Performance Evaluation
Building Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)

Project No. RAS/98/G33/A/1G/19

Terminal Evaluation Report

20 February – 20 April 2006

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Cielito Habito, Ph.D

Kem Lowry, Ph.D

A GEF Project Implemented by UNDP and Executed by IMO

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Dr. Kullenberg was a professor of physical oceanography at the University of Copenhagen and the University of Goteborg, where he obtained his doctorate. Aside from being a noted member of the academe, he is also known internationally as a marine scientist in the field of coastal and ocean governance. Dr. Kullenberg has also authored several books on coastal and marine management.

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In addition to wide-ranging public policy mediation experience, Dr. Lowry is an expert on program evaluation and coastal management. He has done extensive work as a mediator and assessment expert in China, Sri Lanka, Thailand, Philippines, Malaysia and Indonesia and is a consultant to UNDP, China-UNICEF, Asia Foundation, the U.S. Agency for International Development (USAID), the U.N. Development Planning Agency, the U.S. Congress Office of Technology Assessment and several state agencies in Hawaii.

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PEMSEA MISSION STATEMENT

The Global Environment Facility/United Nations Development Programme/International Maritime Organization Regional Programme on Building Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) aims to promote a shared vision for the Seas of East Asia:

> "The resource systems of the Seas of East Asia are a natural heritage, safeguarding sustainable and healthy food supplies, livelihood, properties and investments, and social, cultural and ecological values for the people of the region, while contributing to economic prosperity and global markets through safe and efficient maritime trade, thereby promoting a peaceful and harmonious co-existence for present and future generations."

PEMSEA focuses on building intergovernmental, interagency and intersectoral partnerships to strengthen environmental management capabilities at the local, national and regional levels, and develop the collective capacity to implement appropriate strategies and environmental action programs on self-reliant basis. Specifically, PEMSEA will carry out the following:

- build national and regional capacity to implement integrated coastal management programs;
- promote multi-country initiatives in addressing priority transboundary environment issues in sub-regional sea areas and pollution hotspots;
- reinforce and establish a range of functional networks to support environmental management;
- identify environmental investment and financing opportunities and promote mechanisms, such as public-private partnerships, environmental projects for financing and other forms of development assistance;
- advance scientific and technical inputs to support decisionmaking;
- develop integrated information management systems linking selected sites into a regional network for data sharing and technical support;
- establish the enabling environment to reinforce delivery capabilities and advance the concerns of non-governmental and community-based organizations, environmental journalists, religious groups and other stakeholders;
- strengthen national capacities for developing integrated coastal and marine policies as part of state policies for sustainable socio-economic development; and
- promote regional commitment for implementing international conventions, and strengthening regional and sub-regional cooperation and collaboration using a regional mechanism.

The 12 participating countries are: Brunei Darussalam, Cambodia, Democratic People's Republic of Korea, Indonesia, Japan, Malaysia, People's Republic of China, Philippines, Republic of Korea, Singapore, Thailand and Vietnam. The collective efforts of these countries in implementing the strategies and activities will result in effective policy and management interventions, and in cumulative global environmental benefits, thereby contributing towards the achievement of the ultimate goal of protecting and sustaining the life-support systems in the coastal and international waters over the long term.

Dr. Chua Thia Eng
Regional Programme Director
PEMSEA

TABLE OF CONTENTS

LIST OF ACRONYMS

BCCF	-	Bataan Coastal Care Foundation
BCRMF	-	Batangas Coastal Resources Management Foundation
BOT	-	build-operate-transfer
CASE	-	Cavite for a Sustainable Environment Inc.
CD	-	compact disc
COBSEA	-	Coordinating Body on the Seas of East Asia
CRM	-	Coastal Resource Management
CVM	-	contingent valuation method
DANIDA	-	Danish International Development Agency
DENR	-	Department of Environment and Natural Resources, Philippines
DPRK	-	Democratic People's Republic of Korea
EAS	-	East Asian Seas
ERA	-	environmental risk assessment
GEF	-	Global Environment Facility
GIS	-	Geographic Information Systems
GOT	-	Gulf of Thailand
ICG	-	Intercessional Consultative Group
ICM	-	Integrated Coastal Management
IEIA	-	Integrated Environmental Impact Assessment
IIMS	-	Integrated Information Management System
IMO	-	International Maritime Organization
IMS	-	Integrated Management System
IOC	-	International Oceanographic Commission
IRA	-	Initial Risk Assessment
LGU	-	local government unit
LME	-	Large Marine Ecosystems
LUAS	-	Lembaga Urus Air Selangor (Selangor Waters Management Authority)
MARPOL	-	International Convention for the Prevention of Pollution from Ships
MEG	-	Multidisciplinary Experts Group
MPP-EAS	-	Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas
NACA	-	Network of Aquaculture Centres in Asia Pacific
NGOs	-	Nongovernmental Organization
PCC	-	Project Coordinating Committee
PEMSEA	-	GEF/UNDP/IMO Regional Programme on Building Partnerships in Environmental Management for the Seas of East Asia
PES	-	payments for environmental services
PG-ENRO	-	Provincial Government's Environment and Natural Resources Office
PIR	-	Project Implementation Review
PMO	-	Project Management Office
PNLG	-	PEMSEA Network of Local Governments
PO	-	People's Organization

