Dr. Hugh KIRKMAN</b>	
1330-1350	<b>Presentation</b> – Linking Regional Coral Reef Monitoring and Management through Integrated Information Management - <i>Mr. Marco NOORDELOOS</i>
1350-1410	<b>Presentation</b> – Locally Managed Marine Areas: Improving the Practice of Marine Conservation through Network Partnerships - <i>Ms. Jovelyn T. Cleofe</i>
1410-1430	<b>Presentation</b> – Managing Coral Reefs Across Boundaries: The Sulu Sulawesi Marine Eco-region Experience - <i>Mr. Jose INGLES</i>
1430-1450	<b>Presentation</b> – Actions at the Regional, National and Site Level for Coral Reef Management in the Framework of the UNEP/GEF SCS Project – <i>Dr. Vo Si Tuan</i>
1450-1510	<b>Presentation</b> – Experiences in the 5C's from the Global Perspective – <i>Dr. Kristian A. Teleki</i>
1510-1530	Coffee break
1530-1630	Discussion
1630-1730	Briefing on the objectives of group discussion by Consultant: <i>Ms. Karenne TUN</i> Grouping of participants for Session 3. Group 1-Consensus and Communication – <i>Facilitator: Dr. Hansa CHANSANG</i> , Group 2- Collaboration and Community- <i>Facilitator: Dr. Hugh KIRKMAN</i> and Group 3- Coordination: <i>Facilitator: Dr. CHOU Loke Ming</i>
1830	Official Dinner

**Day 3: Thursday, 25 May 2006**

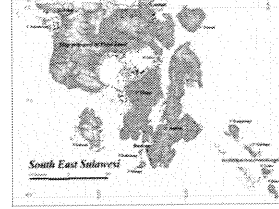
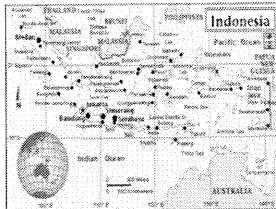
**Session 3: Group Discussions & Presentations - Chairperson: Dr. Kristian A. Teleki**

0900-1030	Parallel group discussions on the 5 C's in Coral Reef Monitoring and Management
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1030-1045	Coffee break
1045-1100	Group 1 Presentation : Consensus and Communication
1100-1115	Group 2 Presentation : Collaboration and Community
1115-1130	Group 3 Presentation : Coordination
1130-1230	Discussion
1230-1330	Lunch Break
1330-1500	Discussion on the draft version of COBSEA's Reference Guidebook on Effective Coral Reef Monitoring and Management – <i>Its relevance, scope and content</i>
1500 – 1545	Coffee Break
1545 – 1645	General Discussion – Future activities
1645 – 1715	Presentation of workshop summary
1715 – 1730	Closing ceremony

<b>Day 4: Friday, 26 May 2006</b>
Departures

## ANNEX 3: Developing community-based sanctuary for coral reefs in Wangkolabu Village, Indonesia



### **Good Management Practices for Alternative Livelihoods and Capacity- Building**

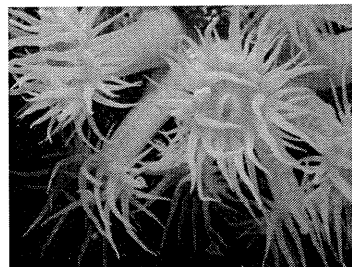
#### **Project On “Developing Community-based Sanctuary For Coral Reefs In Wangkolabu Village, Indonesia”**

*By: Alimaturahim, Executive Director of LKP  
(formerly Yayasan Lestari)*

1

### **THE WANGKOLABU PROJECT**

- Biodiversity conservation project
  - Implementing institution: Yayasan Lestari
  - Year of implementation: 1 April 2004 to 31 March 2005
- Basic financial support: UNEP EAS/RCU, COBSEA



2

## **WHAT DID WE DO?**

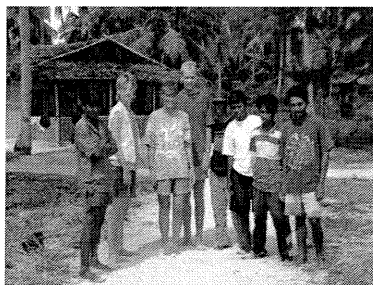
Through the project, a community-based sanctuary was developed in order to conserve biodiversity whilst developing sustainable rural economies



3

## **HOW DID WE DO IT?**

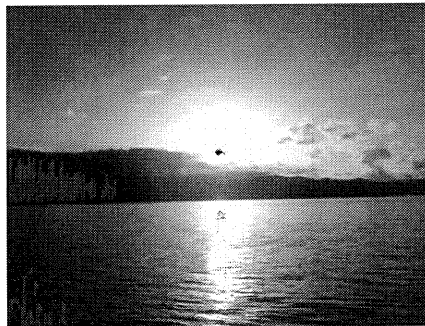
We implemented the project by applying participatory methods with which all stakeholders – both the supporters and the opponents – were fully involved in the planning, implementation, monitoring & evaluation



4

## THE IMPLEMENTING INSTITUTION

Yayasan Lestari (Foundation for Sustainability) which is currently known as *Lembaga Konservasi dan Pembangunan* (Conservation and Development Institute) shorted as LKP



5

## BASIC FACTS ABOUT WANGKOLABU

- Wangkolabu is 1 of 5 coastal villages on the Great Tobea Island, Indonesia
- Total area: about 6 sq km
- Population: 370 lives (186 females and 184 males)
- 16 ha of fringing reefs upon which all of the 370 residents heavily depend
- Home to more than 100 marine vertebrates & invertebrates on which more than 20 bird species feed (some of which are globally threatened)



6

## STARTING PROBLEM

About 40% of coral reefs in Wangkolabu were severely degraded in the last decade (1992-2002)

As the consequence:

- 50% drop in local fishers' average catch → extreme poverty
- 19 fish species disappeared (5 are globally threatened) → 11 seabird species as predators disappeared (3 are globally threatened)



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## 5 STEPS OF PROJECT INTERVENTION

Step 1: Building mutual understanding & trust with three key groups

- civil society (primarily indigenous peoples and local communities)
  - the business
  - the governments (primarily the policy makers)
- The instrument: Participatory Rapid Appraisal (PRA)



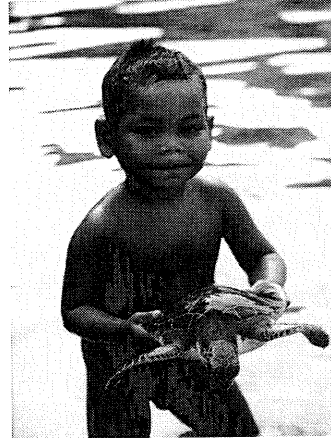
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## 5 STEPS OF PROJECT INTERVENTION

### Step 2: Problem identification

→The instrument: Goal-Oriented Project Planning (GOPP) or Ziel Orientierte Projek Planung (ZOPP)

→ Outputs: problem tree



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## 5 STEPS OF PROJECT INTERVENTION

### Step 3: Formulating project strategies & priority in Wangkolabu:

- Causes of over-fishing minimized
- COT population controlled to normal density (<30 individuals per ha)
- Permanent eradication of both destructive fishing and coral mining
- Permanent eradication of coral mining
- Permanent eradication of destructive fishing (especially dynamite and cyanide)
- Causes of poverty minimized
- Causes of global warming minimized

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## 5 STEPS OF PROJECT INTERVENTION

### Step 4: Formulating the project framework

- Overall goal: a significant portion of coral reefs in Wangkolabu well protected.
- Purpose: community-based sanctuary (CBS) for coral conservation in Wangkolabu established and well managed.
- Results (outputs):
  - 1) Project management structure in place.
  - 2) Awareness & support for CBS for coral conservation
  - 3) Aquarium fish collection established
  - 4) CoT population controlled to normal density (<30 individuals/ha)
  - 5) CBS established & well managed
  - 6) CBS monitoring program in place and implemented

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## 5 STEPS OF PROJECT INTERVENTION

### Step 5: Implementation, monitoring & evaluation

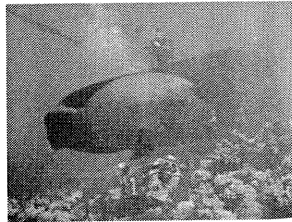


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## WHAT IS CBS?

CBS is protected ecosystems, especially natural forests and wetlands, in which globally threatened and/or endemic wildlife occur and on which biodiversity conservation and development can be carried out in parallel

The establishment, management & benefit sharing should be based on shared consensus & legal decision by key stakeholders: rural community (indigenous peoples, women, and other resource users), institutions & policy-makers

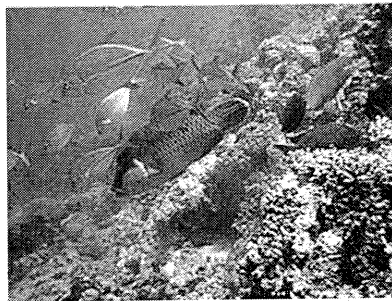


13

## WHAT IS CBS?

Demarcated at least into two strategic zones:

- Protection Zone for biodiversity conservation
- Sustainable Utilization Zone for wise uses such as organic farming, fuel-wood and timber gardens, eco-tourism, aquarium fish collection & other economic activities that do not disrupt biodiversity

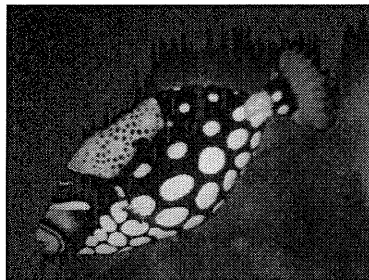


14

## OUTCOME 1

### AQUARIUM FISH COLLECTION AS ALTERNATIVE LIVELIHOOD:

- Curriculum and syllabi for aquarium fish collectio
- 24 local people (17 men & 7 women) work as aquarium fish collectors



15

## OUTCOME 2

### CROWN OF THORNS (CoTs) REMOVAL:

- 20 local people (18 men & 2 women) are active in keeping CoTs at a normal density (<30 individuals per ha)



16

### **OUTCOME 3**

#### **ESTABLISH A COMMUNITY-BASED SANCTUARY FOR CORAL CONSERVATION IN WANGKOLABU:**

- 10 important people are active in managing the CBS
- Wangkolabu Government's Regulation concerning CBS for Coral Reefs in Wangkolabu
- CBS Management Authority (CBS-MA) who plays the most strategic role in the CBS management
- CBS implementation plan

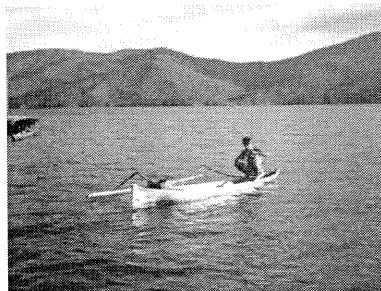


17

### **OUTCOME 4**

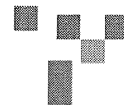
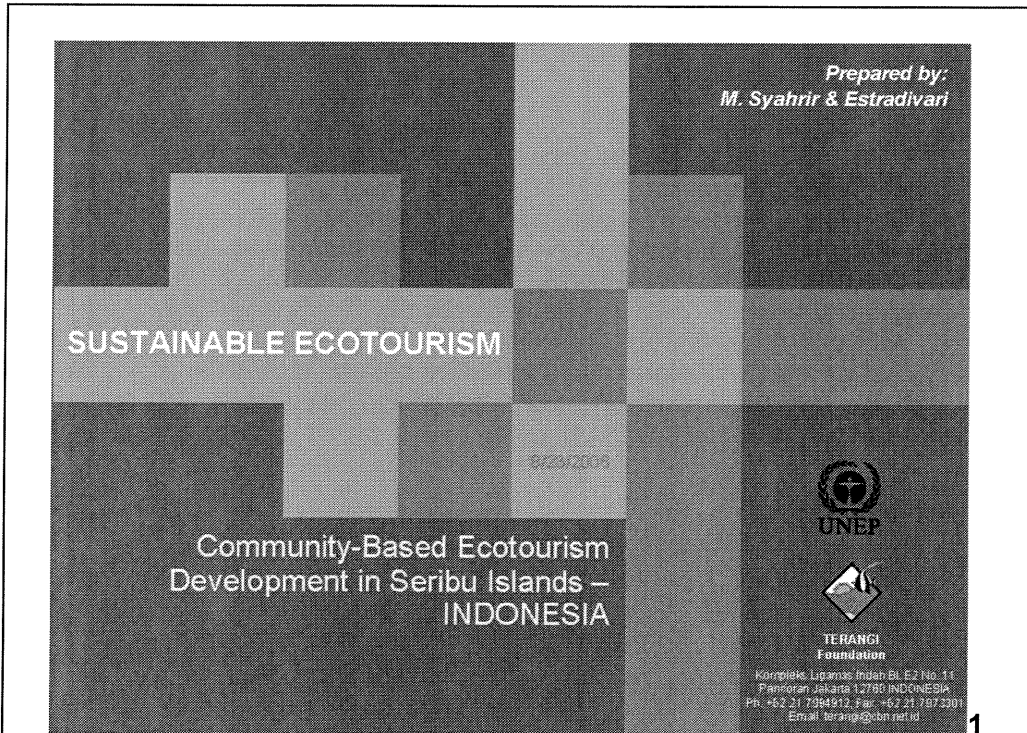
#### **ESTABLISH A CBS MONITORING PROGRAM:**

- Monitoring strategy for CBS and its natural resources
- Baseline coral data



18

## ANNEX 4: Development of Community-based Eco-tourism in Panggang Village, Seribu Islands

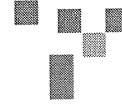


### **TERANGI Foundation:**

- **Established in September 1999 as the first non profit organization in Indonesia to focus exclusively on coral reef conservation issues.**

### **VISION:**

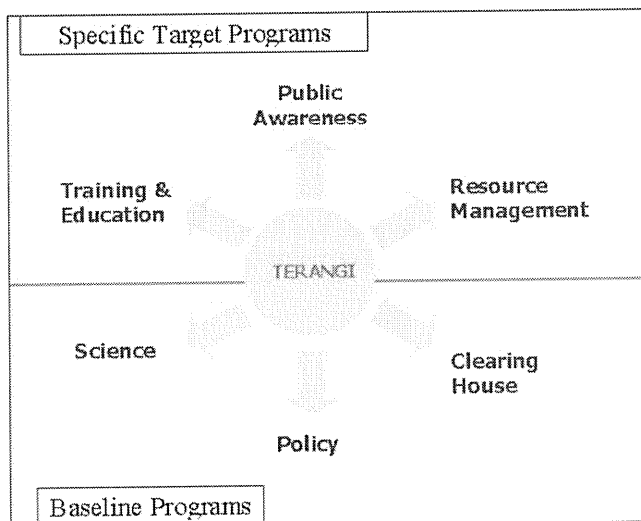
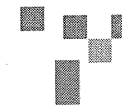
**To form a society that is able to manage the Indonesian coral reef sustainability in order to prevent lost, waste and damage as results of over-exploitation, destructive use and neglected activities.**



**MISSIONS:**

- To raise the community awareness about the value and threats of coral reefs.
- To empower the local communities and stakeholders through participatory education and training thus they can manage the coral reef resources effectively.
- To foster scientific studies and publication activities regarding coral reefs biodiversity and ecology.
- To support the collection and distribution of coral reefs data.
- To support the coral-reef-related policy development and implementation.

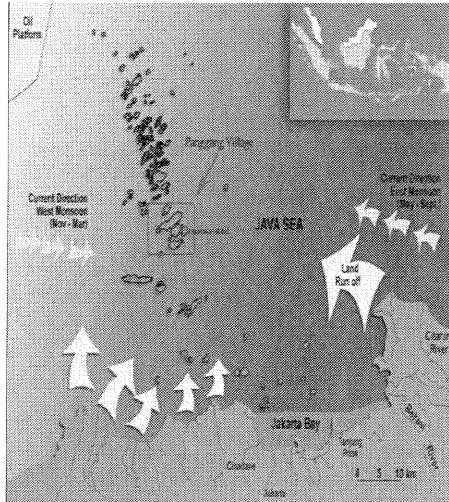
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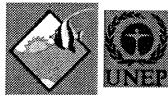
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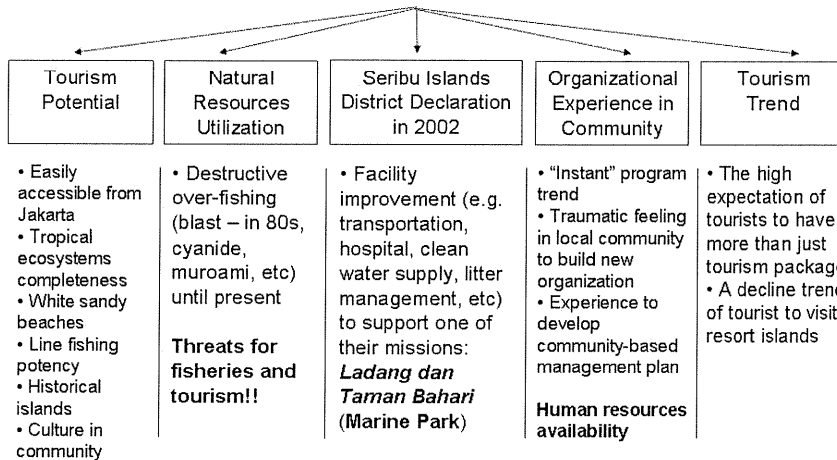
- **Location: Panggang Village (Central of Seribu Islands District)**
- **Total islands in the village: 13 islands (3 for local residents, 2 for resorts, 9 unpopulated islands)**
- **Human population: 4000 people**
- **Status in Seribu Islands National Park (SINP): Inhabitant Zone**
- **Duration: Aug 04 – Aug 05**



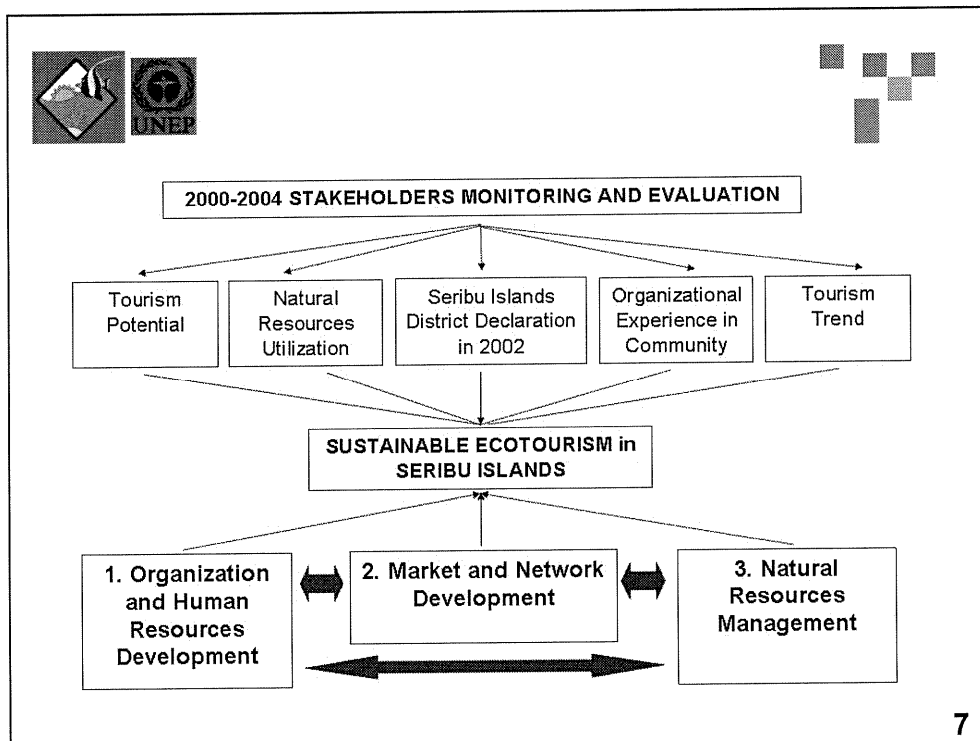
5



2000-2004 STAKEHOLDERS MONITORING AND EVALUATION



6



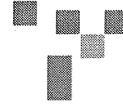
## 1. Organization and Human Resources Development