PPP	-	public-private partnerships
PRF	-	PEMSEA Resource Facility
PSC	-	Programme Steering Committee
PSHEMS	-	Port Safety, Health and Environmental Management System
PTP	-	Port of Tanjung Pelepas
QAR	-	Quarterly Accomplishment Report
RA	-	Risk Assessment
RM	-	Risk Management
RMB	-	Chinese Renminbi
RNLG	-	Regional Network of Local Governments
RPO	-	Regional Programme Office
RPD	-	Regional Programme Director
ROAR	-	Results-Oriented Accomplishment Reports
ROK	-	Republic of Korea
RTF	-	Regional Task Force
SCC	-	Site Coordinating Committee
SDS-SEA	-	Sustainable Development Strategy for the Seas of East Asia
SEAFDEC	-	Southeast Asian Fisheries Development Center
SEMP	-	Strategic Environmental Management Plan
SIDA-CMC	-	Swedish International Development Agency - Coastal Management Center
SOLAS	-	International Convention for the Safety of Life at Sea
THB	-	Thailand Baht
TWG	-	Technical Working Group
UN	-	United Nations
UNCED	-	United Nations Convention on Environment and Development
UNCLOS	-	United Nations Convention on the Law of the Sea
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environment Programme
USD	-	United States Dollars
WSSD	-	World Summit on Sustainable Development

EXECUTIVE SUMMARY

The GEF/UNDP/IMO Regional Programme on Building Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) is an innovative effort to integrate local, national and international initiatives to address coastal and marine issues on habitat degradation, unsustainable rates of resource use and resource-use conflicts, hazards and the conditions of poverty that both contribute to and are caused by resource degradation and depletion.

PEMSEA is at the end of its sixth year of phase 2. This evaluation was commissioned to assess PEMSEA's effectiveness in implementing the Programme and to make a recommendation about its future. The members of the evaluation team have among them decades of experience in international organizations, local, national and international coastal and marine management programmes and programmatic and economic analysis.

Prior to convening in Manila, Philippines, the PEMSEA staff sent members of the evaluation team electronic copies of many of the plans, technical reports, and project documents prepared in the last five years. During the month-long evaluation visit (17 February – 18 March, 2006), members of the team reviewed additional materials on the outputs of the ten planned objectives of PEMSEA and interviewed staff. In addition, members of the team conducted site visits to Batangas and Bataan (Philippines), Danang and Hanoi (Vietnam), Bangkok and Chonburi (Thailand) and Sihanoukville (Cambodia). Telephone interviews were also conducted with officials in Port Klang (Malaysia), Bali (Indonesia), Xiamen (PR China) and national officials in China and Japan. Meetings with UNDP Manila, Hanoi, Bangkok and Phnom Penh and teleconferences with the GEF-UNDP International Waters Project and IMO Headquarters were likewise undertaken (Annex 2).

As members of the evaluation team, we are mindful that all evaluation is comparative. Judgments about the "success" or "effectiveness" of programmes and projects are based on explicit references to control or comparison groups, to conditions before the programme was initiated, to initial programme goals or to other standards or "best practices." We have explicitly focused on the degree to which PEMSEA has met the goals it set for itself, but because of our broad experience, implicit comparisons with pre-programme conditions and with other local, national and international coastal and marine management efforts are perhaps inevitable.

The report is divided into six sections. Section 1 describes the project concept and design. The primary analysis of PEMSEA's effectiveness in addressing the ten programme objectives occurs in Section 2. Section 3 discusses project management. Sections 4, 5 and 6 focus on findings, recommendations and lessons learned.

Overall Findings

1. PEMSEA's overall development objective is "to protect the life-support systems and enable the sustainable use and management of coastal and marine resources through

intergovernmental, interagency and intersectoral partnerships, for the improved quality of life in the East Asian Seas (EAS) Region." To achieve this objective, PEMSEA is built around ten more specific objectives that are discussed in more detail in Section 2 of this report. Associated with each of these ten objectives is a set of specific implementing activities and initiatives that have been assessed.

2. The overall development objective is very ambitious, but PEMSEA's efforts to date make its eventual achievement more realistic. Substantial progress is being made as is evident in the summary of other key findings below. The Immediate Objectives of PEMSEA have been met. The results have also provided strong contributions to meeting the expected outcomes of related GEF Operational Programmes, and PEMSEA has demonstrated the feasibility of achieving the longer-term development objective.

Other general findings, organized by PEMSEA objectives, are noted below.

3. *Integrated Coastal Management Demonstration Sites*. Six demonstration ICM sites have been developed as planned. In addition 18 parallel sites in five countries have been developed using the PEMSEA ICM design, but without PEMSEA financial support. The success of the demonstration sites is a reminder of the importance of a well-developed, carefully adapted programme logic. The emphasis on management-relevant resource profiles, risk assessments and other technical analyses, extensive stakeholder involvement and carefully developed interagency collaborative arrangements provides an effective, replicable model of local ICM. Implementation is occurring at all the sites. The local ICM projects are resulting in increased policy integration and coordination. At the longest operating sites, such as Xiamen, there are measurable improvements in environmental and socioeconomic conditions.

4. *Risk Assessment*. In addition to the ICM sites, PEMSEA is addressing transboundary environmental issues in the Gulf of Thailand and pollution "hotspots" in Manila Bay and Bohai Sea. In all three cases, the need for technical analysis of the underlying issues is essential. PEMSEA has used a risk assessment (RA)/risk management (RM) framework to analyze these issues. In this process, they have first trained local counterpart staff in the RA/RM framework and then jointly conducted the analysis. This training provides both useful analysis and, equally important, builds key analytic skills among programme staff. This process demonstrates the need for long-term strategies and action plans to address major environmental issues, and to put in place environmental services, facilities and clean technologies. They also show the need to address pollution control by focusing on the watersheds that drain into the ocean.

5. *Human Resource Development.* PEMSEA organized 72 trainings for more than 1,400 trainees — thus substantially exceeding its goals for the period. The major strength of PEMSEA's capacity-building approach is that it focuses not only on skills, but also on strengthening organizational contexts in ways that support the application of newly-developed skills. This emphasis on organizational strengthening sets it apart from most donor approaches to skill-building. The trainings, cross-site visits, internships and practice-related publications are helping lay the intellectual, technical and political foundations for the eventual ICM coverage of 20 percent of the region's coastlines by 2015.

6. *Regional Networks/Regional Task Force.* PEMSEA has created networks of experts, of local governments and a Regional Task Force (RTF) of Experts which, when taken together, firmly link the national ICM sites into a regional partnership. The networks created by PEMSEA have been instrumental in promoting effective scientific advice to the planning and decisionmaking processes and have linked the scientific communities to coastal planners and managers as partners. The creation of networks has helped establish a critical mass of expertise. A core base of practical experiences of ICM practices has been developed. Linkages and partnership agreements have been created with universities and other research institutions. Scientific communities are exposed to management needs via these networks.

7. *Investment Opportunities for Environmental Improvement.* The PEMSEA approach is based on the recognition that government resources and effort are unlikely to be sufficient to generate the investments necessary to build sufficient sewage treatment plants and other facilities needed to reduce the stresses on coastal resources and habitats. Hence, PEMSEA has sought to generate potential public-private partnerships (PPP) to help fill this gap. Despite major efforts by PEMSEA, PPPs are the weakest component of its efforts to generate diverse resources, although the results at Xiamen demonstrate that such partnerships for funding environmental infrastructure and resource protection can be created given time and enabling conditions.

8. *Scientific Support for Improved Management.* Good science is fundamental to effective coastal management. PEMSEA has sought to rely on regional scientists when they can and to nurture the development of young technical professionals. The networking of universities and other research institutions facilitated by PEMSEA is one mechanism to strengthen research capabilities and encourage sharing of facilities and specialized skills at the regional level. Scientific expertise and skills are available in the region to support the implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). The Multidisciplinary Experts Group (MEG) has provided scientific insight and highlighted the importance of maintaining a balance between economic development and environmental capacity. Policy studies have generated increased understanding of the scientific dimensions and the complexities of key coastal and marine issues.

9. *Integrated Information Management System (IIMS).* Information on trends in resource use, jurisdictions, environmental stresses and many other variables is obviously an essential component of effective management. PEMSEA supports the development of IIMS at each ICM site. PEMSEA continues to provide training, updated software and technical assistance to each site. The types of management support offered by IIMS vary among the sites, but the ultimate goal is a decision-support system. A regional network linking ICM sites and pollution hotspots is being developed.

10. *Collaboration with NGOs and Other Organizations*. Coastal management does not occur in a political vacuum. PEMSEA seeks to build support for management recognizing the importance of a supportive civil society. PEMSEA's strategy of establishing partnerships with NGOs, media, schools, church and religious groups is critical to its advocacy efforts.