- a. Organization declaration: Elang Ekowisata
- b. Designing organizational tools, e.g. vision, missions, objectives, articles of association, bylaws and other regulations) → good in progress (monitoring and evaluation)
- c. Capacity building
  - Ecology and conservation workshop (trainings of diving and guiding, introducing the concept of ecology, advancing the knowledge of marine biota, regular monitoring of coastal resources, introducing the coastal rehabilitation and conservation techniques)
  - Organizational and networking workshop (advancing the individual skill of administration, financial management, organizational system, and networking).
  - Marketing workshop (promotion and marketing trainings)

**INTENSIVE TERANGI'S AND OTHER STAKEHOLDERS' ASSISTANCE**

**8**





**Ecological and conservation workshop**



**Organizational and networking workshop**



**Marketing workshop**



**Diving practices**



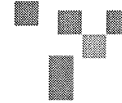
**Coral reef monitoring practices**



**Coral transplantation practices**

*Photos: M. Syahrir*

**9**



## **2. Market and Network Development**

- a. **Written cooperation agreement with investors about the management of two boats.**
- b. **Written cooperation agreement with local government about the management of diving equipments and compressor.**
- c. **Spoken cooperation with community that equipped operational services (e.g. homestay, food, souvenirs, etc) about the profit distribution.**
- d. **Spoken cooperation with 2 private resorts about skin equipments lending.**
- e. **Written cooperation with several travel agencies and dive shops in Seribu Islands and Jakarta.**



**Boat from investor**

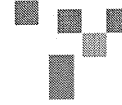


**Homestay – cooperation with community**

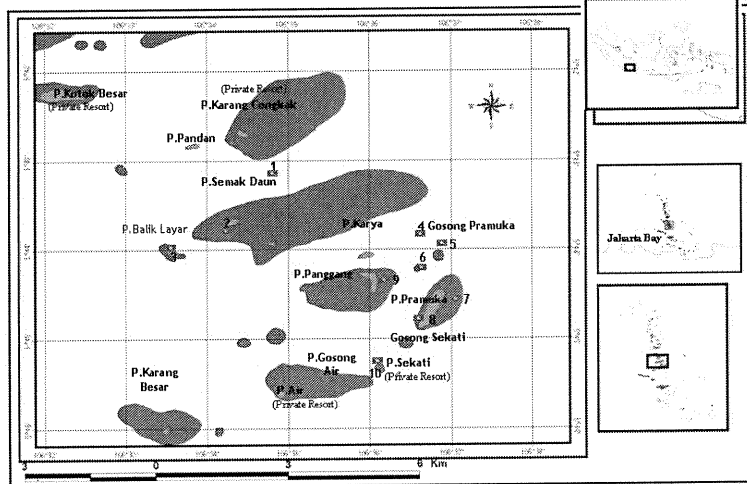
**LESS INTENSIVE OF TERANGI'S ASSISTANCE**

*Photos: M. Syahrir*

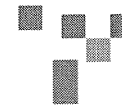
**10**



### 3. The natural resources management

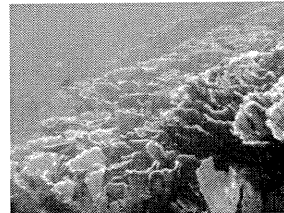
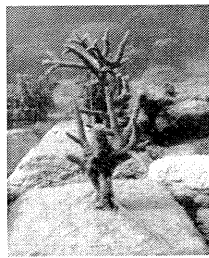


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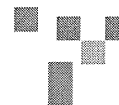
- a. Gosong Pramuka (Flag No. 4) in 2004 is set as Community-Based Marine Protected Area
- b. Northwest Pramuka (Flag No. 6) is set as edu-tourism area (area for transplantation activity and area for marine biota introduction for kids)
- c. Others 8 sites are set as eco-tourism areas (for diving and snorkeling)

#### INTENSIVE TERANGI'S ASSISTANCE



Photos: M. Syahrir

12



## 1. Guarantee for the continuation of Elang Ekowisata organization

### a. Organization Structure

- Head of Board: Head of Seribu Islands Administration District

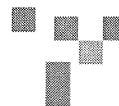
### b. Board of Trustees

- Head of Planning Agency - Seribu Islands Administration District
- Head of Youth and Sport Division - Seribu Islands Administration District
- Head of Seribu Islands National Park
- Head of Tourism Division - Seribu Islands Administration District
- Chief of Panggang Village
- Village's board

### c. Elang Ekowisata Office Bearers

- Chairman of Elang Ekowisata, Secretary, Finance, Public relation coordinator, Equipment coordinator, Human resources coordinator, Marketing, Members

13



d. Elang Ekowisata applies the generation system. Presently, Elang has produced 2 generation. Total of Elang members are 15 persons → Renewable members.

### e. Monitoring and evaluation of program through meetings

- weekly meeting: to evaluate the daily guest services and related activities
- monthly meeting: to evaluate the administration and financial progress
- tri-monthly meeting: to evaluate the program progress with board of trustees.
- six-monthly meeting: to prepare the natural resources monitoring
- annual meeting: to evaluate the yearly program and to plan the next one year program



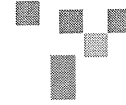
Snorkeling practices for the 2<sup>nd</sup> generation of Elang Ekowisata members



Weekly meeting

Photos: M. Syahrir

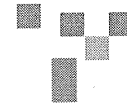
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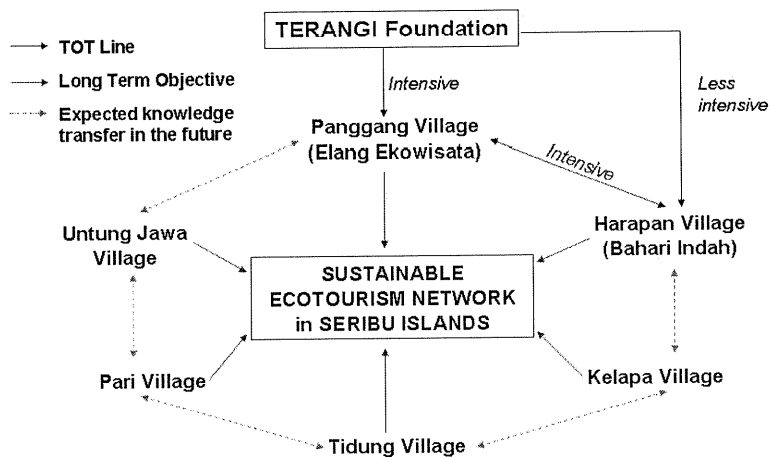
## 2. Guarantee of the continuous of natural resources management and monitoring in some sites in Panggang Village

- a. 80% of scuba-and-skin-divers of Elang Ekowisata's guests are expected to know more about the condition of coral reefs → motivating the members to keep learning, conducting the monitoring and managing the resources.
- b. A formal written agreement with local government to conduct monitoring every six months (local government supplies the equipments, Elang Ekowisata members act as surveyors)
- c. → Natural resources monitoring is conducted every six months using Manta Tow and Line Intercept Transect Methods

15



## 3. A chance to develop the sustainable ecotourism network in Seribu Islands



16

## ANNEX 5: Community resources centre for better management of Karimunjawa National Park



### Coral Reef Monitoring Through Partnership Project on “Community resources centre for better management of Karimunjawa National Park”

Abdullah Habibi  
Director, TACA Foundation  
Jl. Tusam Raya L-27 Banyumanik – Semarang 50269, Jawa Tengah  
Telp/fax: 62-24-7474209, e-mail: [yavasan\\_taka@vnet.id](mailto:yavasan_taka@vnet.id), web: <http://yavasan-taka.bn.net>

1

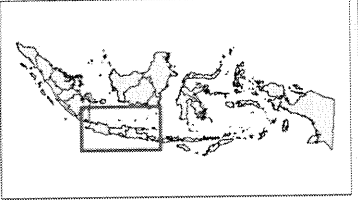
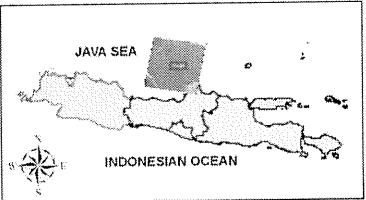
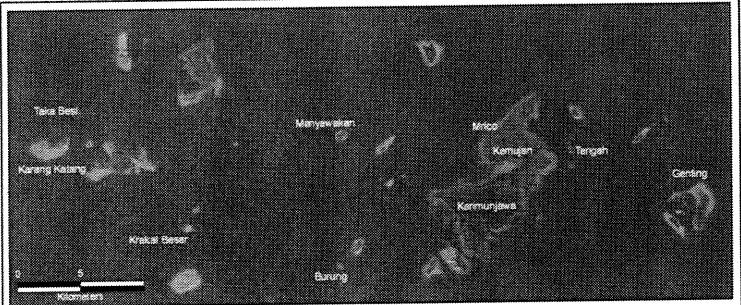


### KARIMUNJAWA ISLANDS

- Consists of 27 islands, with 5 inhabitant islands
- With 114.345 ha coverage area, the marine area consists of 107.225 ha (94% from total area)
- More than 8850 people depend on the marine resources (61% life as fisherman)
- Mostly (22 islands) has been managed as Marine National Park since 1988

2

TAKA UNEP

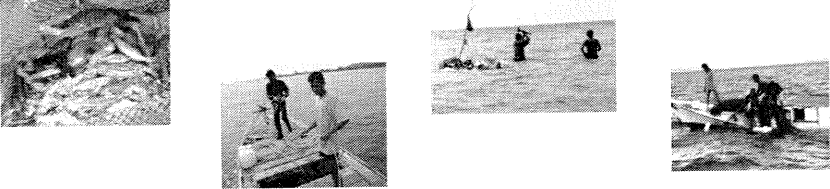


3

TAKA UNEP

### PROBLEMS FOUND IN MANAGEMENT

- No community has been involved in planning and implementing the management of National Park
- Marine environmental degradation
- Destructive fishing
- Over exploitation on food consumption marine biota (e.g. fish, lobster, sea cucumber)



4



## SOLUTION

### Planning and management enforcement through National Park Management Plan



Policy and Management  
by  
Karimunjawa National  
Park Agency

Scientific support  
by  
Taka Foundation and  
Wildlife Conservation  
Society

*Community involvement  
through  
Community Resource  
Center?*

5



## COMMUNITY RESOURCES CENTRE

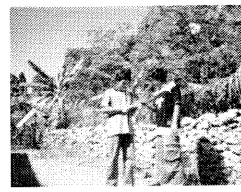
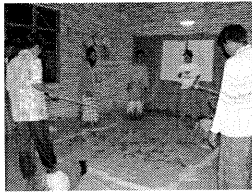
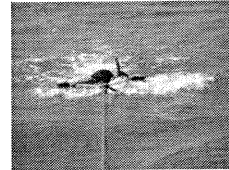
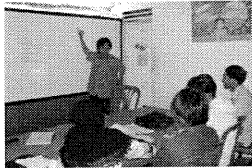
- Taka Foundation facilitated on building the Community Resources Centre in which supported by UNEP COBSEA (May '04 – April '05)
- Community Resources Centre has three main activities:
  - Capacity building,
  - Database development, and
  - Media communication development

6



## COMMUNITY RESOURCES CENTRE *cont'd.*

### Capacity Building

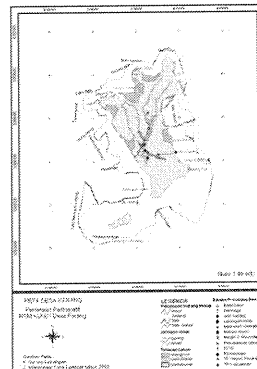


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## COMMUNITY RESOURCES CENTRE *cont'd.*

### Database Development



8

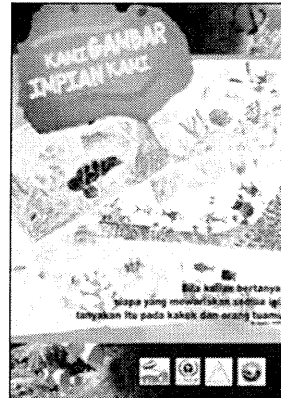




## COMMUNITY RESOURCES CENTRE *cont'd.*

### Media Communication Development

- Marine Conservation Cartoon movie
- Poster



9



## COMMUNITY RESOURCES CENTRE *cont'd.*

- The establishment of KSM\*s in three villages
  - KSM KUNCI => Parang village
  - KSM JAMBU => Kemujan village
  - KSM KENARI => Karimunjawa village
- KSMs were built FKMK\*\* to accommodate communications and actions between groups



\* KSM = Kelompok Swadaya Masyarakat (Community Group on self-supporting basis)

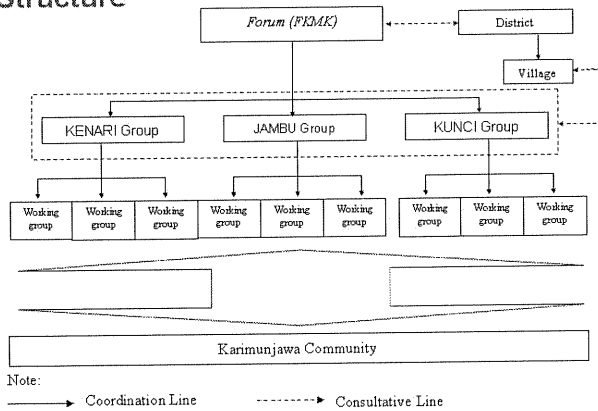
\*\* FKMK = Forum Komunikasi Masyarakat Karimunjawa (Communication Forum of Karimunjawa Community)

10



## COMMUNITY RESOURCES CENTRE *cont'd.*

### FKMK Structure



## MANAGEMENT PLAN DISCUSSION

Based on C4 principals:  
Communication, Collaboration, Compromise and  
Commitment





## FINAL REZONE



13



## COMMUNITY RESOURCES CENTRE *cont'd.*

Benefit gained by the community (at present)

- The development on economic activities (economic activity diversification, investor invitation to involve on KSM activities)
- Community has a strong bargaining position than before in managing the National Park area
- Community involvement in the stakeholder activities (i.e. tourism cluster, as a key-institution to support the National Park activities)

14



## THE FUTURE NEEDS

- Monitoring mechanism is obviously needed to assess the marine ecosystem condition (coral reef especially)
- Community involvement as a partner with other stakeholders (i.e. as one of the National Park monitoring team)
- Supports the FKMK and KSMs to be an independent organization

## ANNEX 6: Green Fins Implementation in Thailand



### Green Fins Project (Thailand)

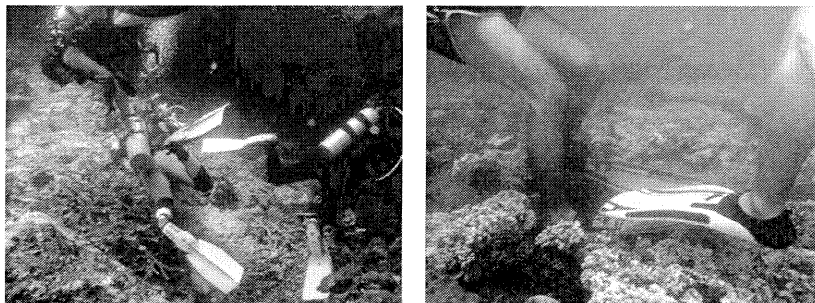
Implemented by Phuket Marine Biological Center (PMBC), Department of  
Marine and Coastal Resources

Supported by United Nations Environmental Programme (UNEP)

1

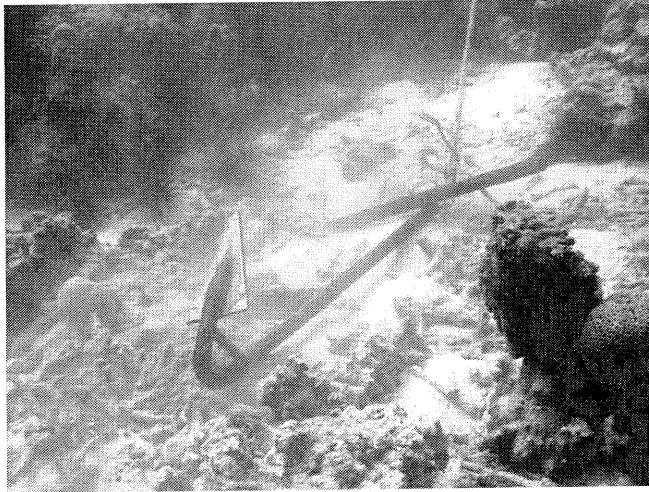
### The main issues associated with tourism are:

1. The lack of awareness among tourists, guides and tour  
boat operators of the impacts of improper recreational use



2

**2. Anchor damage of reefs are popular year-round destinations for tour boats**



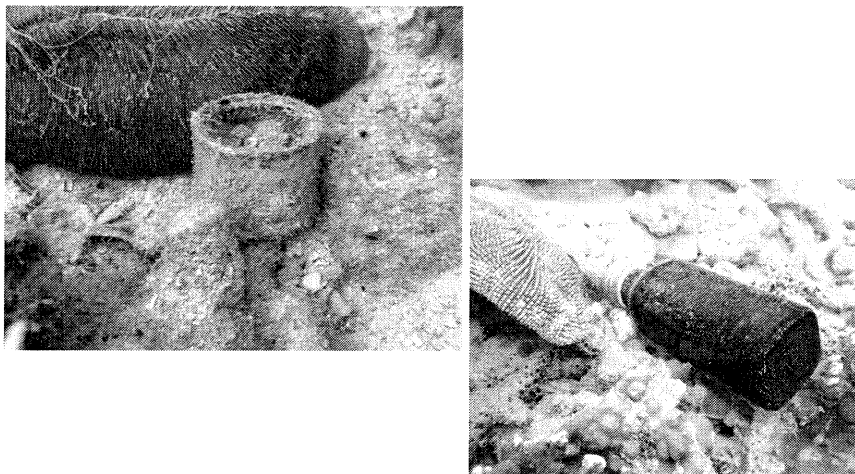
**3**

**3. Inadequate diving and snorkeling safety provisions**



**4**

#### 4. Littering and casual collection of reef organisms



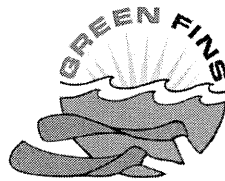
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- “Green Fins” has been carried out under the framework of the coral reef activities implemented by UNEP East Asian Seas Action Plan, co-ordinated by the Regional Coordinating Unit (EAS/RCU)
- Implementation in three countries in Southeast Asia
  - Thailand
  - Philippines
  - Indonesia
- In Thailand, the project is implemented by Phuket Marine Biological Center since September 2004