11. *Integrated Approaches to Coastal and Marine Policy.* A cornerstone of PEMSEA's strategy for sustainable coastal and ocean management is the recognition of the importance of

integration among agencies, sectors, disciplines and levels of government. It has sought and is succeeding in creating integrative mechanisms at the regional, national and local levels. The SDS-SEA, the Regional Network of Local Governments (RNLG), the Manila Bay, Bohai Sea and Gulf of Thailand (GOT) projects, and the Project Coordinating Committees (PCCs) at each ICM site are among the most visible manifestations of PEMSEA's efforts to create and maintain active integrated management efforts. A sense of high-level ownership has been achieved. Strong partnerships among staff in different agencies are helping ensure continuity of management efforts in times of changes in elected leaders. Many of these integrative efforts are vertical among agencies as well as horizontal. PEMSEA's effective use of partnerships and of local, national and international collaborative networks to develop and maintain coastal management efforts is helping make Agenda 21 a reality in the East Asian Seas.

12. *Sustainable Regional Mechanism.* PEMSEA has successfully completed the SDS-SEA in collaboration with 16 national, regional and international collaborators and had the regional strategy endorsed by the 12 participating governments through the Putrajaya Declaration of 2003. This is a milestone achievement as it is the first regional marine strategy with framework programmes consisting of 227 action plans covering local, national and global environmental and sustainable development issues ranging from fisheries to climate change. The framework provides opportunities for concerned governments and international and UN bodies to collectively address national and regional concerns. PEMSEA has thus provided the much needed leadership role to make this collaborative framework possible.

Overall Assessment

Judged by the resources PEMSEA has attracted and the way it has used them, the evaluation team views PEMSEA as a success worthy of close analysis and possible replication. PEMSEA's success is built on several key components that deserve special mention:

1. Clearly articulated programme logic. PEMSEA's ICM work in particular is based on explicit assumptions about the key ingredients for effective site management. These ingredients include environmental profiles, PCCs, the development of a local coastal strategy, extensive stakeholder participation and other elements more fully described in Section 2 (Project Results). The logic is applied flexibly and reflectively in ways that allow staff to identify issues and to adapt the logic as needed.

2. Stakeholder participation. PEMSEA relies on consultation to identify environmental and socioeconomic issues, evaluate options, incorporate better technical analysis and build understanding and commitment to individual projects.

3. A sophisticated approach to capacity building. Skills development is an important component of most development projects. One of the things that distinguishes PEMSEA's approach is the degree to which it focuses on the organizational context in which skills are applied. Risk assessment, for example, is only meaningful if

responsible agencies are attentive to environmental risks and willing to incorporate risk management strategies into their management efforts.

4. Collaboration among disciplines, sectors, agencies and levels of government. PEMSEA has encouraged collaboration among agencies and others by providing incentives for participation. The primary incentive is programmatic. PEMSEA offers the opportunity to cooperate in management efforts that are likely to be consequential and to have positive impacts.

5. Management-relevant technical analysis. Millions have been spent on environment-related scientific research projects in the region. Only a fraction of this expenditure results in analysis that can be applied to management decisions. PEMSEA has successfully encouraged a science-based approach to planning and management thus making more efficient use of manpower and resources.

6. A diverse approach to the problems of the region. The PEMSEA management approach includes conservation measures for protecting biodiversity, additional research, education, community outreach, partnerships and the other elements of a conventional environmental management strategy. However, it also recognizes that the development of infrastructure necessary for pollution management and the reduction of poverty will require more resources and effort than most governments of the region are willing to provide. Hence, private sector participation is an integral part of the PEMSEA approach.

7. A high level of leadership and staff professionalism. No doubt central to PEMSEA's success is the quality of its leadership and the energy, expertise and commitment of staff. Leadership and professionalism were recurring themes during the site visits and in the evaluators' own observations.

PEMSEA has a record of solid achievement over the years. It has laid the technical, institutional and political foundations for greatly strengthened local, national and regional management. The momentum that has been generated by PEMSEA is instrumental in motivating national, regional and international efforts in promoting the concept and the practice of sustainable development for the seas and oceans. This momentum is critical in accelerating the commitment and the management actions of the governments and partners to implement the SDS-SEA. This is a pivotal moment in the evolution of PEMSEA's work; a moment at which additional resources and motivated partners can begin to reap the rewards of the investments that have been made.

1. PROJECT CONCEPT AND DESIGN SUMMARY[1]

1.1. The economic development in the region has been very significant over the past decades, being one of the fastest growing regions before the 1997–1998 financial crisis. Despite the interconnectivity concerning environmental conditions, there are large social diversities regarding socioeconomic, demographic, cultural and religious characteristics. Inadequately planned coastal and marine developments with poorly regulated economic activities, increasing population pressure and growth rates have led to continued considerable degradation of coastal and marine ecosystems, including mangroves, coral reefs, seagrass beds, wetlands and estuaries. Several international reviews have pointed at the deteriorating situation with respect to the marine and coastal environmental conditions of the EAS. Large parts of dominating coastal ecosystems, important for the functioning of the zone, are being destroyed. Other natural resources, especially fish stocks, are being overexploited. The sustainable use and development of coasts and seas is far from being achieved, at the same time coastal and ocean management, or ocean governance, has not been a priority of the governments. However, interconnectivity implies that most of the environmental problems are transboundary, with the impacts spread throughout the region.

1.2. Existing management approaches are still sectoral and there is little or no coordination or cooperation between ministries or agencies. Management primarily focuses on response to environmental crises. Regional sectoral efforts, with action plans, have been initiated but these are poorly implemented. However, many of the countries are signatories to the United Nations Convention on the Law of the Sea (UNCLOS) and have established broad policy frameworks to address environmental concerns. After the United Nations Convention on Environment and Development (UNCED) in 1992, nations have taken noticeable steps to respond to Agenda 21, and have committed resources to address environmental problems. Considerable support has been provided from donors, capacity has been built, but implementation has been uneven.

1.3. The excessive exploitation of natural resources and the unregulated resource-use activities in coastal areas have caused severe environmental stress, influencing food and water security, human health, employment and livelihood, causing social unrest and offsetting some of the economic gains of the past decades. The socioeconomic developments and actions are not in harmony with the ecosystems: interactions between ecological and economic systems are unsustainable. This is manifested both as regards rates of use of resources, and waste disposals beyond assimilative capacity.

1.4. In order to address the problem, PEMSEA has adopted a long-term strategic, programmatic and system-oriented approach to coastal and marine management in the region. This is needed due to the geographic coverage and the environmental interconnectivity of the region as well as its diversity as regards the socioeconomic, cultural and political situation. The substantial strategy is based on the use of risk assessment and risk management (RA/RM) together with Integrated Coastal Management (ICM). By combining these frameworks, a comprehensive coverage can be obtained of the marine and coastal environments and the associated land-based and sea-based issues.

1.5. The implementation strategy is based on the establishment of partnerships through a bottom-up approach involving all stakeholders: central and local governments, communities, the

[1] A description of PEMSEA and its development context is given in Annex 1.

public, nongovernmental organizations (NGOs), people's organizations (POs), the media, scientific communities, international organizations, donor agencies and the private sector.

1.6. The approach is built on the experiences of the pilot phase of PEMSEA, the Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas Region or MPP-EAS, which ran from 1994–1999. The partnerships established thus far have a catalyzing effect and enable human resources and institutions to work together to develop their solutions to problems. This generates a sense of ownership and confidence among target beneficiaries that their problems will be really addressed. Partnership is the essence of PEMSEA and its implementation strategy. Partnerships will provide for a regional platform enabling various agencies and other programmes to work together. Furthermore, the strategy of co-financing, with collaborative activities planned to be undertaken on a cost-sharing basis, will pool resources and will further strengthen the sense of ownership at local and national levels which are generated through the partnership.

1.7. ICM assumes a holistic, multiagency, multidisciplinary systems-oriented approach to the management of uses affecting coastal and marine environments. This complex management system needs trained coastal managers able to develop and implement the identified management actions, taking into account political, economic and social tradeoffs. It is a system-oriented approach requiring both adaptive learning and adaptive management. The strategy of the Programme implies going the full cycle: preparation, initiation, development, adoption, implementation, refinement and consolidation.

1.8. The project focuses on management through ICM, utilizing several tools and components: sciences, information and communication, civil society, regional collaborative arrangements, environmental investments, capacity building in a broad sense, coastal and marine policy specifications, and networking. Building on the experiences from the MPP-EAS, when two ICM demonstration sites were established, the Programme aims at replicating the ICM practices in six more demonstration sites and a number of parallel sites to be established on local government initiatives. This is expected to have a multiplying, scaling up effect, so as to stimulate national policies to incorporate or endorse ICM as a tool to help achieve adequate coastal and ocean governance. The feasibility of using the ICM practices at larger scales will be demonstrated in subregional sea areas (e.g., Gulf of Thailand) and pollution hotspots (e.g., Bohai Sea and Manila Bay).

1.9. At the regional level the project aims at preparing a framework for the establishment of a sustainable regional collaborative mechanism which can generate a coastal and ocean governance regime. This effort will build on the experiences from all the other components.

1.10. The project goes beyond the pilot phase in key areas: emphasis on finding management solutions for transboundary problems; increase in collaboration with NGOs, POs, and community-based organizations, the media and others; more emphasis on environmental investments, policy, management, and legal frameworks; and taking steps towards the creation of a sustainable regional cooperative mechanism.

2. PROJECT RESULTS[2]

Immediate Objective 1: Integrated Coastal Management (ICM)

2.1. ICM is a key component of PEMSEA.

2.1.1. ICM is one of ten components of PEMSEA. Implementation of ICM programs at the sites has been nurtured by most of the supporting components including training, environmental investments, technical analysis, integrated information management systems (IIMS), and civil society. National policy development, as well as the establishment of regional cooperation mechanisms, likewise strengthened the local ICM practices by providing necessary policy and institutional support at both national and regional levels in support of local coastal governance. At the same time, ICM also contributed to the implementation of a subregional pollution hotspot component, by providing useful management approaches and framework in addressing transboundary and cross-sectoral issues.