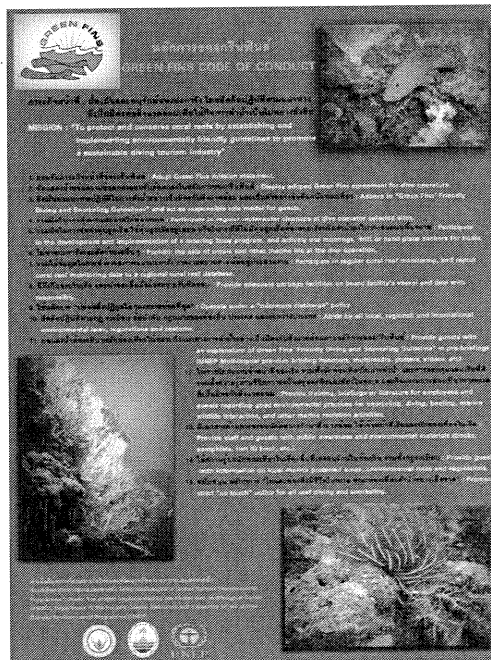
6

## Mission Statement

To *protect* and *conserve* coral reefs by  
establishing and implementing  
environmentally friendly guidelines to promote  
a sustainable diving tourism industry



7



## Green Fins Code of Conduct

8



## Incentives for Membership

- Certificate of participation
- Flag or pennant of participation
- Certificate of excellence or levels of achievement
- Free/sponsored advertising through dive associations, networks, and regional media
- Increase in competitiveness of business

9



Divers will be encouraged to use tour operators and resorts displaying the certificate & code of conduct, thus increasing awareness on the need to protect coral reefs

10

### **Incentive for membership (continued)**

- **International recognition and inter-governmental cooperation**
- **Website advertising (initially on UNEP EAS/RCU's pages)**
- **Share scientific resources**
- **Training of staff (basic marine biology, mooring buoy programs, monitoring)**

11

### **Incentive for membership (continued)**

- **UNEP's support in establishing programs (underwater cleanups, mooring buoy programs, ReefCheck, Reef Watch)**
- **UNEP Collateral Support (handouts, multimedia, posters, education, advertising materials)**
- **Preservation of valuable dive sites**
- **Preservation of coral reefs**

12



**Green Fins Brochure**

13

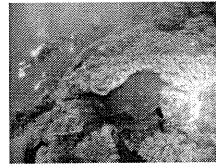


**Green Fins  
Poster**

14

## Expected Outcomes

- Established networks of dive operators in three participating countries, in monitoring and protecting coral reefs
- Increased awareness of good diving practices
- Increased protective measures for coral reefs
- Improved coral reef health
- Increased coral reef data and information at the selected sites



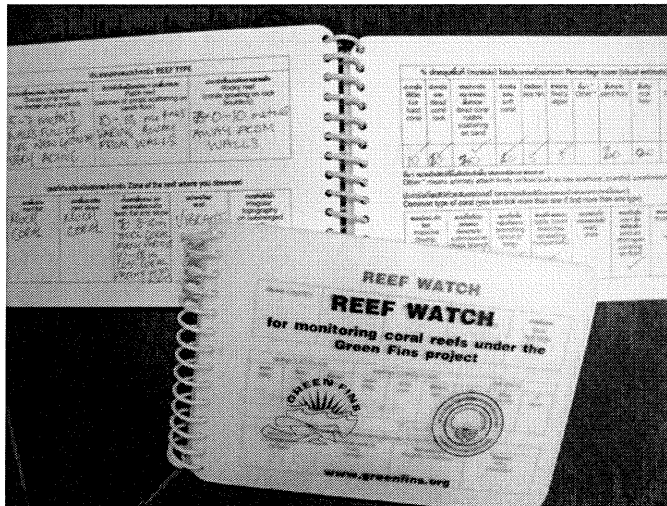
15

“Green Fins” members also contribute to coral reef monitoring by providing data illustrating changes in coral reef health



16

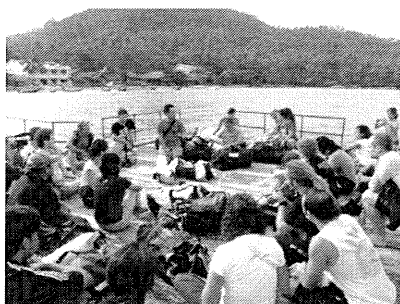
## Underwater Notebook Used for Assessing Coral Reef Status



17

### Green Fins members

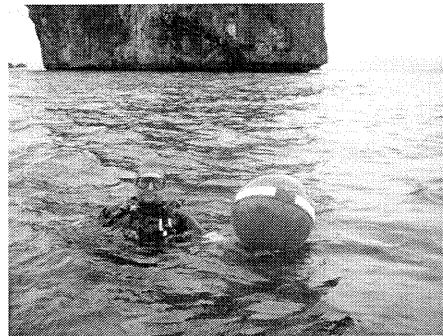
- 43 diving companies
- 68 individual members (general divers) mainly from 4 provinces: Phuket, Krabi, Phang-nga and Suratthani



18



**Green Fins member  
installs mooring  
buoy at diving site**



19



**Coral reef clean-up is the major activity being done after the tsunami impact. Many diver volunteers including the Green Fins members joined the activity throughout the events which were arranged by various organizations such as Department of Marine and Coastal Resources**

20

## **Training Programme**

- **Introduction of Green Fins**
- **Coral reef survey (Reef Watch)**
  - **General coral reef biology/ecology, marine life**
  - **Threats to coral reefs**
- **Law, regulations, protected areas**

21

## **Evaluation**

- **Dive operator self assessment (twice a year)**
- **Guest assessment of the dive operator (end of the trip)**
- **Network leaders assessment of each dive operator (twice a year)**

22

## **Certificates**

- Certificate of membership (automatically eligible to receive the first certificate)
- Certificate of excellence (presented to dive operators after one year of evaluation, and based on additional activities/criteria in the Code of Conduct that the member has fulfilled)

23

## **Possible Sources of Project Support in Future**

- **Siam Cement**
- **Chevron**
- **Collaboration with other organizations such as Reef Check, Reef World Foundation, WWF Thailand**

24



## **ANNEX 7:**

### **Mapping coral reefs for management in Ninh Thuan Province, Viet Nam**

# **MAPPING OF CORAL REEFS FOR MANAGEMENT IN NINH THUAN PROVINCE, VIETNAM**

**Nguyen Van Long  
Institute of Oceanography  
Nha Trang, Vietnam**

**1**

## **Ninh Thuan Province**

**Located in south-central Vietnam with more than  
110 km of the coastline**

**Few remaining sites of good coastal and marine  
habitats**

**Few mainland turtle spawning areas**

**Spawning and/or feeding grounds for regional  
transient fish species**

**Located in center of upwelling system**

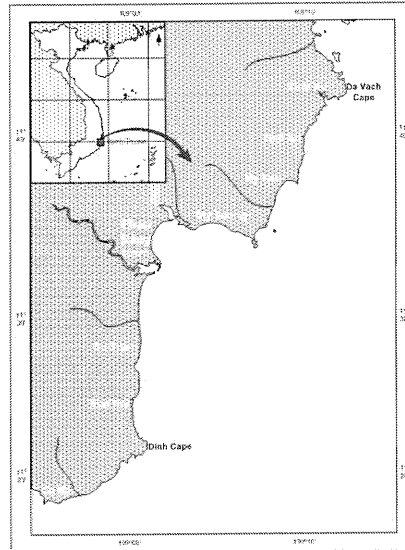
**2**

## Ninh Thuan Province

**More scientific research needed**

**One of them is mapping of coastal ecosystems, mainly coral reefs and seagrass beds**

**The output of this project will be very helpful for developing a management plan in order to enhance effectiveness of resource and environment management**



3

## Main Objectives of the Project

To investigate the possibility of using remote sensing and GIS tools in coral reef mapping in Ninh Thuan coastal waters and create adequate premises in establishing coral reefs distribution map (large scale) in whole coastal waters of Vietnam in the near future

To establish initially methodology and develop a tool for interpretation of coral reef habitat in specific conditions of Vietnam coastal zones - In the future, this tool will better support coral experts in designing surveys and projects on coral and marine biology studies to supplement the traditional methods

4

## **Main Objectives of the Project**

To establish a GIS database on distribution of coral reefs and other ecosystem in Ninh Thuan coastal waters. The GIS database will be included GIS maps and layers such as environmental parameters, biodiversity characteristics, physical and socio-economic conditions of coastal areas of Ninh Thuan. Beside, GIS database will focus on metadata and investigated data from field trips

Project funded by UNEP with funds from ICRAN, UNF and Disney Foundation

5

## **Methodology**

The study used data sources from:

- Satellite images, aerial photographs collected from different sources
- Ground truthing using Manta tow, Reef Check and detailed survey points
- Digital maps on physical and socio-economic conditions in Ninh Thuan coastal waters

These maps were standardized and converted into UTM (WGS84, zone 49)

6

**Map showing the converted areas of existing satellite images and aerial photographs**



7

## **Softwares**

- ENVI 4.0 for processing satellite images and aerial photograph
- 6S tool for atmospheric correction
- IDL6.0 software support for programmer, image processing and building a “processing image” tool
- Map Maker software deal with orthorectification of the aerial photograph
- MapInfo 7.5 for converting raster to vector GIS layers
- Visual Basic 6.0, Mapbasic 4.5 and MS Access 2000 for building a GIS-Database

8

## Surveys

- **Manta tow: was used for primary assessment of coral reef distribution from Da Vach Point to Ca Na Bay**
- **Reef Check: was used for also primary assessment of coral reef distribution at 8 main sites**
- **Point survey method: was used directly survey point as ground truthing points for image classification**

9

## Classification Method

The “Box Classification” method was used based on LANDSAT (TM4 and ETM+) and ASTER images

The procedure of “Box classification” was carried out as following step:

1. Mask land and outside images (eliminating non-processing parts)
2. Radiometric correction
3. Images were converted from spectral radiance to apparent reflectance

10

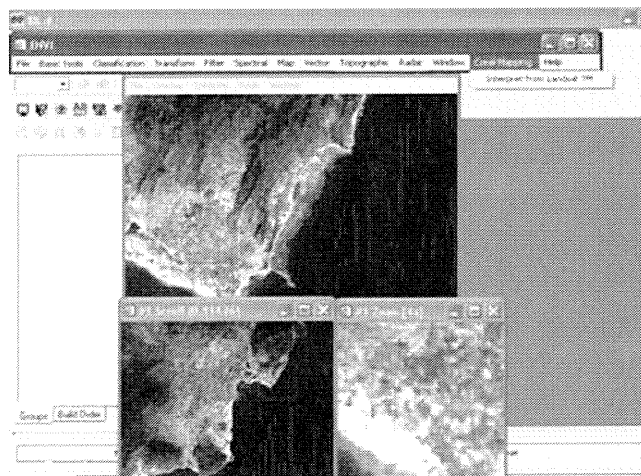
## Classification Method

4. Atmospheric correction by 6S code software
5. Convert exoatmospheric reflectance to surface reflectance
6. Water column correction
7. Implementation of depth
8. Creating the image classification

11

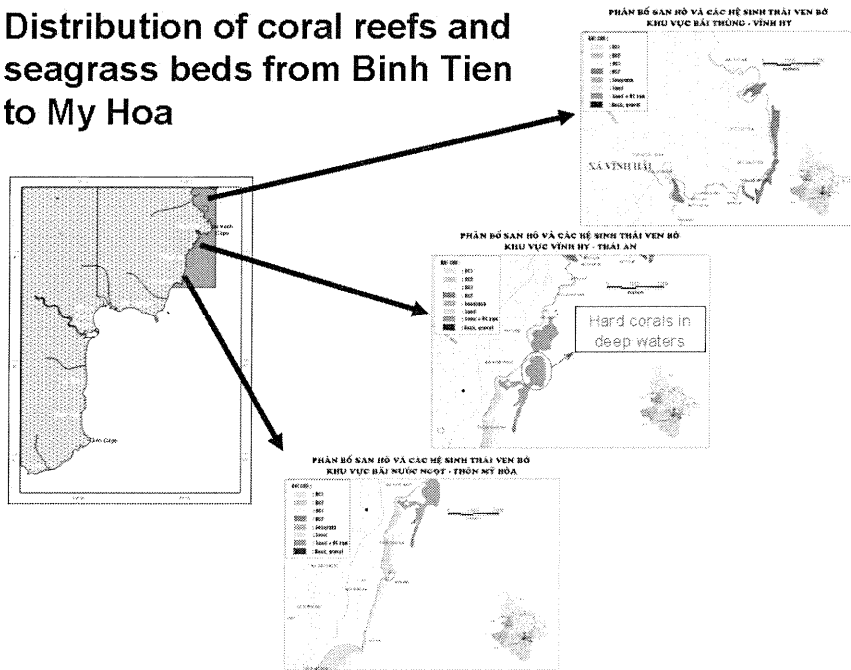
## Results

A tool for supporting of coral reef interpretation



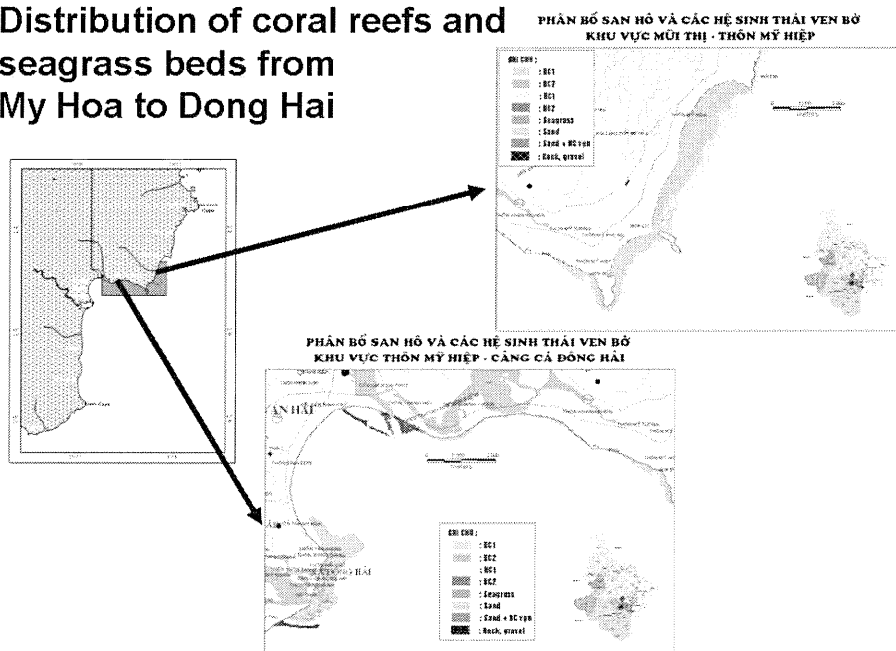
12

### Distribution of coral reefs and seagrass beds from Binh Tien to My Hoa



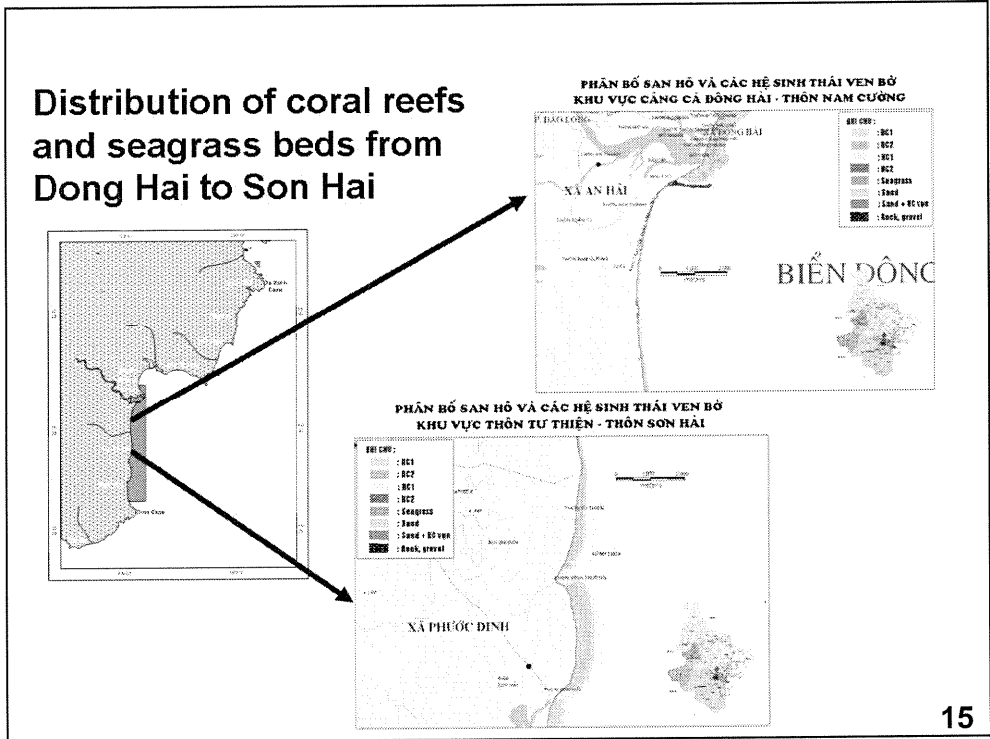
13

### Distribution of coral reefs and seagrass beds from My Hoa to Dong Hai

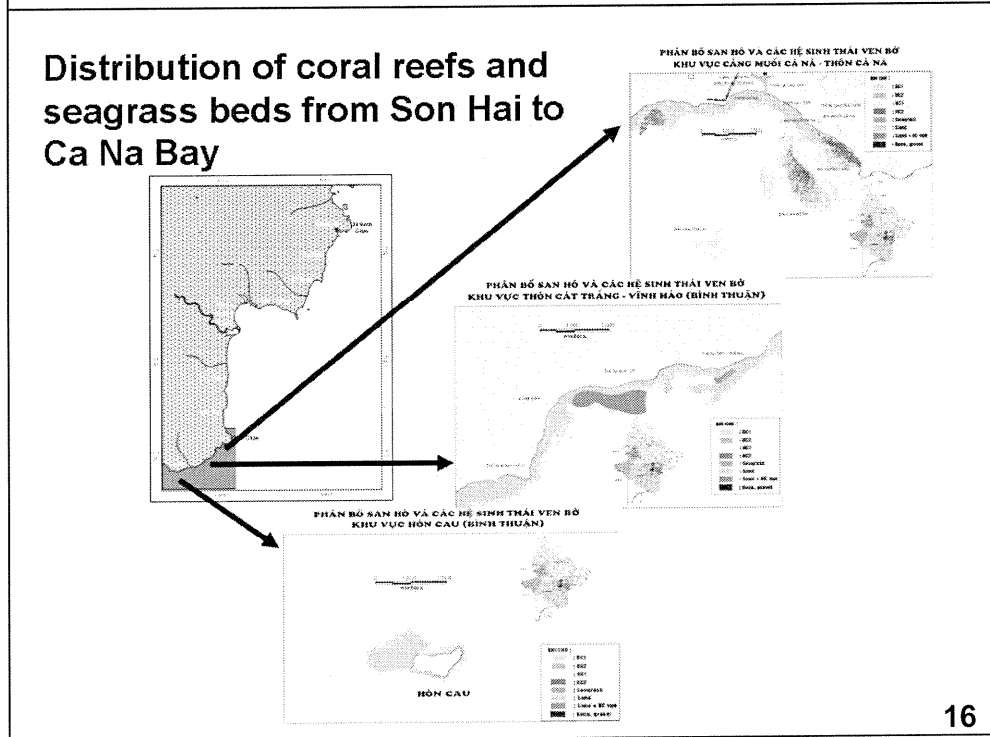


14

### Distribution of coral reefs and seagrass beds from Dong Hai to Son Hai



### Distribution of coral reefs and seagrass beds from Son Hai to Ca Na Bay





## **Conclusions**

- **Satellite image and aerial photograph could be used effectively for coral reef mapping using remote sensing techniques**
- **LANDSAT images with 30m resolution and broad color spectral range that have 3 visible bands is advantage for using box classification**