2.2. The PEMSEA approach to ICM is based on a few key assumptions and a well-developed approach to ICM project design that has evolved over time.

2.2.1. PEMSEA's literature suggests that its approach to ICM is based on a few key assumptions:

- Resource degradation and depletion, coastal hazards and other adverse conditions are caused by both human activities and natural processes;
- Human and natural activities occur interactively over time and across geographic space making it necessary to design management mechanisms that address these activities comprehensively and systematically;
- Management occurs by and for people; people are part of ecosystems;
- ICM project designs tend to include several key design components such as environmental profiles and public awareness strategies. However, these key design components must be tailored to the conditions at individual sites. There is no single ICM project design "blueprint" that is appropriate for all situations.
- Capacity building is critical and ongoing, but focuses on organizational strengthening and institutional reform as well as skills development;
- Careful design includes both detailed technical analysis of resource conditions and risks and significant stakeholder participation; and
- Multisectoral and interagency collaboration is required for effective project design and implementation leading to sustainable resource conditions.

2.2.2. Good programmes are based on an explicit set of assumptions or programme "logic" indicating how proposed activities are linked to intended outputs and outcomes. The basic logic of the PEMSEA approach to ICM development is set forth in Figure 1 of Annex 4.

2.3. PEMSEA successfully facilitated the design and implementation of six new ICM sites.

2.3.1. The MPP-EAS piloted the ICM sites at Batangas (Philippines) and Xiamen (China).

[2] A summary showing PEMSEA's Project Document compliance to Project Document requirements is given in Annex 3.

The success of these sites — and the lessons drawn from them — made it possible to create successful demonstration sites at Bali (Indonesia), Chonburi (Thailand), Danang (Vietnam), Nampho (DPR Korea), Port Klang (Malaysia) and Sihanoukville (Cambodia). These demonstration sites have contributed to replication sites at Bataan and Cavite (Philippines), Shihwa (RO Korea), Sukabumi (Indonesia), and Quangnam (Vietnam) as well as ten sites in China and three additional sites in Bali.

2.3.2. The key features of the ICM programme development and implementation cycle are illustrated in Figure 2 of Annex 4.

2.3.3. ICM project site development involves adapting the set of tasks or activities outlined in Figure 2 of Annex 4 to the particularities of each site. Table 1 summarizes the key tasks and their status at each of the six sites developed under PEMSEA.

Table 1: ICM Project Design Tasks and Current Status for Six Sites under PEMSEA.

Key ICM Site Outputs	Current ICM Site Status
Six national ICM sites selected.	Completed
Project development and management mechanism developed.	Completed for all sites
ICM project staff trained in ICM principles and practices.	Completed for all sites
Environmental profiles developed.	Completed for all sites, but incorporated in the Coastal Strategy for Chonburi and Klang
Public perceptions on sustainable use of marine resources, environmental stress and their solution analyzed.	Completed for all sites except Sihanoukville and Nampho
Environmental risk assessment completed.	Completed at all sites except Sihanoukville and Nampho where incomplete data made it necessary to establish an environmental monitoring program, which included a laboratory, in order to gather marine and coastal data
Action plans to address priority environmental and management issues prepared and submitted to local government for review and adoption.	Completed for all sites
Institutional arrangements, both organizational and legal, at the local level to implement, manage, monitor and evaluate and replicate ICM initiatives	Ongoing for all sites except Nampho which has been completed
A monitoring program to track environmental changes.	Completed for all sites except Chonburi and Klang
An IIMS for sharing, storage and retrieval of scientific, technical and management data	Completed for all sites
Financing options and mechanisms to sustain environmental management operations and to facilitate investment in environmental improvement projects	Completed for Bali, Danang, and Klang. Ongoing for Sihanoukville and not applicable to Chonburi and Nampho
Adoption by local government of the Strategic Environmental Management Plan (SEMP), action plans, institutional arrangements and financing options	Completed for all sites
Implementation of SEMP and action plans initiated.	Completed for all sites
A project monitoring program mechanism in place.	Completed for all sites

2.4. PEMSEA sites are demonstrating the benefits of ICM as an approach to coastal management.

2.4.1. The PEMSEA ICM approach emphasizes the identification of key local counterparts, intensive capacity building in ICM and others skills, the establishment of mechanisms for interagency and cross-sectoral collaboration, stakeholder participation, careful policy-relevant technical analysis and the production of action-oriented plans and reports. Another key feature of the approach is guidance from the Regional Programme Office (RPO) with regard to each of the key tasks in designing a site plan. The PEMSEA approach also emphasizes realistic time frames for the development of key groups, like the PCC, and the completion of significant tasks such as the environmental profiles and coastal strategy. The combination of the key ingredients of the PEMSEA approach, guidance, an orderly process and continuing support has the effect of encouraging successful completion of the immediate project outputs such as plans, technical reports, coordinating committees, action plans and new institutions. It also helps build understanding among key constituencies about the intentions and strategy of local ICM, technical credibility and local political commitment. To varying degrees, these benefits can be found at all the project sites. Moreover, these benefits are essential building blocks to sustainable resource management institutions and improved environmental outcomes. One key indicator of the benefits of the PEMSEA approach is the degree to which other jurisdictions in the Philippines, Indonesia, Vietnam and China are replicating PEMSEA's approach at other sites. PEMSEA began with two pilot ICM sites in the first phase and added six demonstration sites in the second phase. In addition, 18 self-supported parallel projects based on the PEMSEA site development strategy have been organized. Ten are in China and three are in Bali (Indonesia). Sites have also been developed in Bataan and Cavite (Philippines), Quangnam (Vietnam), Shihwa (RO Korea), and Sukabumi (Indonesia).

2.4.2. The ultimate test of the site management efforts is their impact on resource-use conflicts, resource conditions and hazards in their jurisdiction — and the sustainability of the ICM efforts. Conditions are perceived to have improved, but quantitative support is uneven.

2.5 The PEMSEA repertoire of tools of local ICM allows the sites to effectively tailor management strategies to local needs.

2.5.1. ICM requires a variety of strategies and management tools. Research, advocacy, collaboration, infrastructure development, planning, awareness building, technical analysis, PPP and regulation of coastal uses and activities are all among the management strategies employed by PEMSEA in its ICM approach. The PEMSEA approach incorporates a wide variety of management tools for each basic management strategy. Technical analysis, for example, includes environmental profiles and risk assessment. Regulation may include zoning. While the strategies are similar from site to site, the importance of specific tools to support a strategy varies among the sites. An awareness campaign to support solid waste cleanup might be as simple as sending out a thousand flyers at one site — and as complex as Bali's combination of newsletters, poster contests, inter-high school contests, awards, consultations with local traditional leaders and other activities.

2.5.2. One key management ICM strategy is collaboration and coordination among agencies with coastal management responsibilities. All the sites have PCCs composed of

representatives from sectoral agencies. The PCC is designed as a mechanism for information sharing, deliberation, priority-setting, conflict resolution and decisionmaking. At most sites, a senior elected official or administrator, such as a governor or vice-governor, chairs the PCC. They are often a key for determining coastal policy priorities and initiatives. While the degree of authority and responsibility the PCCs have been willing to assume varies among sites, they are important for coordination purposes even when they only share information and deliberate about their agency's current activities and priorities. At a few sites, such as Bali, technical coordination committees have also been developed to address more complex analytic issues and to report to the PMO or PCC. Other coordinating committees have been formed as well (e.g., communicators group in Danang, which represents different government agencies and institutions). PEMSEA puts great emphasis on these coordinating committees — and they have been important instruments in building awareness and commitment to ICM among government officials with related responsibilities.

2.5.3. It is perhaps useful to distinguish between those management tools that are under the direct control of the PMO and the PCC and those that require other agencies or organizations to take the primary implementation responsibility. Among the latter, one of the primary tools is zoning. Integrated sea and land-use zoning schemes have been prepared for several of the sites. They vary in their specificity, their relationship to other planning and land guidance efforts and their regulatory authority. Some of them are more in the category of land "suitability" analyses. That is to say, on the basis of the analysis of soil types, topography, drainage, slope and location, relative to other uses and other natural and socio-political characteristics, they identify optimal potential uses for specific parcels or areas. Mangroves, for example, may be identified as having the highest potential as natural habitats. Open, relatively flat sites served by infrastructure may be deemed suitable for hotels, parks or recreational sites. Zoning maps, on the other hand, usually identify preferred uses for specific land units as well as prohibited uses. These often set forth very specific height and bulk parameters. These generally have the force of law, but specific sites can and are "re-zoned" by the governing legislative authorities.

2.5.4. In the case of PEMSEA sites, some of the zoning plans are just one of several authoritative documents governing land use. At Sihanoukville, for example, there is a DANIDA-sponsored zoning document as well as the PEMSEA-sponsored zoning report. In this particular instance, PEMSEA's zoning scheme has been adopted by the National Coastal Steering Committee and has been endorsed by the current governor. In general, however, zoning plans do not have authoritative legal status at most of the sites. In light of the difficulties in getting a legal status for zoning plans, PEMSEA should consider other approaches for the regulation of coastal resource use including permit systems, performance standards and similar devices.

2.5.5. Coastal strategy documents, environmental profiles and action plans are also among the repertoire of PEMSEA integrated management tools. Because of PEMSEA's long experience with these and other management tools and because their use has been demonstrated at multiple sites, the RPO and site staff have multiple models of what these tools are, how they relate to specific coastal uses and how they have been tailored to specific contexts. These models and this experience are part of what makes PEMSEA so successful at designing and implementing local ICM projects.