17

## **Conclusions (*cont.*)**

- Application of ASTER images with higher spatial resolution (15m) using Box classification is limited but better for using fusion method compared with LANDSAT
- Box classification combining with fusion method are the most advantageous techniques for coral reef mapping in Ninh Thuan as well as in coastal waters of Vietnam


18

## **Recommendations**

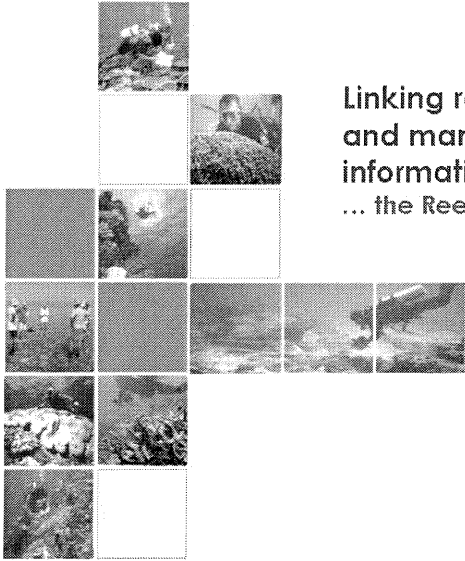
- **More studies in intermediate steps (such as cloud and haze filter, noise filter due to water wave and sea surface, analysis of color spectral, etc) for enhancing the final classification results**

## ANNEX 8: Linking Regional Coral Reef Monitoring and Management through Integrated Information Management

**COBSEA Regional Workshop**  
Bangkok, Thailand (May 2004)




**WorldFish**  
CENTER



Linking regional coral reef monitoring  
and management through integrated  
information management  
... the ReefBase connection


Marco Noordeloos



REEFBASE

1

**Communication ... Some Observations**



**WorldFish**  
CENTER

- Lack of skills in data-management
- Poor design database
- Many different formats
- No backups
- No online access to information
- No digitization of publications

No Metadata  
No interest to share/communicate data  
No incentive to share/communicate

2

## ReefBase: Our Mission



Provide effective and relevant information management services to support coral reef research and management

Provide easy access to relevant information on key issues related to coral reefs

Provide database & web support to projects/organizations in developing countries

3

## ReefBase: Online Information System



### ReefBase Website – Overall Structure – The Old...

The screenshot shows the ReefBase website homepage. At the top, it features the ReefBase logo and navigation links: home, online go, download data, contact us, about reefbase, user input, my account. Below the navigation is a search bar and a brief description of ReefBase as a global information system. The main content area is divided into several sections:

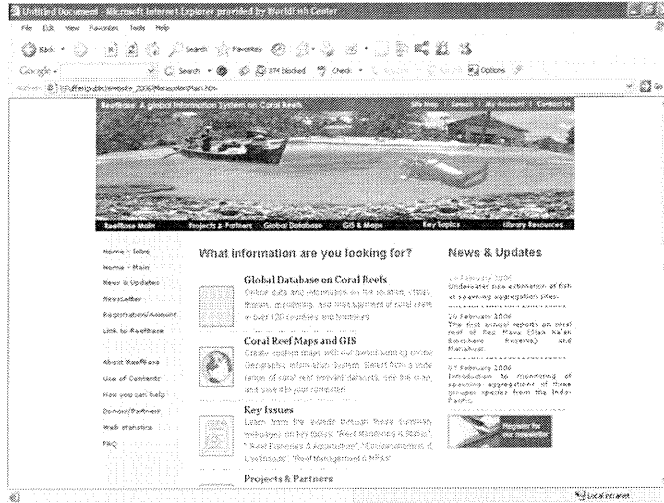
- How to use ReefBase:** A sidebar section explaining the site's purpose and navigation.
- Latest additions to ReefBase:** A central section with three news items:
  - New Issue of Coral Reef Journal:** A new issue of the journal is available.
  - Status of Coral Reefs in Tsunami Affected Countries:** A report on the status of coral reefs in tsunami-affected countries.
  - Interim Report: Impacts Of Tsunami On Fisheries and Coastal Areas of Malaysia:** A report on the impacts of the tsunami on Malaysia's fisheries and coastal areas.
- What ReefBase has to offer:** A list of services provided by ReefBase, including data and information on coral reefs, newsletters, and mapping systems.

4

## ReefBase: online information system



### ReefBase Website – Overall Structure – The New...

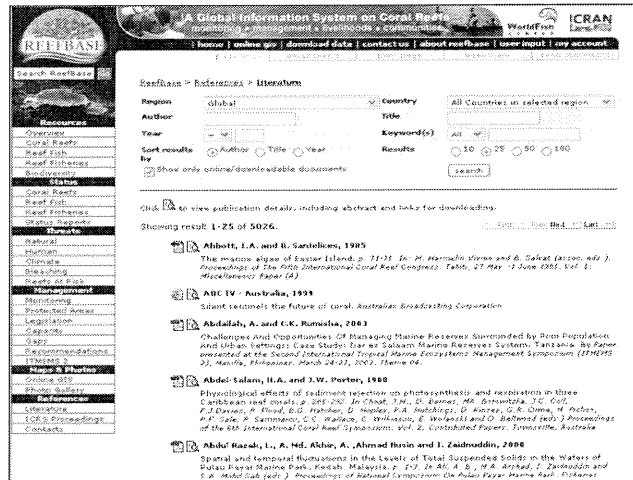


5

## ReefBase: online information system



### ReefBase Website – Literature



6





## **ReefBase: Database & Web Support to Projects/Partners**



Provide effective and relevant information management services to support coral reef research and management

Provide easy access to relevant information on key issues related to coral reefs

Provide database & web support to projects/ organizations in developing countries

9

## **Future directions: ReefBase Pacific**



### ReefBase Pacific

- Develop regional version of ReefBase
- 4 staff, 2 years full time:
  - SPC (New Caledonia)
  - USP (Fiji)
  - CRIOBE (French Polynesia)
- Series of online and offline information products, providing comprehensive knowledgebase on Pacific coral reefs



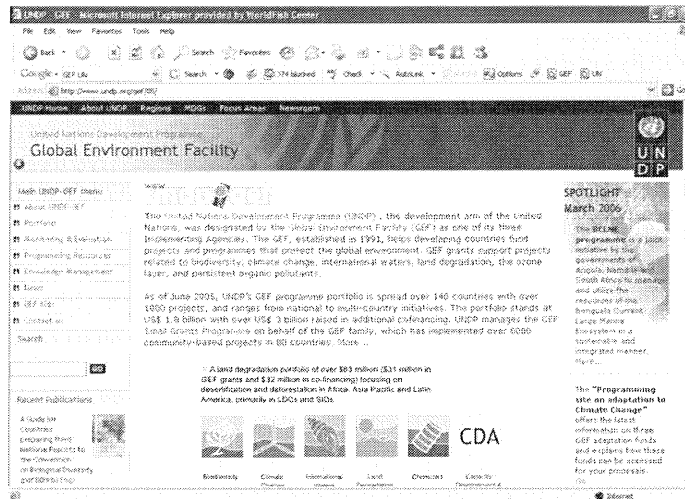
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## Future directions: GEF Lessons Learned



### GEF Lessons Learned



11

## SUMMARY



Portfolio of information management projects  
online database  
online library  
biological monitoring data  
socioeconomic monitoring data

- Sharing of experiences with COBSEA
- COBSEA pages/links in ReefBase website
- COBSEA map in ReefGIS
- Share publications through online library
- GEF Lessons Learned

12

**ANNEX 9:**  
**Locally Managed Marine Areas: Improving the Practice of Marine Conservation through Network Partnerships**

**Locally Managed Marine Areas:  
Improving the Practice of  
Marine Conservation through  
Network Partnerships**

Jovelyn T. Cleofe

In behalf of Locally Managed Marine Area Network (LMMA)

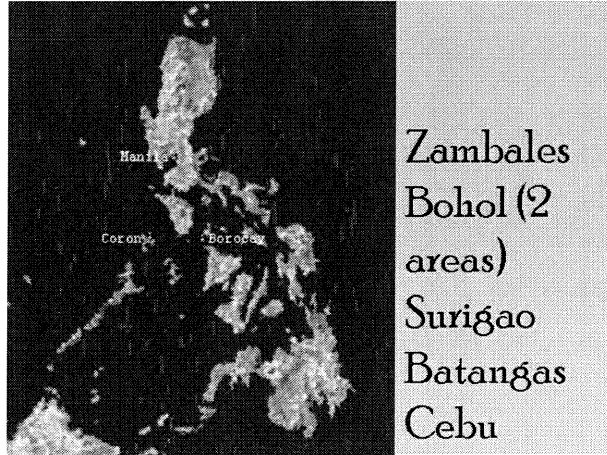
Paper presentation during COBSEA Regional Workshop on Coordinating  
Coral Reef Monitoring & Management in the Seas of East Asia  
Pattaya, Thailand; 24-25, 2006



**The Network Envisions...**

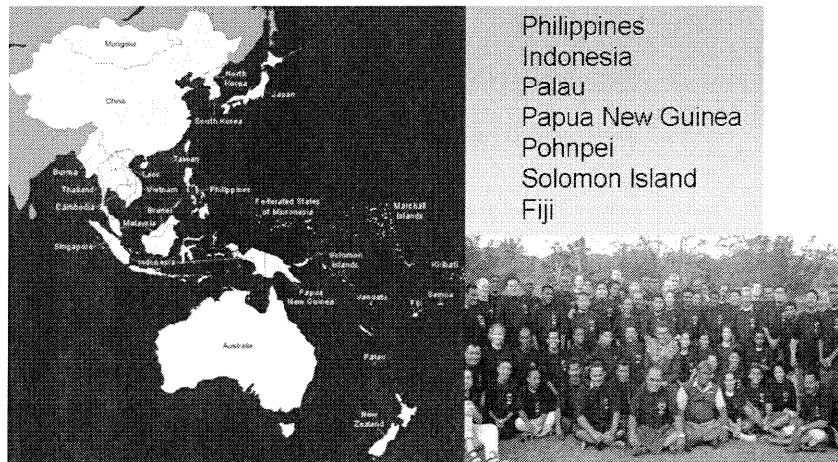
- Healthy marine ecosystems that support the people and resources that depend on them
- Protected marine biodiversity
- Sustainable coastal development
- Improved conservation science
- Effective local management methods and models for marine areas

## Philippine LMMA Members



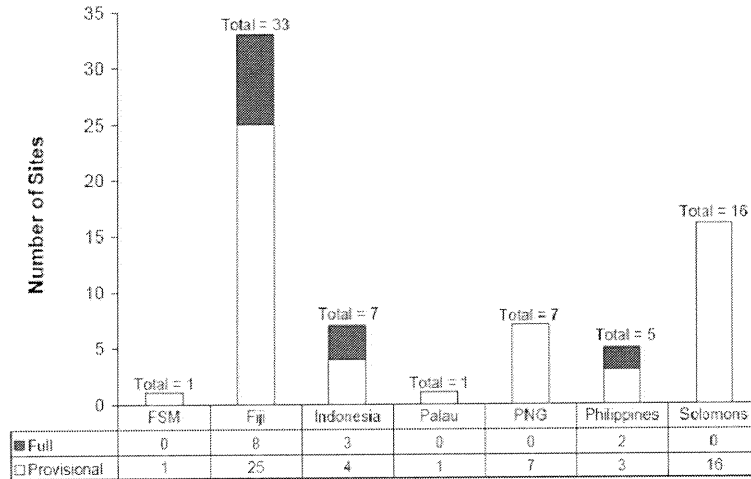
3

## LMMA in Asia & the Pacific



4

**Number of Sites per country participating in the LMMA Network in 2004  
(Total of 70 sites reaching Full or Provisional levels)**



5

### Who Makes Up the Network...

- Community Members
- Traditional Leaders
- Conservation Staff
- Academics and Researchers
- Conservation Donors
- Decision-makers

6

## Characteristics

- Universal
- Cultural sensitivity
- Recognition of efforts, values, strategies distinct to each site/member
- Promotes and recognize local/ community participation

7

## LEARNING FRAMEWORK

- Shared framework for learning and communication
- Universal language of the network members - transcends geographic, linguistic, and cultural barriers
- Agreed upon by members with minimum Data Set
- Monitoring



8

## Key Factors to Measure

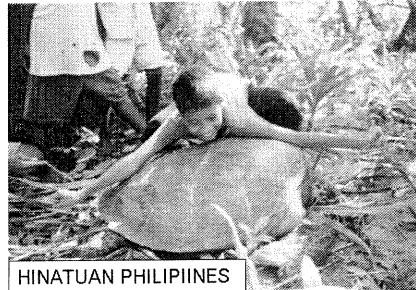
**TARGET:** marine environment health & human well-being

**DIRECT THREATS:** factors negatively affecting marine resources

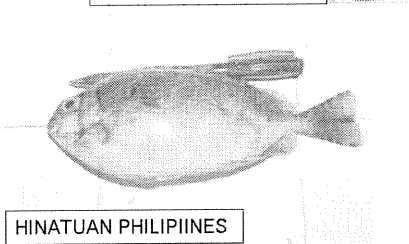
**INDIRECT THREATS:** causes leading to the direct threats

**PROJECT PROCESS AND STRATEGIES:** project investment, partnership, LMMA tools, etc.

9



HINATUAN PHILIPINES



HINATUAN PHILIPINES



HINATUAN PHILIPINES

10

## **CONSENSUS**

- **Fitness/match of Member Organization's VMG & LMMA VMG (shared principles and values)**
- **Recognized need to manage marine areas & enhance people's participation**
- **Adaptive management**
- **Appreciation of diversity in strategies and approaches; inclusive of those local marine management & protection efforts that may not necessarily be formally recognized; not restrictive**

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## **CONSENSUS (continued)**

- **Improve the practice of marine conservation through the ff:**
  - **Cross-sharing among practitioners (in-country & Asia Pacific region)**
  - **Continuing Education & Learning using the LF**
  - **A Social Contract- a mutually developed agreement that governs Network members and its functioning; not a legal document but a formal set of promises between Network members**
  - **Intellectual Property Rights (IPR) Statement- provides guidelines and practices that the Network adheres to**

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## **Communication**

**Encourages sharing of information among stakeholders (site level)**

**Simplified methods of data gathering & result feedbacking for better appreciation of other stakeholders & sites**

- sharing of strategies, methods and tools across sites
- **Site reports shared among members, both at the country and International levels**

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## **Communication (continued)**

- **Testimonies & cross sharing across sites**
  - cross visit / study tours (in-country or region-wide)
  - face to face interactions
  - community discussions
- **Featured articles**
  - case studies
  - video documentation
- **Producing Stories from various project sites**
- **Production of LMMA informational CD**
- **Formal learning events to improve data management system**
- **Informal learning activities towards building lasting and rewarding relationships between conservation practitioners**

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## **Communication** (continued)

- Learning Framework Database system for efficient data storage and data analysis at the site-level as well as for meta-analysis (comparing results across the Network)
- Evolved from the practice of each member
- Developed partnership with World Fish Center to improve Database system
- Covers qualitative and quantitative biophysical and socio-economic data
- Data ownership by the community and cannot be used without prior consent
- Data integrity upheld through standardized (agreed upon)

15

## **Collaboration**

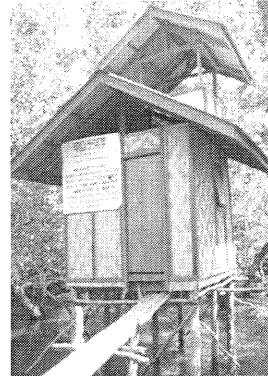
- Identify & establish local, national & international partnerships with various stakeholders
- (site-level) Project team – composed of various institutions & sectors involved in the management
- Not limited to direct (project) beneficiary
- Specialization and expertise shared by member groups (technology & resource sharing, etc.)
- Tap various agencies (LGU, academe, etc.)
- Open to various modes of partnerships at different levels

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## Community

*“ We are promoting the move from mere lip service about involving communities to making them central to resource management ”*

Hugh Govan (FSPI)



17

## Community (continued)

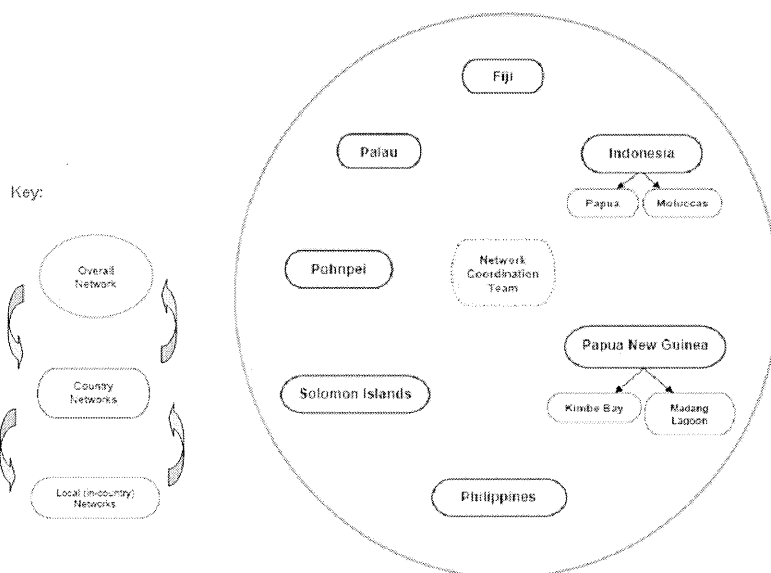
- Voluntary membership to the Network with written endorsement and formal application
- LMMA orientation conducted per site/project team
- Training of community representatives on the learning framework (site & country level) to improve monitoring system
  - training local researchers on coral reef survey, FVC, mangrove monitoring, conducting interviews, FGD's, etc.
- Capacitate community/project team to analyze & draw-out lessons & recommendations for effective management
- Community representatives from project sites regularly participate in country and region-wide consultations, workshops and meetings

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## Coordination

- Multi-level approach used and multi-disciplinary
- Strengthen national network for sustainable support (relationship) among sites
- Building formal partnerships and linkage with the different agencies and institutions (academe government, research institutions, etc.)
- Site-level (co-management)

19



20

**LMMA is ...**

***Investing in people/local ownership and/or  
control***

***Building and sustaining relationships***

***Improving and innovating management  
technologies through Learning Framework***

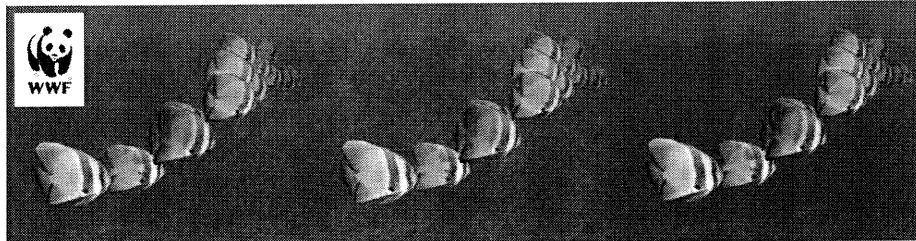
21

**FOR MORE INFORMATION  
VISIT OUR WEBSITE AT**

**[www.LMMAnetwork.org](http://www.LMMAnetwork.org)**

22

## ANNEX 10: Managing Coral Reefs across Boundaries: The Sulu-Sulawesi Marine Ecoregion Experience



### **Managing Coral Reefs Across Boundaries: The Sulu-Sulawesi Marine Ecoregion (SSME) Experience**

*On behalf of Program Implementation Team*

Jose A. Ingles

COBSEA Regional Workshop on Coordinating Coral  
Reef Monitoring and Management in the Seas of East  
Asia, Pattaya, Thailand

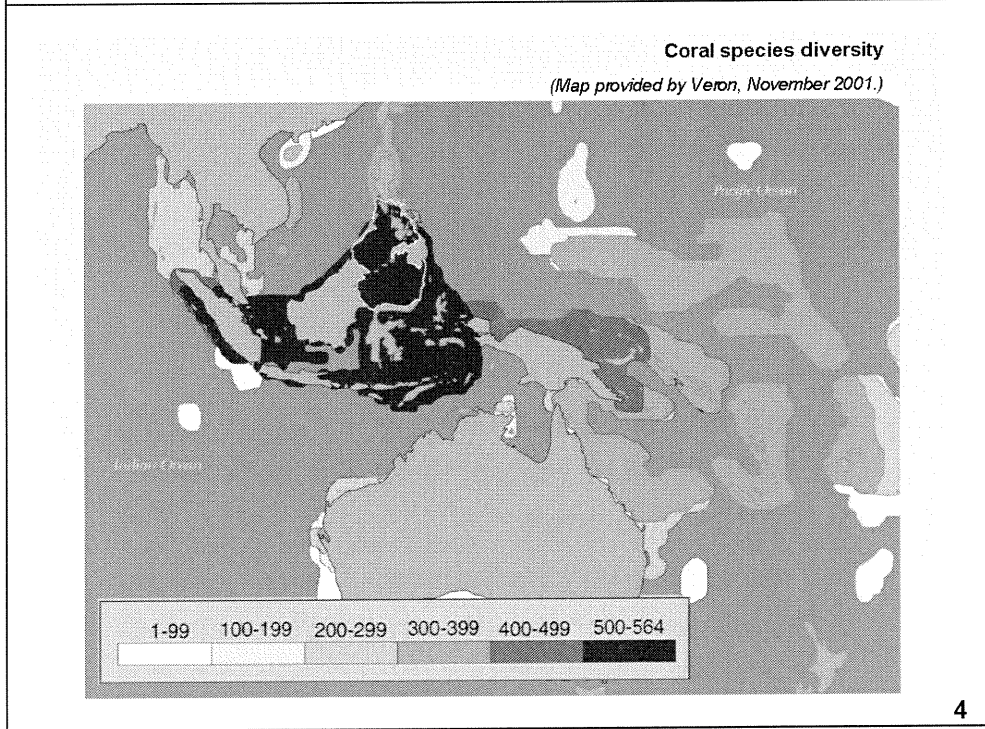
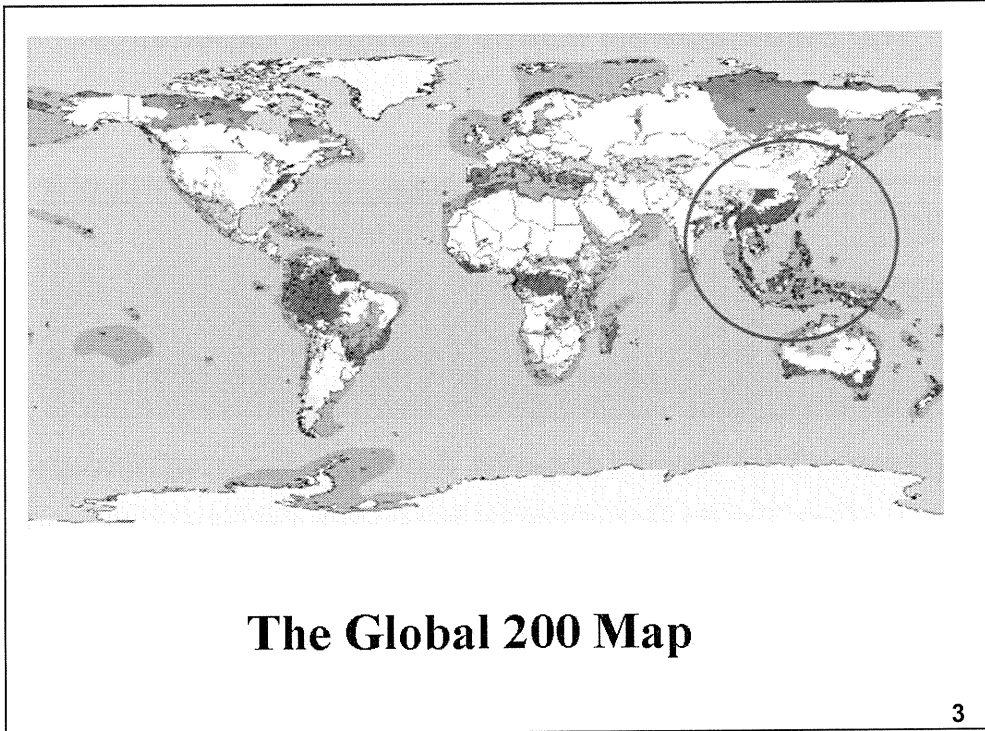
May 24-25, 2006

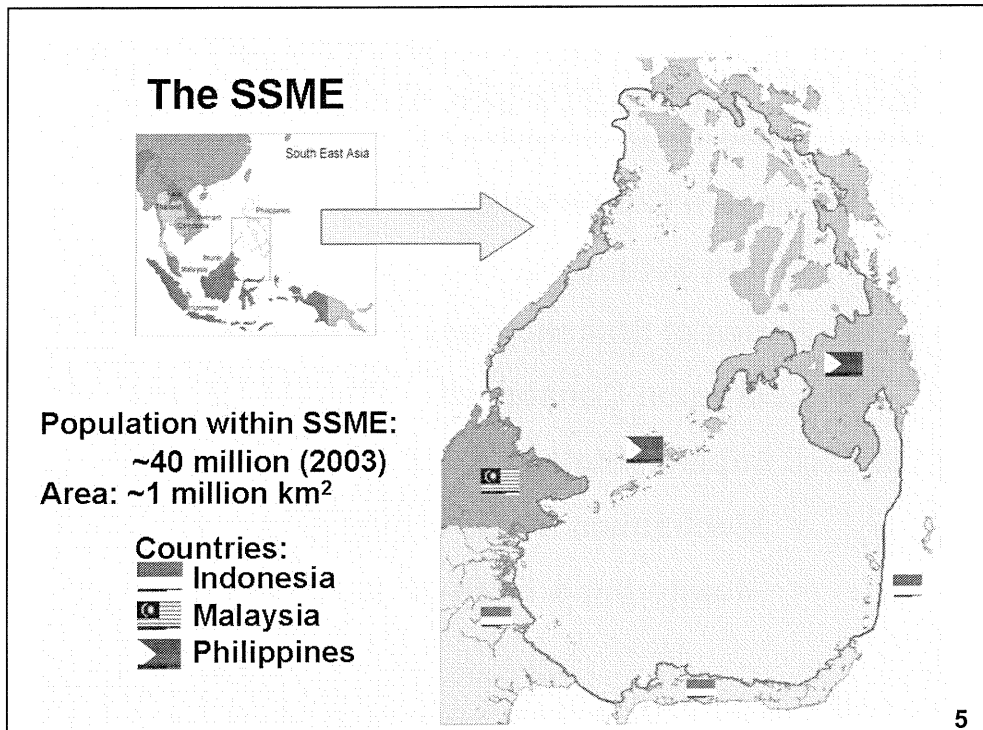
1

### **OUTLINE OF PRESENTATION**

- About SSME
- The 5 C's of Ecoregion Conservation
  - Planning & Implementation
- The 5 C's of SSME Coral Reef Conservation
  - On Site Activities
  - Transboundary Initiatives
  - Framework for Development of a network of MPAs
  - Monitoring & Evaluation

2





What is the value of SSME conservation program to the Ecoregion?

- fisheries sector
- tourism sector
- maritime sector



## **SSME Conservation Process**

### **1. Ecoregion Conservation (ERC) Planning**

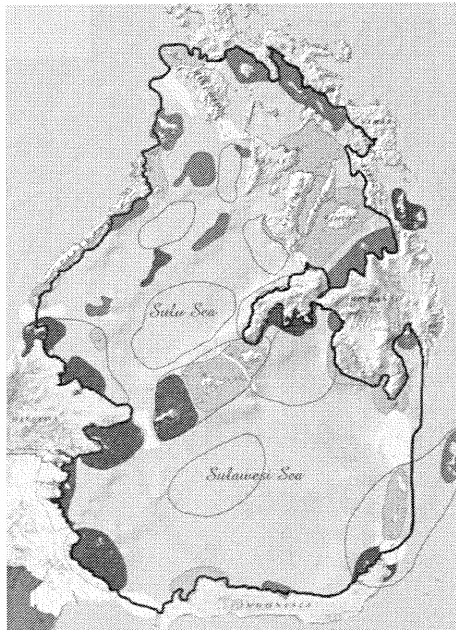
- ✓ Vision Setting
- ✓ Series of Stakeholders' Workshops
- ✓ Ecoregion Conservation Plan (ECP)

### **2. ERC Implementation**

- ✓ Mechanism for Governance
- ✓ Monitoring & Evaluation

7

### **Biodiversity Map**



### **The VISION for SULU-SULAWESI**

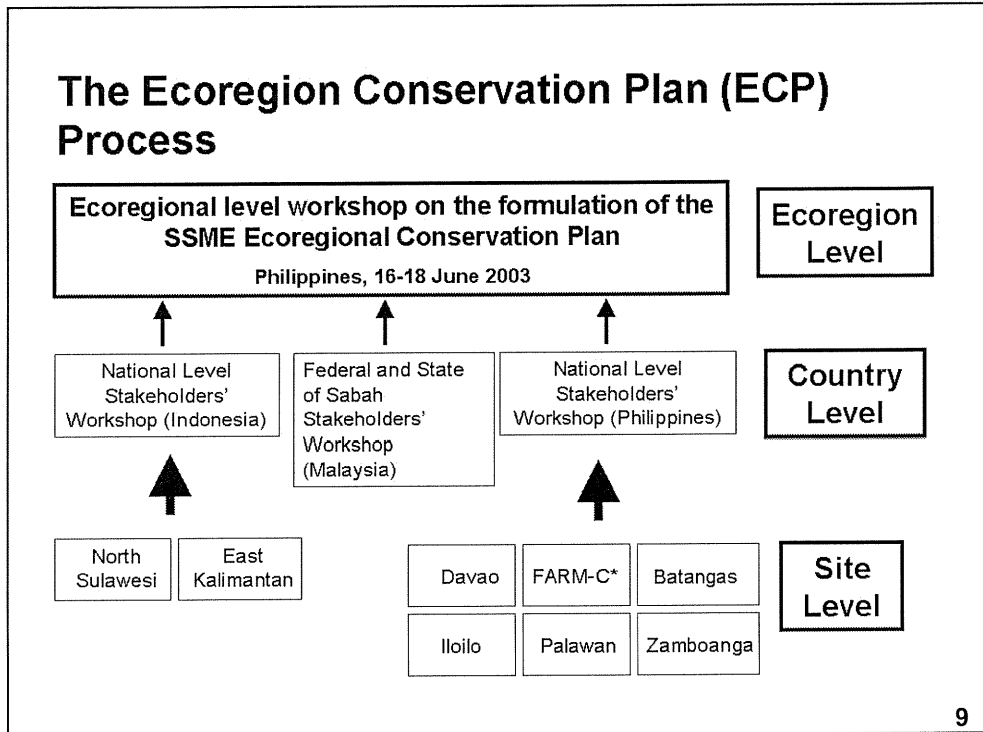
**A marine ecoregion that remains to be globally unique & a center of diversity with vibrant ecological integrity, harboring representative species, assemblages, communities, habitats, and ecological processes.**

**A highly productive ecoregion that sustainably and equitably provides for the socio-economic and cultural needs of the human communities dependent on it.**

**An ecoregion where biodiversity and productivity are sustained through generations by participatory and collaborative management across all political and cultural boundaries**

8





## Ecoregion Plan Implementation

### ERC Implementation

- ✓ Mechanism for Governance
- ✓ Monitoring & Evaluation

## A Tri-National Commitment



- Adopted by the Governments of Indonesia, Malaysia and the Philippines last February 13, 2004 during the CBD-COP7 in Kuala Lumpur Malaysia through the signing of the MOU.
- The MOU signing also paved the way for the creation of the TRI-NATIONAL COMMITTEE FOR SSME

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## SSME Tri-national Committee

- TWG on Fisheries, Livelihood and Aquaculture (Lead-Malaysia)
- TWG on Endangered, Exotic Species (Lead-Indonesia)
- TWG on MPAs and NMPAs (Lead-Philippines)

12

## Application of the 5 C's

Activities	Consen- sus	Communi- cations	Collabo- ration	Communi- ty	Coordi- nation
<b>Ecoregion Conservation Planning</b>					
Visioning	✓	✓	✓	✓	✓
Development of the Conservation Plan	✓	✓	✓	✓	✓
Laying the groundwork for cooperation	✓	✓	✓	✓	✓
<b>Implementation of the Conservation Plan</b>					
Establish Governance Mechanism	✓	✓	✓	✓	✓
Monitoring & Evaluation Plan	✓	✓	✓	✓	✓

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## **SSME Coral Reef Conservation and Management**

- Framework Development & Implementation
- On Site Activities
- Transboundary Activities
- Monitoring and Evaluation System

14

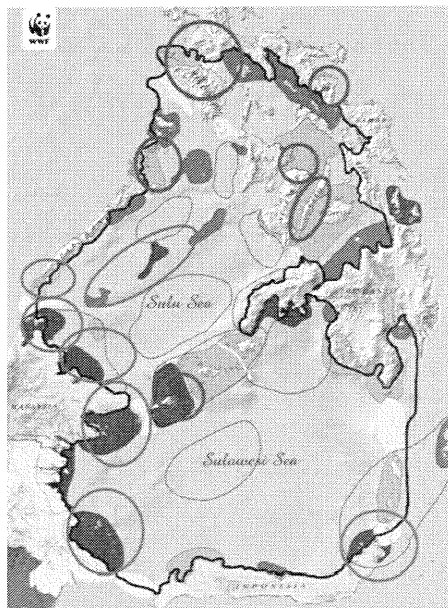
## WWF Coral Reef Conservation and Management

- On Sites:
  - Assessment of Coral Reef Health
  - Establishment of MPA's; MPA management effectiveness
  - Monitoring of Reef Health

15

## Where do we work?

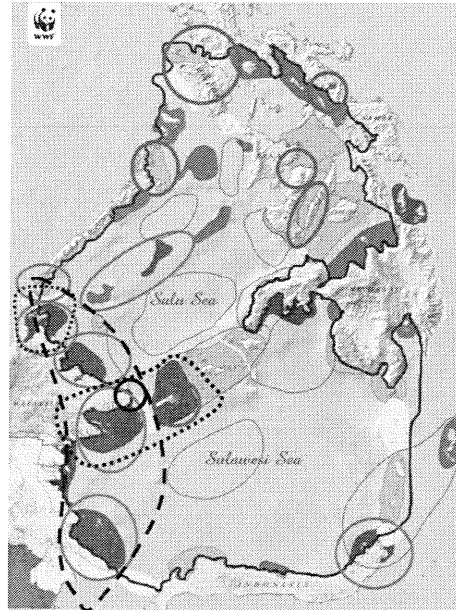
- Indonesia
- Malaysia
- Philippines



16

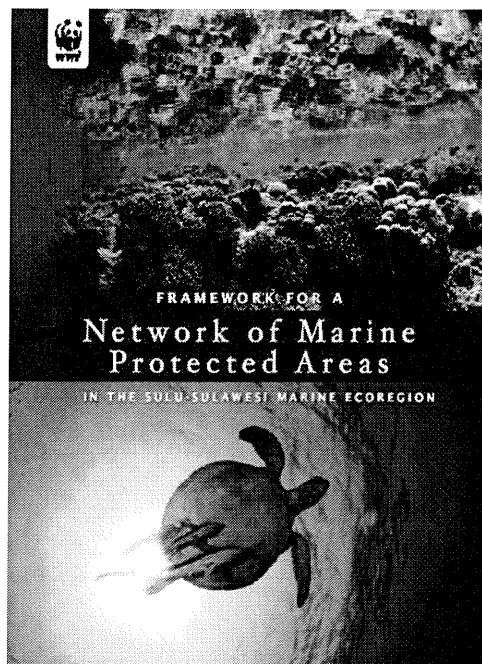
## Transboundary Plans

- Tun Mustapha-Balabac (LRFT)
- Semporna-Tawi-Tawi (Fisheries)
- Turtle Crescent



17

## SSME Network of Marine Protected Area Framework



18

Sulu-Sulawesi Marine Ecoregion							
Features	Features	Baseline (2004)	3-5 year action plan milestones	Conservation Plan 10-year Targets	Success	Historical	% Toward Success at Baseline
<b>HABITAT REPRESENTATION</b>							
coral reefs	ha of effectively managed reef						
	ratio of live:dead coral @ monitoring sites						
	% coral cover @ monitoring sites						
	Tridacna spp. density @ monitoring sites						
	Burrowing sea slug density & biomass @ monitoring sites						
	Seriatid density & biomass @ monitoring sites						
	Scorid density & biomass @ monitoring sites						
	Chaetodontid density & biomass @ monitoring sites						
	Fusilier density & biomass @ monitoring sites						
	biomass index @ monitoring sites						
trophic index @ monitoring sites							
<b>ECOLOGICAL PROCESSES</b>							
SPAGS	# of SPAGS protected						
	some measure of SPAG quality						

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## Application of the 5 C's

Activities	Conse- sus	Communi- cations	Collabo- ration	Comm- unity	Coordi- nation
<b>Coral Reef Conservation &amp; Management</b>					
Development of Framework for NMPA	✓	✓	✓		✓
Establishment of MPAs	✓	✓	✓	✓	✓
Establishment of Transboundary NMPAs	✓	✓	✓	✓	✓
Development of M & E Plan	✓	✓	✓	✓	✓

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## **ANNEX 11: Actions at the Regional, National and Site Level for Coral Reef Management in the Framework of the UNEP/GEF SCS Project**



**REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND  
WWW.UNEPSCS.ORG**

### **PARTICIPATING COUNTRIES**

**CAMBODIA, CHINA, INDONESIA, MALAYSIA,  
PHILIPPINES, THAILAND, VIET NAM.**

**FOCAL MINISTRIES ARE MINISTRIES OF ENVIRONMENT**

**12 GOVERNMENT DEPARTMENTS, 14 UNIVERSITIES  
AND RESEARCH INSTITUTES AND ONE NGO ENGAGED  
AS SPECIALISED EXECUTING AGENCIES**

**1**



**REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND**

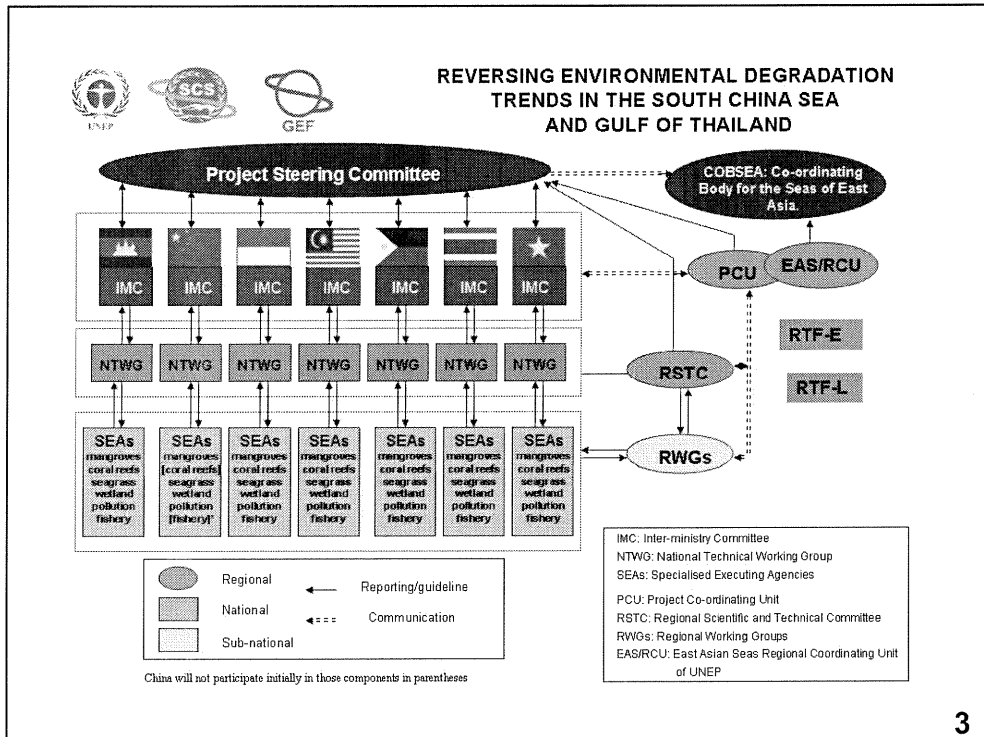
### **SOUTH CHINA SEA PROJECT COMPONENTS**

- **HABITAT DEGRADATION AND LOSS  
(Mangrove, Coral Reefs, Seagrass, Coastal wetland)**
- **OVER-EXPLOITATION OF FISHERIES IN THE GULF OF  
THAILAND**
- **LAND-BASED POLLUTION**
- **REGIONAL CO-ORDINATION**

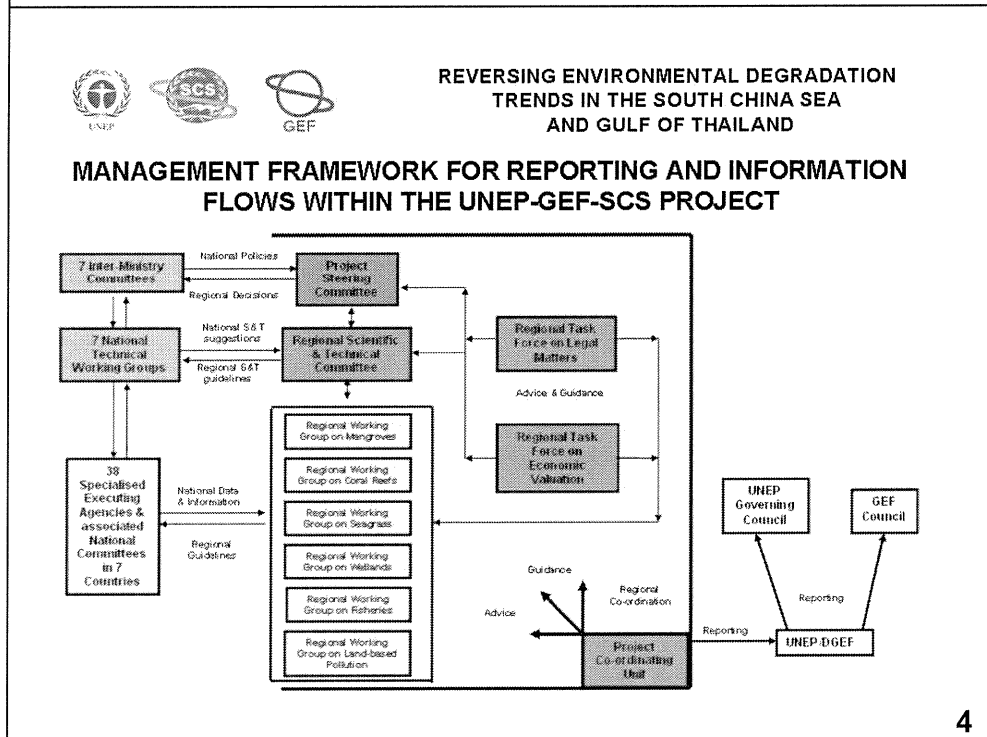
**2**







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4



**REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND**

**SEPARATION OF POLITICAL AND SCIENTIFIC  
DECISION MAKING**

**REGIONAL WORKING GROUPS & REGIONAL TASK FORCES**  
Deal with scientific and technical matters

**REGIONAL SCIENTIFIC & TECHNICAL COMMITTEE**  
Reconciles component approaches & national priorities

**PROJECT STEERING COMMITTEE**  
Ultimate policy, financial and decision making body

The significant feedback loops within the system that, engage each individual and entity in two directions

Clear separation between scientific and technical matters and policy and principles at both the national and regional levels

5



**REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND**

**FEATURES OF THE MANAGEMENT STRUCTURE**

- “Horizontal” (inter-country) and “vertical” (intra-country) interactions at all levels of project implementation and execution;
- Restriction of membership of the PSC to government representatives only and exclusion of observers from regional and international agencies and institutions other than UNEP;
- Use of regional experts and consultants from the participating countries;
- The framework allows for adaptive management and is not a rigid unchanging structure.

6



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**DEVELOPMENT OF A REGIONAL CONSENSUS ON  
STRATEGIC ACTION PLAN TARGETS**

CONTRIBUTING TO THE DEVELOPMENT OF THE REGIONAL STRATEGIC ACTION PROGRAMME, THE RWG-CR HAS PROPOSED (UNEP, 2006) TWO TARGETS IN PLACE OF THE SINGLE ORIGINAL TARGET IN THE DRAFT SAP AS FOLLOWS:

- By 2015, at least 50% of the existing area of coral reefs would be put under an appropriate form of sustainable management.
- By 2015, reduce the regional decadal rate of degradation in live coral cover from the present rate of 16% to 5%.

7



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**DEFINING SUSTAINABLE MANAGEMENT**

THE REGIONAL WORKING GROUP ON CORAL REEFS HAS DEVELOPED INDICATORS THAT CAN BE USED TO MEASURE "SUSTAINABLE MANAGEMENT" AND WHICH INCLUDE INDICATORS OF:

- **EFFECTIVENESS OF MANAGEMENT**  
Including indicators of management capacity, tools and approaches
- **ECOLOGICAL/ENVIRONMENTAL EFFECTIVENESS**  
Including indicators of ecosystem health and biological diversity
- **SOCIO-ECONOMIC EFFECTIVENESS**  
Including indicators for the tourism and fisheries sectors and community welfare

8



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**CONSENSUS AT THE NATIONAL LEVEL**

**TO ACHIEVE THE GOALS OF THE REGIONAL SAP  
REQUIRES NATIONAL LEVEL CONSENSUS REGARDING  
NATIONAL LEVEL ACTIONS**

**EACH COUNTRY HAS DEVELOPED A CORAL REEF ACTION  
PLAN TO SUPPORT THE SAP CONTAINING:**

- **DEFINED GOALS AND TARGETS**
- **TIME FRAMES FOR ACHIEVING THE TARGETS**
- **SPECIFIC ACTIONS REQUIRED TO ACHIEVE THE TARGETS**
- **COSTINGS FOR THE RECOMMENDED PRIORITY ACTIONS**

9



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**PROCESS OF SELECTING  
THE DEMONSTRATION SITES**

- **SITE CHARACTERISATION**
- **CLUSTER ANALYSIS**
- **SITE RANKING**

**Regional Priority Sites *considered by the RSTC and  
recommended for approval to the PSC***

**Operational project documents *prepared by focal points  
with support from the PCU staff***

10



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

ENVIRONMENTAL AND ECOLOGICAL DATA AND  
INFORMATION FOR SITE CHARACTERISATION

EACH POTENTIAL DEMONSTRATION SITE WAS  
CHARACTERISED ACCORDING TO AN AGREED SET OF  
PARAMETERS THAT SERVE AS:

- Indicators of biological diversity
- Indicators of transboundary significance
- Indicators of regional and/or global significance
- Indicators of threat
- Indicators of conservation potential - area

11

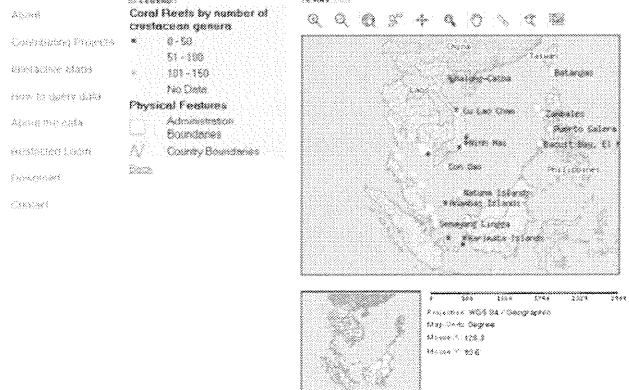


REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

DATA AND INFORMATION FOR CHARACTERISATION  
USED AS INPUTS TO THE REGIONAL GIS DATABASE



SOUTH CHINA SEA GIS REGIONAL DATABASE

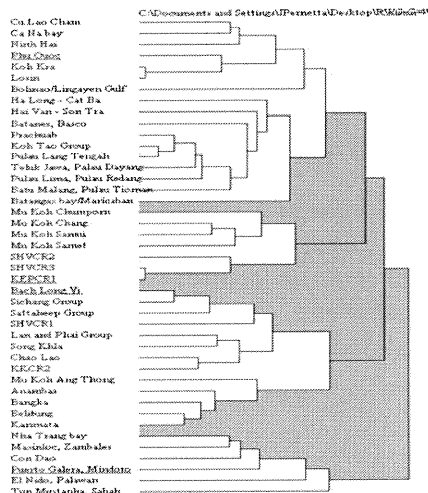


12



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA AND GULF OF THAILAND  
WWW.UNEPSCS.ORG

**CLUSTER DIAGRAM OF 44 CORAL REEF SITES BORDERING THE SOUTH CHINA SEA BASED ON EUCLIDEAN DISTANCE AND MEAN PROXIMITY.**

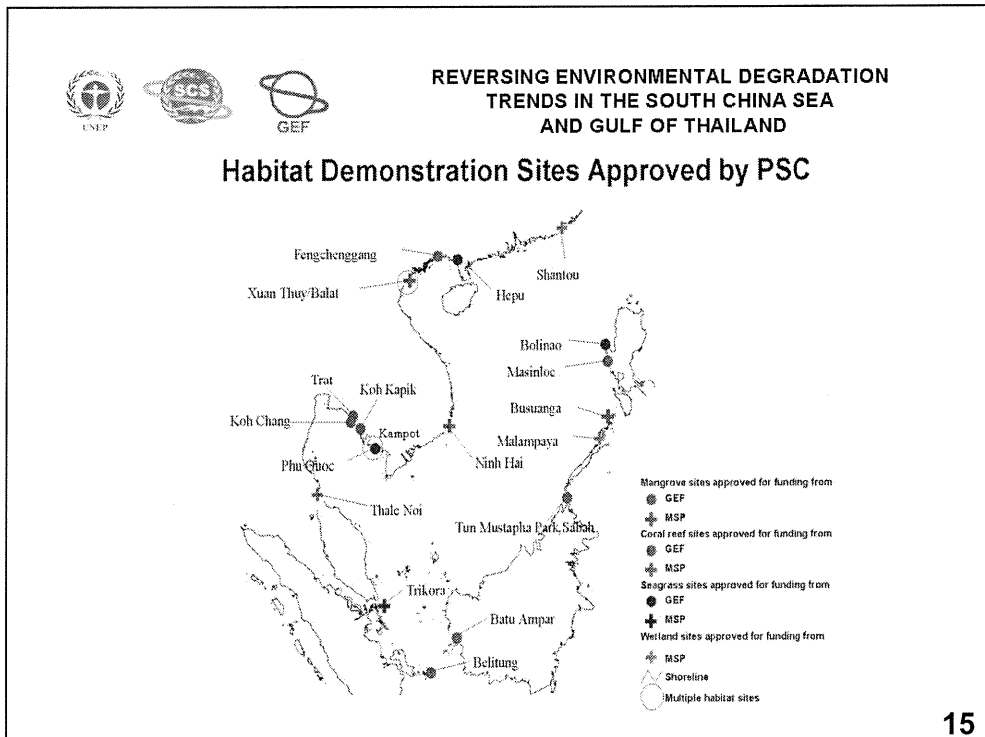


REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**RANKING THE SITES WITHIN THE CLUSTERS**

**PURPOSE:** Following the outcome of the first stage of the analysis and the identification of clusters of similar sites, ranking of the sites within clusters was required to select the top priority in each cluster of similar sites.

**METHOD:** Numerical scores assigned to environmental and socio-economic indicators according to an agreed set of scales.



**REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND**

**JOINTLY MANAGED SITES**

Vietnam, Phu Quoc and Cambodia, Kampot  
Thailand, Trat Province and Cambodia, Peam Krasop

**DUAL COMPONENT SITES**

Cambodia Koh Kapik (Mangrove and Wetland)  
Vietnam Xuan Thuy/Balat Estuary (Mangrove and Wetland)  
Vietnam Phu Quoc (Coral Reef and Seagrass)

**16**



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**VALUE OF THE DEMONSTRATION SITE  
SELECTION PROCESS**

- clear separation between the scientific and technical, and the political issues and processes
- site selection process fully transparent, developed from the bottom upwards
- process wholly owned by the stakeholders, with no “external” influence
- scientific objectivity based on agreed criteria and data

17



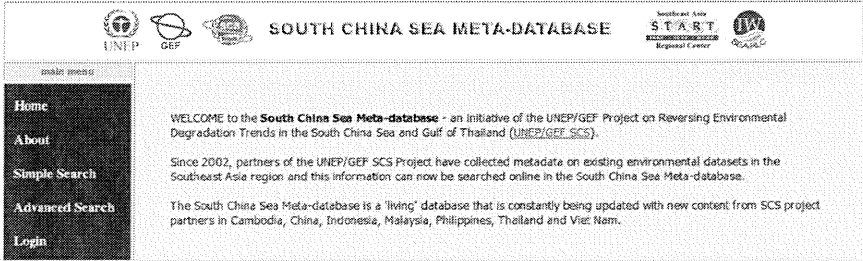
REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**OUTCOMES OF THE DEMONSTRATION SITE  
SELECTION PROCESS**

1. Regionally prioritised listings of: 26 mangrove sites; 43 coral reef sites; 26 seagrass sites; 41 coastal wetlands sites;
2. A regionally agreed process for determining regional priority;
3. A regional GIS database having an extensive number of sites characterised;
4. Application of the approach at the national level in two countries to determine national priorities for intervention;
5. Decisions taken in an amicable manner by consensus by all participating countries;
6. A procedure and process that serves as a potential model for replication elsewhere when choices between alternative sites for intervention must be made based on financial limitations.

18



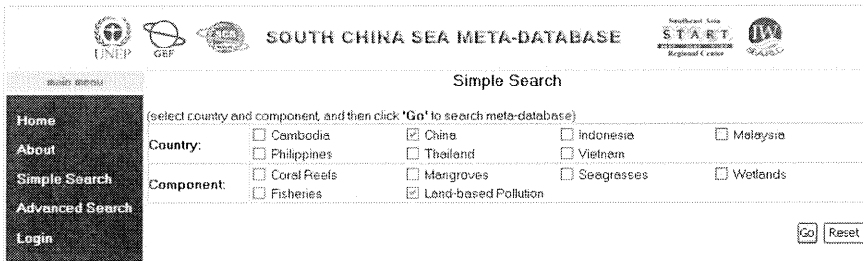


**REVERSING ENVIRONMENTAL DEGRADATION TRENDS IN THE SOUTH CHINA SEA AND GULF OF THAILAND**

The South China Sea Meta-database is a “living” database that can be revised and updated online, providing habitat and fisheries managers with a tool they can collaboratively build and share within the region.

**Homepage of the SCS Meta-Database**

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**REVERSING ENVIRONMENTAL DEGRADATION TRENDS IN THE SOUTH CHINA SEA AND GULF OF THAILAND**

**Simple Search**

(select country and component, and then click 'Go' to search meta-database)

**Country:**  Cambodia  China  Indonesia  Malaysia  
 Philippines  Thailand  Vietnam

**Component:**  Coral Reefs  Mangroves  Seagrasses  Wetlands  
 Fisheries  Land-based Pollution

**Simple search form showing country and component options**

20



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**SOUTH CHINA SEA META-DATABASE**

SEARCH RESULTS

Welcome Guest, You are in Search Mode

Page 1 From Total 3 Pages [ Next ] Use ( China , Land-based pollution ) as search criteria [ 1 2 3 ]

No.	Date Set Name	Data Set Producer(s)	Parameter(s)	Additional Keywords	Metadata Revised by	File
1	Ambient Water Quality in the coast of Guangdong Province, since 1996	Environmental Monitoring Union Station of China under SEPA, and environmental monitoring network of SEPA on inshore sea areas	- OCEAN[ Marine Chemistry/Water Quality ] - HUMAN DIMENSIONS[ Health, Environmental Impacts ]	Temp, Transparency, Turbidity, pH, Salinity, SS, DO, COD, BOD5, NH3-N, NO2-N, NH4-N, labile-phosphate(as P), Cu, Pb, Cd, Hg, As, Cr, Oils	hxx@scs.com.cn	scs
2	Common Pollution-Related Disease cases in major coastal cities of Guangdong Province,	Department of Disease Control, Ministry of Health P.R.China	- HUMAN DIMENSIONS[ Health ]	Paratyphoid, Paratyphoid, Dysentery, Typhoid Fever, Viral Hepatitis, Diarrhea, Poisoning caused by pesticide sprayed on vegetables	hxx@scs.com.cn	scs

Output of a simple search  
(selection criteria: 'China' and 'Land-based pollution')

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REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**Members Login**

UserName  
Member Name

Password

Submit Reset

**SOUTH CHINA SEA META-DATABASE**

Welcome Mr. Nasir Banat, You can edit and delete data in the list below. You are only permitted to edit the data in the list below.

Page 1 From Total 7 Pages [ Next ] [ 1 2 3 4 5 6 7 ]

No.	Date Set Name	Old Version (Click file name to view)	Present Version (Click file name below to save)	Edit (Click image to edit)	Delete (Click image to delete)
1	FAO species catalogue, Vol 4: Seafishers of the world. An annotated and illustrated catalogue of fish and species known to date. FAO Fish. Synop. 61(25)	No files old version	scs61001		
2	Report of the BPAF/SCSP workshop on the Fishery Resources of the South and Western coasts of Luzon, South China Sea Fisheries	No files old version	scs61002		

Member  
login  
box

Members have access to revise existing entries and add new data on-line

22



REVERSING ENVIRONMENTAL DEGRADATION  
TRENDS IN THE SOUTH CHINA SEA  
AND GULF OF THAILAND

**INFORMATION MANAGEMENT TOOLS DEVELOPED  
BY THE SCS PROJECT**

**INTERACTIVE WEBSITE WITH:**

Document archive; E-fora capacity; Links to National  
Websites; Network directory

**META-DATABASE CONTAINING:**

Details of environmental and other data sets held  
nationally

**SOUTH CHINA SEA REGIONAL GIS DATABASE WITH:**

Site related biological data; administrative boundaries;  
bottom topography; surface ocean currents; tidal data.

*These tools are specific to the South China Sea*

23



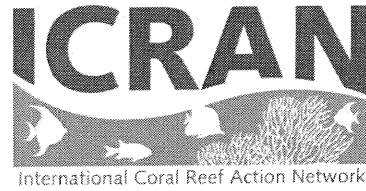
REVERSING ENVIRONMENTAL DEGRADATION TRENDS  
IN THE SOUTH CHINA SEA AND GULF OF THAILAND  
[WWW.UNEPSCS.ORG](http://WWW.UNEPSCS.ORG)

**OUTPUTS TO DATE**

- South China Sea Networks include National Gov. & Scientific Networks; Gov. Local Gov. & Community Managers
- SCS Management Framework has fostered synergy and complementarity of action at the national and regional levels
- 6 National Action Plans on Coral Reefs in various stages of internal approval & RWG-CR has finalised inputs to the Regional Strategic Action Programme
- Information base for the management of coral reefs in the South China Sea online and updateable by focal points and demonstration sites managers

24

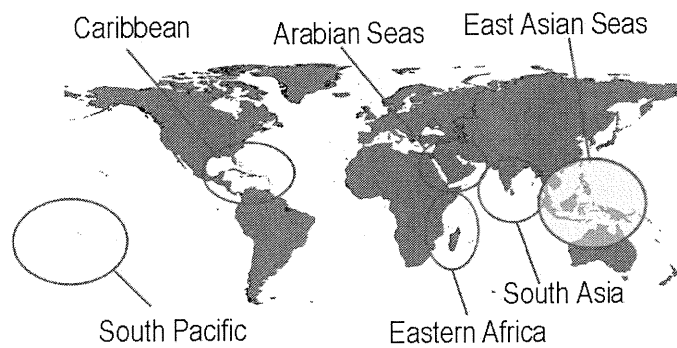
## ANNEX 12: Experiences in the 5C's from the Global Perspective



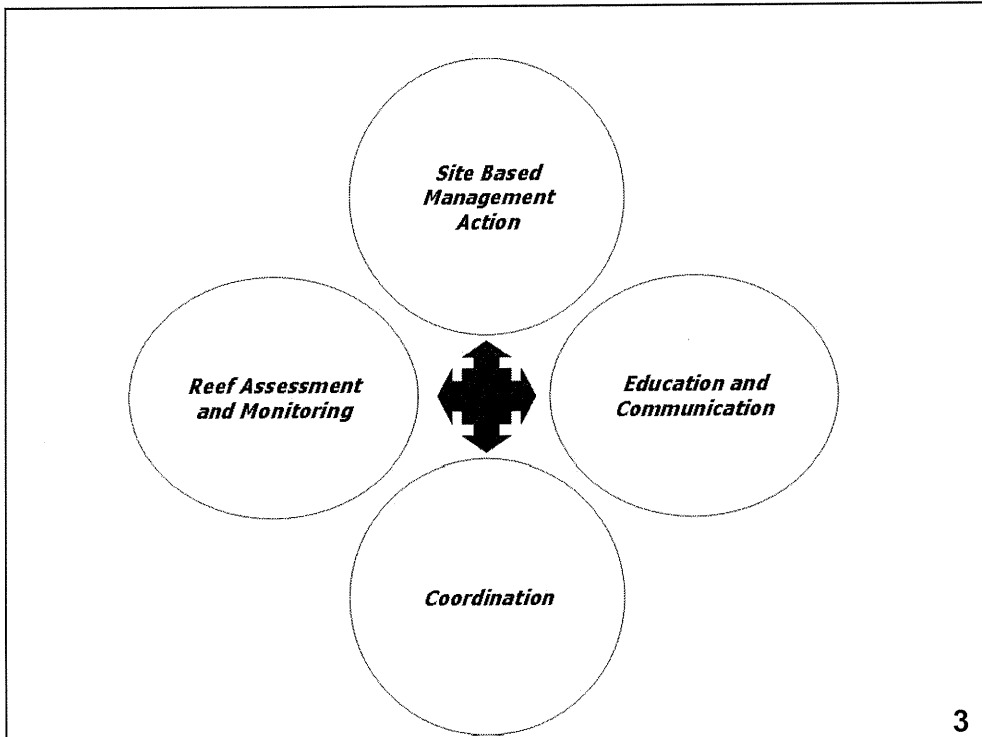
### Experience with the 5 Cs (five seas) from the Global Perspective



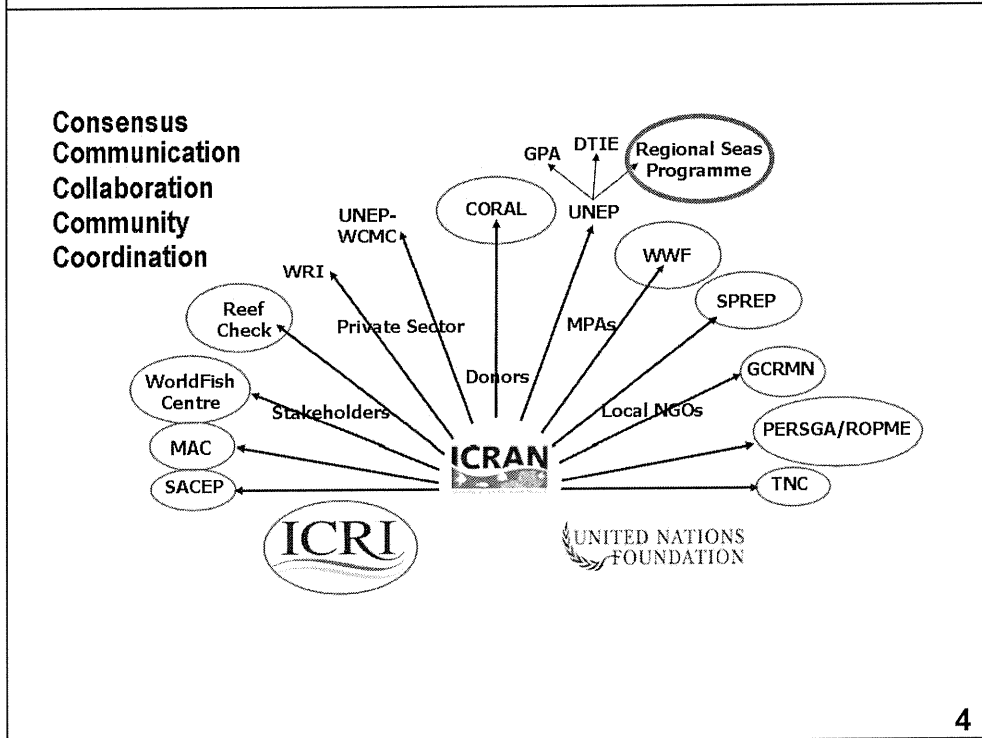
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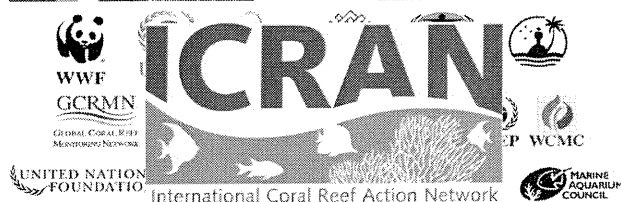
3



4

## A Partnership

to halt and reverse the decline in  
the health of the world's coral reefs



5

## Strengths

- Peer-to-peer exchanges
- Transferring of skills and lessons
- Public awareness
- Capacity building & Training
- Building partnerships and enhancing existing networks
- Project implementation
- Global representation and communication of coral reefs
- Fundraising

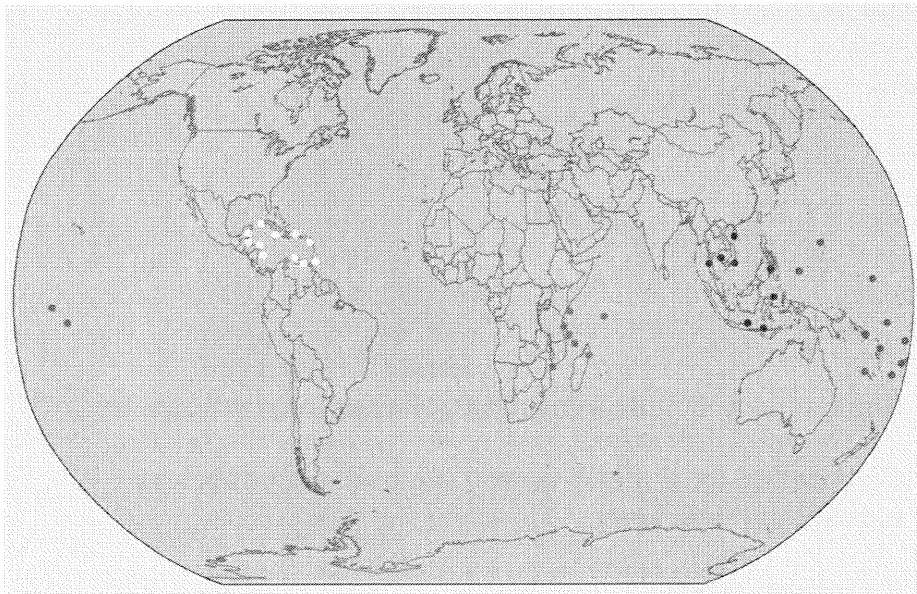
6

## Challenges

- Sustainability
- Multi-partner, large projects are time consuming with high transactional costs
- Communication
- Consensus
- Collaboration
- Coordination

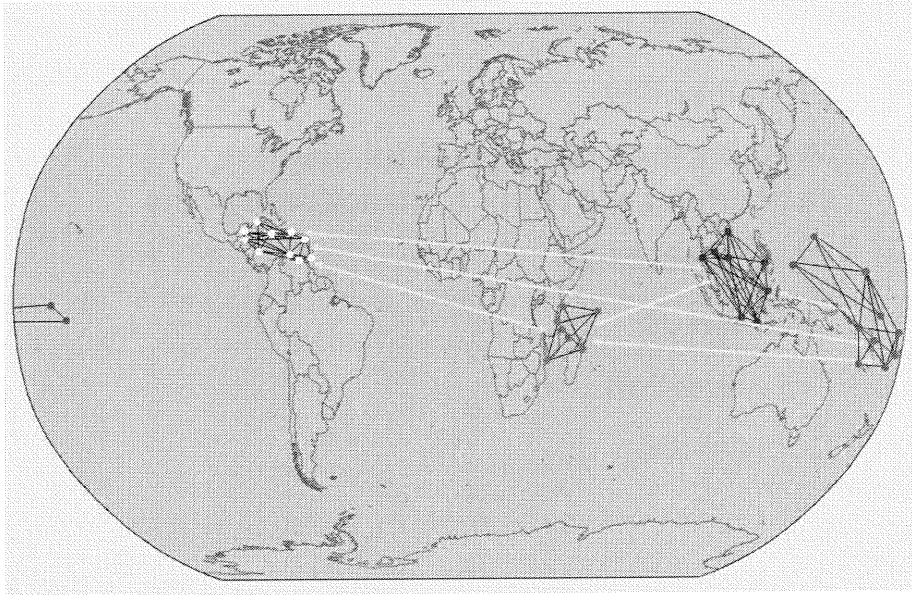
7

## Coordination



8

## Coordination



9

## Consensus



Site based activities informing policy at international fora

Celebrating local, national and regional successes at highest political level

Building political Commitment

10



## **ICRAN Achievements**

- ICRAN has been composed of 15 partners and all their regional and national offices that have brought substantial experience and local expertise for ICRAN to draw upon
- ICRAN and its partners are active in 7 coral reef regions and in over 35 coral reef countries
- More than 35 coral reef related sites around the world have benefited directly from ICRAN funds

11

## **ICRAN Achievements**

- With the past, current and pipeline project portfolio over \$11 million will have been mobilised through the UN Foundation and a range of other governmental, non-governmental and private donors for coral reef action and management
- ICRAN has given rise to over 15 major coral reef publications.
- ICRAN has produced coral reef reports and communication materials in over 10 languages

12

## **ICRAN Vision and Mission**

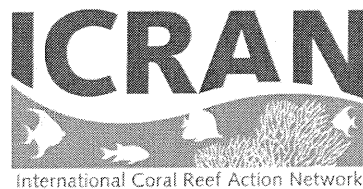
### **Vision**

**Healthy coral reefs  
sustaining healthy people**

### **Mission**

**To halt and reverse the declining health of  
the world's coral reefs**

13



### **5Cs Project Portfolio**

**Local**

**National**

**Regional**

14

## Ninh Thuan

- Three villages alter behavior of marine based activities
- Stopped local cement factory from mining live coral
- Received provincial support for activities
- Three exchange visits with Apo Island, Philippines (Politicians, Villagers and Scientists)
- Education posters for local schools
- Nui Chua Marine Reserve becomes national park
- Coral Reef Mapping

15

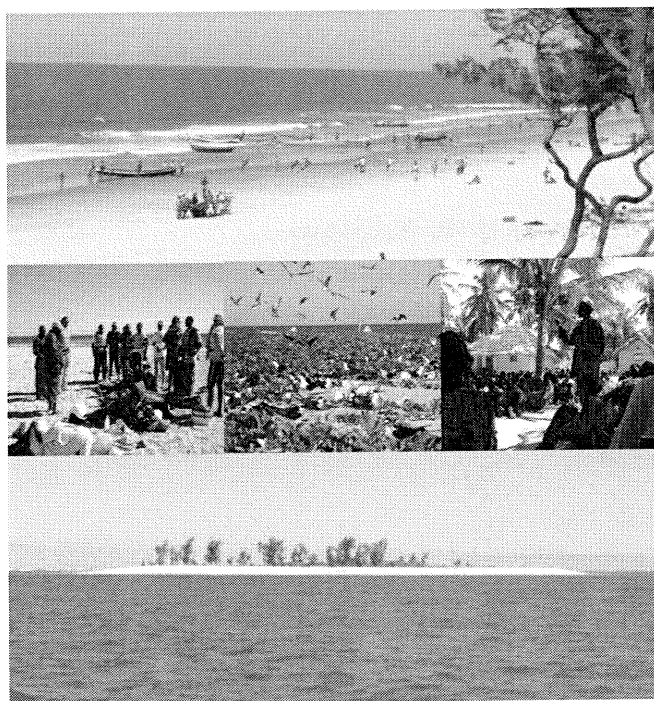
### ICRAN Marine Tourism Alliance: Enhancing Tourism Competitiveness in the Dominican Republic

Reef Check Foundation with  
local partners:

La Romana Bayahibe Hotel  
Association,  
Fundacion MAMMA, CIBIMA



16



### Creation of a National Park in the Primeiras & Segundas Archipelago



WWF

GLOBAL CONSERVATION FUND  
at CONSERVATION INTERNATIONAL

UNITED NATIONS FOUNDATION



17

### Alianza del Arrecife Mesoamericano



UNEP

UNITED NATIONS FOUNDATION



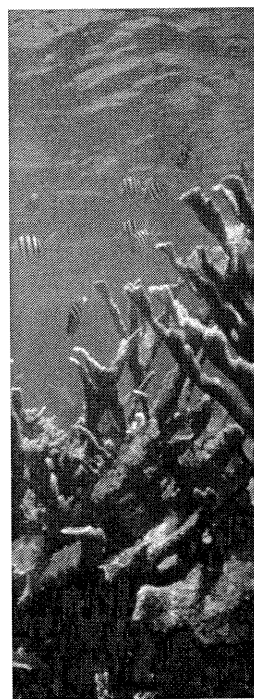
International Coral Reef Action Network



USAID  
FROM THE AMERICAN PEOPLE



### Mesoamerican Reef Alliance



18



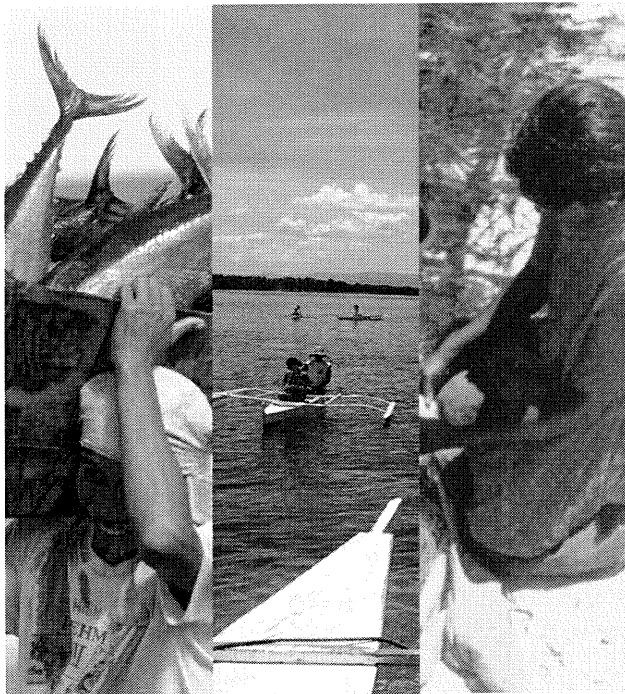
## Mesoamerican Reef Alliance

- Actions in the 4 countries – Watersheds, Fisheries and Tourism
- Activities according to the needs and capacities of each locality
- Complementing and cooperating opportunities with other regional initiatives



Coral Reef Initiative for the South Pacific  
Initiative Corail pour le Pacifique Sud







**ICRAN  
SOUTH ASIA**

UNITED NATIONS  
FOUNDATION


**ICRAN**  
International Clear Seas Action Network



**imm**  
IMM LTD



**UNEP**



**SACEP**

21

Global Problems



Local Solutions



環境省  
Ministry of the Environment



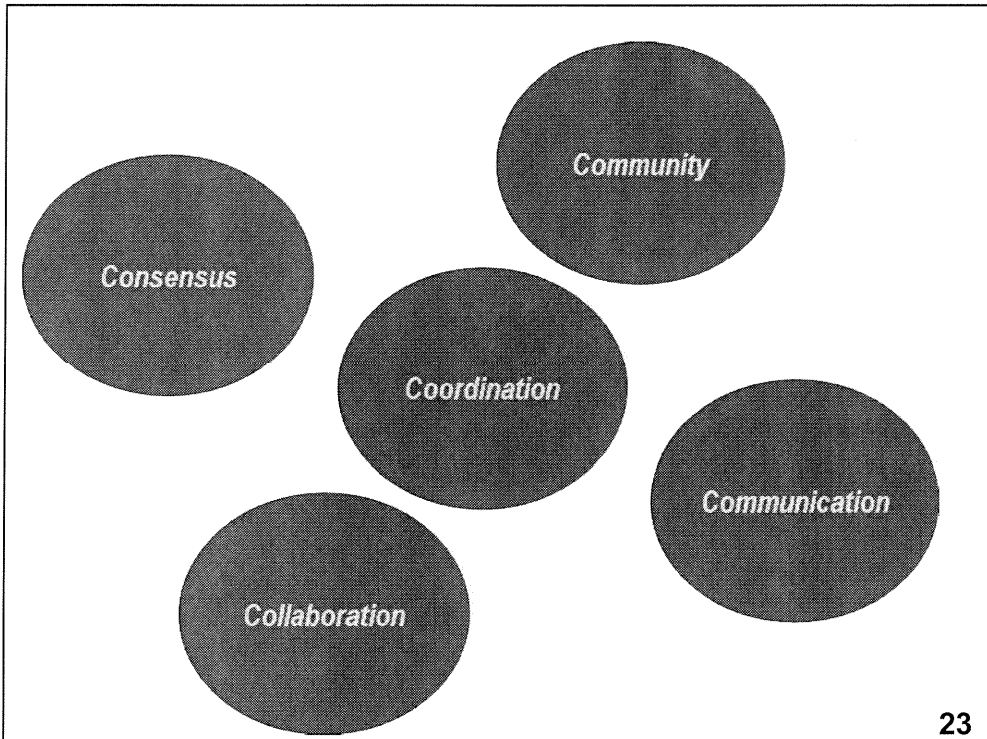
OERC



JWRC

15 - 20 Oct 2006 Cozumel, Mexico  
[www.itmems.org](http://www.itmems.org)

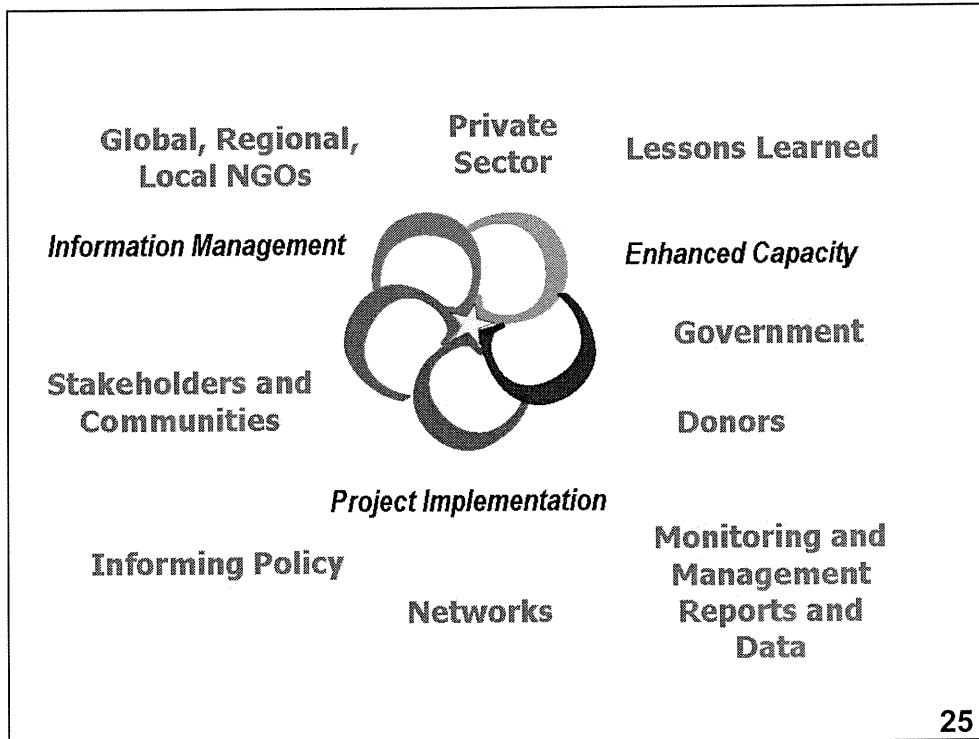
22



23



24



**ICRAN**  
International Coral Reef Action Network

**Healthy Coral Reefs Sustaining Healthy People**

[www.icran.org](http://www.icran.org)



## **ANNEX 13: Summary of the 5C's of Coral Reef Monitoring and Management**

The idea of the 5 C's is not new – it is applied in many areas of learning and development, from education to market research, peak performance management, business development and personal growth. By grouping strategies into sets of key concepts and ideas, it facilitates practitioners to achieve their objectives more effectively by focussing and directing their efforts within key strategy sets.

The 5 C's for coral reef monitoring and management defines a set of ideas that aims to provide a quick checklist to aid in the effective development of coral reef monitoring and management strategies.

The 5 C's are: Consensus, Communication, Collaboration, Community and Coordination. Together, these 5 C's define the framework within which coral reef practitioners can formulate monitoring and management strategies based on established methodologies and models.

### **Consensus**

***“What are common goals, objectives, methods and conceptual models in coral reef monitoring and management in the Seas of East Asia that can be adopted?”***

There are many ways of accomplishing a task at hand. When we embark on a new initiative that addresses coral reef monitoring and management, we can turn to information and resources that are already available which points us in the right direction.

Consensus in coral reef monitoring and management stresses on developing common goals and objectives and employing existing methods and conceptual models that can help achieve them.

### **Communication**

***“What are the available tools that we can use to communicate and share knowledge and information on coral reef monitoring and management in the Seas of East Asia?”***

Communication stresses on the effective use of media to communicate and share reliable and relevant information and resources on coral reef monitoring and management in a timely and easily accessible manner. The operative word here is effective use, and it emphasizes "what stakeholders and resource managers can do with their knowledge and information about coral reefs" rather than "what they know about coral reefs." Extending learning experiences from a global perspective to regional, national or local perspectives emphasizes the need for effective communication.

Communication in coral reef monitoring and management stresses on knowing what tools are available to communicate information and resources, and the platforms from which they are employed.

### **Collaboration**

***“Who are the players/actors in the area of coral reef monitoring and management in the Seas of East Asia, and what are the partnerships and networks that can be formed?”***

Collaboration in coral reef monitoring and management stresses on the formation of strong and lasting partnerships and networks at the local, national and regional levels. These partnerships and networks will provide the support and foundation needed to successfully implement various coral reef programmes.

### **Community**

***“What are the strategies available to involve and engage stakeholders in the Seas of East Asia?”***

The community forms the heart of any activity. The needs and aspirations of the community will drive the direction of the activity, and the support and involvement of the community will determine the success and implementation of the activity.

The community encompasses all stakeholders of a particular coral reef resource, and their needs, aspirations and commitment to preserving and protecting that resource.

### **Coordination**

***“What are the mechanisms that can bring all the players/actors and components together in the Seas of East Asia?”***

The driving force behind successful collaboration is the framework for managing and maintaining the partnerships and networks – in other words, effective coordination.

Coordination stresses on the importance of developing strong and lasting mechanisms to oversee the vast array of projects and partners that are involved in coral reef monitoring and management.

### **Consensus in Coral Reef Monitoring and Management**

The options of forming consensus in coral reef monitoring and management include:

- Defining objectives and goals eg,
  - Resource conservation and protection
  - Sustainable resource management
  - Multiple-uses of resources
- Selecting appropriate monitoring models/protocols, eg,
  - Methods for Ecological Monitoring of Coral Reefs
  - Coral Reef Monitoring for Management Handbook
- Selecting appropriate management models that will help achieve the objectives and goals, eg,
  - Co-Management
  - Community Based Management
  - MPAs Establishment
  - Sustainable Tourism
  - LMMA
  - SSME

### ***Communication in Coral Reef Monitoring and Management***

The summary report of the ITMEMS II Information Coordination and Dissemination Theme provides a concise summary on the range of existing information systems and initiatives available, and provides insights into the problems experienced and lessons learned in their development and ongoing operation.

The recommendations outlined to achieve effective communication in coral reef monitoring and management include:

- Operation of information systems with quality functioning that is relevant and sustainable, and which considers:
  - Data quality
  - Data ownership
  - Data Relevance
  - Demand driven data request system
  - Funding
- Data Linkages
  - Establish a publicly available global inventory of databases that contain information on coral reefs and associated ecosystems
  - Develop guidelines for database development identified in the global inventory
  - Data storage, which guarantees security of data (duplication), pre-determined storage methods and centralised systems of storage at national and regional levels
  - Data confidentiality, through controlled access of sensitive data
  - Data standards that reflect compatible core formats, public access to metadata content
  - Develop a code of conduct for data collectors, and voluntary standards for data access dissemination for organisations and agencies
- Optimising communication
  - Communication strategies should be carefully planned and targeted, feedback driven, adequately funded, and should be required by donors
  - Need to communicate limitations and appropriate interpretation of monitoring data
  - Should provide information on possible solutions to problems at the same time as stating the problems
  - Training and resource materials (e.g. based on repository of case studies) should be made available to enhance communications effectiveness
- Rights and obligations of information providers
  - Need to ensure that various outputs/deliverables are produced by information providers to achieve various levels of data networking/sharing
  - Outputs must be fed into decision-making and/or capacity-building processes and can be assisted by the participation of stakeholders in the creation of outputs through outreach programmes
  - Funding/donor agencies need to participate in this facilitation stage and can also act as contributors to the processes of decision making and/or capacity-building
- Strategies/Mechanisms to achieve effective communication in coral reef monitoring and management
  - Enhance existing data management and coordination networks, eg, ReefBase, Reef Check, Green Fins, etc.

### ***Collaboration in Coral Reef Monitoring and Management***

The options of forming collaborations in coral reef monitoring and management include:

- Identifying local, national, regional and global players/actors in the area of coral reef monitoring and management (summarized as annexes)
- Map corresponding project/programme objectives
- Select partners/networks that will complement the project/programme

### ***Community in Coral Reef Monitoring and Management***

The options of involving stakeholders in coral reef monitoring and management include:





- Identifying stakeholders needs and aspirations through socio-economic assessments
- Identify available strategies for stakeholder involvement – ties in with selecting appropriate management models
  - Co-management
  - Community based management
  - Establishing MPAs
  - LMMA
  - Sustainable Tourism
- Formulate activities that will engage stakeholders within objectives of project/programme

### ***Coordination in Coral Reef Monitoring and Management***

The options of strengthening coordination in coral reef monitoring and management include:

- Identifying existing regional networks/agencies/coordinating bodies with interest and involvement on coral reef monitoring and management
  - COBSEA
  - ICRAN
  - PEMSEA
  - GCRMN
  - WWF
- Assess mission, vision, goals and objectives of each networks/agencies/coordinating body
- Formulate a strategy/ies for appointing a single or a consortium of networks/agencies/ coordinating bodies to coordinate coral reef monitoring and management in the Seas of East Asia

## ANNEX 14: Presentation on the 5C's of Coral Reef Monitoring and Management

 UNITED NATIONS	COBSEA Regional Workshop on Coordinating Coral Reef Monitoring and Management	 UNITED NATIONS ENVIRONMENT PROGRAMME
<b>The 5C's of Coral Reef Monitoring and Management</b>		
Karenne Tun		
Pattaya, Thailand; 24-25 May 2006 <b>1</b>		
	COBSEA Regional Workshop on Coordinating Coral Reef Monitoring and Management	
<b>The 5C's of Coral Reef Monitoring and Management</b>		
<b>Overview of Presentation</b>		
<ul style="list-style-type: none"><li>• <b>Background</b> <i>to the development of the 5C's Strategy</i></li><li>• <b>Concept</b> <i>of the 5C's Strategy</i></li><li>• <b>Framework</b> <i>of the 5C's of Coral Reef Monitoring and Management</i></li><li>• <b>The COBSEA Resource Guidebook</b> - <i>where it stands now</i></li><li>• <b>Objectives for Workshop</b> <i>in relation to the COBSEA Resource Guidebook and future COBSEA activities</i></li></ul>		
Pattaya, Thailand; 24-25 May 2006 <b>2</b>		



## The 5C's of Coral Reef Monitoring and Management



### Background to the development of the 5C's Strategy

- Review the COBSEA implemented projects
  - Summaries of the projects will be compiled into a book for distribution
  
- Develop a resource guidebook that can be a management tool for coral reef management
  
- Resource Guidebook needs to be:
  - Unique – not a repetition of other available resources
  - Relevant – a tool that will be useful to coral reef practitioners

Pattaya, Thailand; 24-25 May 2006 **3**



## The 5C's of Coral Reef Monitoring and Management



### Concept of the 5C's Strategy

- Strategies used in other areas of management:
  - Education (*Communication, Culture, Connection, Comparison, Communities*)
  - Performance management (*Clarity, Commitment, Consistency, Confidence, Control*)
  - Business development (*Content, Community, Communication, Commerce, Customer service*)
  - Convergence marketing (*Customerization, Community, Channels, Competitive Value, Choice Tools*)
  
- Common denominator - a 5 C's strategy relevant to their area of management
  - A set of 5 key concepts or ideas within a particular management area that describes the overall process from inception to the outcome

Pattaya, Thailand; 24-25 May 2006 **4**



## The 5C's of Coral Reef Monitoring and Management



### Concept of the 5C's Strategy

- Idea was taken and applied to the area of coral reef monitoring and management
- Projects implemented by COBSEA were reviewed
- Common attributes that outlined successful project implementation were distilled into 5 key elements – the 5C's of Coral Reef Monitoring and Management



## The 5C's of Coral Reef Monitoring and Management



### Framework of the 5C's of Coral Reef Monitoring and Management

- The elements of the 5C's are:
  - Consensus
  - Communication
  - Collaboration
  - Community
  - Coordination
- Together, these 5 elements can form the framework within which coral reef practitioners can formulate monitoring and management plans based on established methodologies, management models and lessons learned examples



## The 5C's of Coral Reef Monitoring and Management

### *The Element of Consensus*

- ***“What are the common goals, methods, strategies/models and tools in coral reef monitoring and management in the Seas of East Asia that can be adopted?”***
- In the context of the COBSEA Resource Guidebook:
  - is to distil a set of core themes from past and ongoing coral reef monitoring and management programmes and activities that have a common basis
  - to identify corresponding application tools that can be used to support them
  - to mapping relevant reference resources to the themes their corresponding application tools



## The 5C's of Coral Reef Monitoring and Management

### *The Element of Communication*

- ***What are the available tools that can be used to achieve effective communication of information and knowledge on coral reef monitoring and management in the Seas of East Asia?”***
- In the context of the COBSEA Resource Guidebook:
  - highlight the most relevant media tools that are freely available for facilitating effective information communication on coral reef monitoring and management
  - to propose strategies for accessing and using them





## The 5C's of Coral Reef Monitoring and Management



### *The Element of Collaboration*

- ***“What are the potential collaboration tools, and how can they be used to develop and sustain collaboration between stakeholders in the area of coral reef monitoring and management in the Seas of East Asia?”***
- In the context of the COBSEA Resource Guidebook:
  - to identify possible collaboration tools that can guide the development of sustainable collaborations between stakeholders
  - to propose a framework within which effective collaboration can be achieved



## The 5C's of Coral Reef Monitoring and Management



### *The Element of Community*

- ***“What are the strategies available to involve and engage stakeholders in the Seas of East Asia?”***
- In the context of the COBSEA Resource Guidebook:
  - to identify key stakeholders at the local, national and regional levels
  - to identify strategies for their active engagement



## The 5C's of Coral Reef Monitoring and Management

### *The Element of Coordination*

- ***“What are the mechanisms that can bring together all the stakeholders and components in the Seas of East Asia?”***
- In the context of the COBSEA Resource Guidebook:
  - identify mechanisms to bring about regional coordination on issues related to coral reef monitoring and management in the Seas of East Asia



## The 5C's of Coral Reef Monitoring and Management

### **COBSEA Resource Guidebook – *where it stands now***

- Objectives:
  - To focus on coral reef monitoring and management
  - To bridge the gap between the information resources available and their specific application and use
  - To serve as a useful reference for coral reef practitioners when planning coral reef monitoring and management projects
- Where it stands now:
  - Draft version Resource Guidebook – key ideas
  - General tools – The 5C's of Coral Reef Monitoring and Management
  - Specific tools – The 5 C's as a Management Tool for Implementing Community-Based Projects



## The 5C's of Coral Reef Monitoring and Management

### COBSEA Resource Guidebook – *where it stands now*

- Where it stands now:
  - Current draft is a work in progress – still some way to go before it is completed
  - Further developed and enhanced based on feedback, comments, recommendations and critique

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## The 5C's of Coral Reef Monitoring and Management

### Objective of Workshop *in relation to the COBSEA Resource Guidebook*

- To review and discuss the relevance, structure and contents of the proposed COBSEA Resource Guidebook for Coral Reef Monitoring and Management in the Seas of East Asia
- What it means:
  - Participants will provide feedback, comments, recommendation and critique
  - Eg, Is the 5C's Strategy of Coral Reef Monitoring and Management necessary? Does it need to be modified? What other aspects should be included? Etc.

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## The 5C's of Coral Reef Monitoring and Management

### Objective of Workshop *in relation to future COBSEA activities*

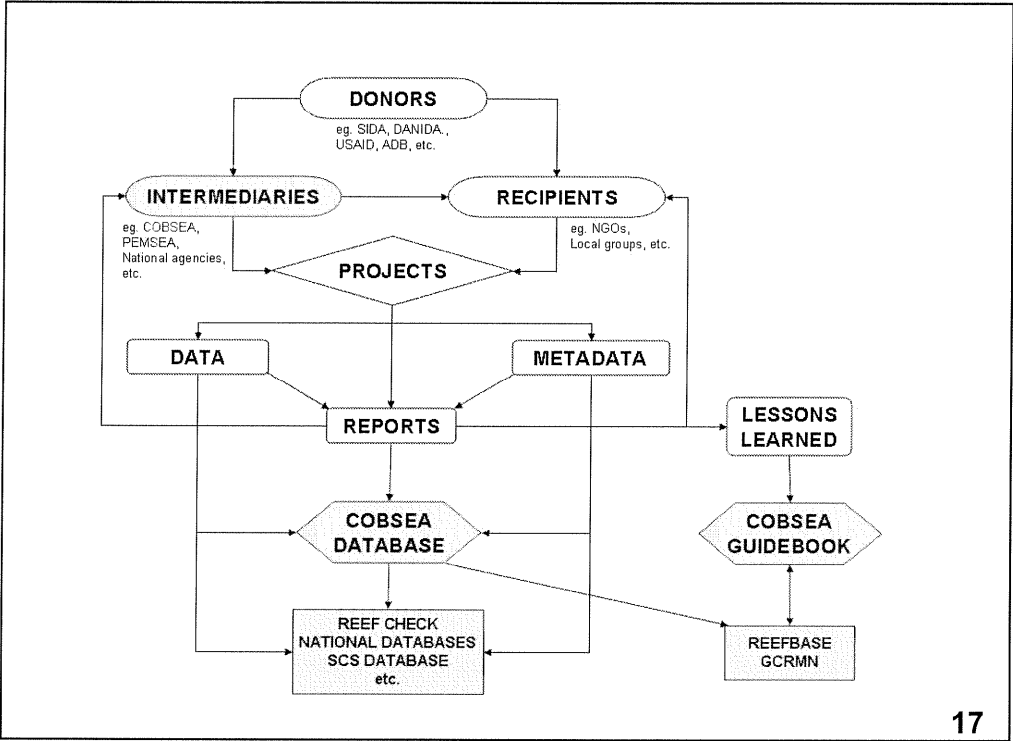
- The presentations have highlighted successful case studies in community-based coral reef management, responsible diving and coral reef mapping that were conducted through COBSEA support
- The presentations by WWF, LMMA and ReefBase also highlighted how other agencies are involved in coral reef monitoring and management in the Seas of East Asia



## The 5C's of Coral Reef Monitoring and Management

### Objective of Workshop *in relation to future COBSEA activities*

- Participants are requested to reflect on all the presentations and to suggest possible activities that COBSEA can focus in future, within the context of COBSEAs 3 strategic areas:
  - Information management
  - Enhancing capacity
  - Project implementation



## ANNEX 15: Groupings for Group Discussion

<b>GROUP 1: Consensus and Communication</b>	<b>GROUP 2: Collaboration and Community</b>	<b>GROUP 3: Coordination</b>
<i>Dr. Hansa CHANSANG</i> (Facilitator)	<i>Dr Hugh KIRKMAN</i> (Facilitator)	<i>Dr. CHOU Loke Ming</i> (Facilitator)
Mr. Marco NOORDELOOS	Ms Jovelyn T. CLEOFE	Dr. Kristian A. TELEKI
Ms. Birgitta LISS	Mr. Alimaturahim	Dr. Srisuda JARAYABHAND
Ms. ESTRADIVARI	Mr. Niphon PHONGSUWAN	Dr. Jose INGLES
Dr. Durairaju Kumaran RAJU	Mr. Abdullah HABIBI	Dr. Vo Si TUAN
Mr. Ouk ViIBOL	Mr. Abdul Rahim Gor YAMAN	Mr. DASMINTO
Ms. Soo Jung CHANG	Mr. NGUYEN Dang Ngai	Mr. Domingo Ruiz BRAVO
Mr. Ronawon BOONPRAKOB	Mr. WU Guowen	Ms. Karenne Tun
	Mr. Vellayutham PACHAIMUTHU	