2.6. PEMSEA sites are developing more permanent institutional structures and funding strategies for the implementation of the ICM strategies.

2.6.1. The first generation institutional arrangements for site management relied primarily on a PMO, often staffed by those seconded from local or provincial government. Funding came from both PEMSEA and other sources, including local government. A second key institution is the PCC, comprised of representatives from agencies with coastal management responsibilities. All six PMOs exist within regular government offices: Bali PMO (Environmental Impact Management Office of Bali Provincial Government), Chonburi PMO (Sriracha Municipality), Danang PMO (Department of Science and Technology of Danang Municipality), Port Klang PMO (Selangor Water Resources Management Authority, also known as LUAS), Sihanoukville PMO (Sihanoukville Municipal Government) and Nampho PMO (Coastal Management Office under the Nampho City People's Committee). The formation of PCCs in all ICM sites was formalized through the issuance of appropriate local orders (e.g., Governor's decree). The transformation of existing PCCs into a permanent government structure is being reviewed by relevant local authority in some sites (e.g., Bali through local ICM legislation, Danang, Sihanoukville).

2.6.2. The projects are all preparing financing options and mechanisms to sustain environmental management operations and to facilitate investment in environmental improvement plans. Sewage treatment and management plants are some of the major environmental improvement initiatives common to several local agendas. While several initiatives appear to be close to funding, only Danang and Sihanoukville have initiated construction projects for sewage treatment. It is not clear whether the difficulties in developing more PPP has to do with PEMSEA's approach, lack of incentives to private investors, inadequate legal frameworks, or some other factors.

2.7. People living at the ICM sites recognize the value of environment protection and environmental services — and are increasingly willing to pay more for these services.

2.7.1. The contingent valuation method (CVM) was used at six sites (e.g., Bali, Bataan, Danang, Klang, Malabon, and San Fernando) to assess the demand for particular environmental facilities or services which may provide an investment opportunity. In contingent valuation, the value of an environmental resource or service to an individual is expressed either as their maximum willingness to pay or else their minimum willingness to accept compensation to go without a resource or service. In the case of Bali, for example, a survey of over 1,000 people in and around Denpasar indicated solid waste as the primary environmental problem. The survey revealed that people were willing to pay 125 percent more per household for better solid waste management and even more for connection to a sewage system. At one site in the Manila Bay project, a survey of about 500 respondents indicated that people were willing to pay about 16 percent more on average for improved solid waste management. CVM at these and other sites do suggest that people are acutely aware of environmental conditions and that they value environmental services enough to pay more for them in some cases.

2.8. PEMSEA is successfully developing the intellectual, institutional and political foundations for ensuring that at least 20 percent of the region's coastlines are under effective ICM management by 2015.

2.8.1. PEMSEA's goal is to encourage at least 20 percent of the region's coastlines to implement ICM by 2015. PEMSEA has developed a basic approach to local and regional governance that is sufficiently well-developed and well-known to make their goal plausible. This approach has been tested, refined and implemented at multiple sites. While developing these sites, PEMSEA has trained more than 1,935 coastal managers, national officials and others and assisted with the development of numerous environmental plans, RAs, action plans and other strategies necessary for the effective functioning of local ICM projects. The training manuals, technical reports, ERAs, strategic plans and other documents, CDs, and videos constitute a substantial documentation of the knowledge gained about the sites. They also serve as high-quality models that can be used by governments and donor agencies in the region. The approach, training and publications all provide a solid intellectual foundation for replication and scaling up.

2.8.2. Perhaps most importantly, site projects have established interagency collaborations and stakeholder participation strategies designed to increase integration among organizations for the purpose of improving the coastal and marine management. New institutions, such as intergovernmental working groups governing issues such as oil spills, have been developed and are functional. PEMSEA has developed an institutional framework that puts inter-sectoral and interagency collaboration at the center of institutional development. Again, the institutional framework has been tested, and is functioning.

2.8.3. PEMSEA's commitment to fitting general management principles to local situations, involving people in developing a local management agenda, funding research that is biased toward management and prolonging their engagement at the site level are among the factors that have served to build understanding, trust and commitment at the local level. PEMSEA's technical credibility, flexibility and willingness to help over time have helped build the sort of political legitimacy that is rare among projects regarded as donor projects.

Immediate Objective 2: Managing Pollution Hotspots

2.9. PEMSEA is testing strategies for the analysis and management of marine areas in enclosed or semi-enclosed bodies of water receiving substantial pollution loads from adjacent heavily urbanized areas.

2.9.1. Six coastal megacities with more than ten million people each are located in East Asia. Pollution from land-based sources at these and other sites in the form of untreated sewage, urban runoff, agricultural and aquacultural waste and industrial discharge threatens public health and the integrity of coastal ecosystems. In a few instances, the sustainability of fish stocks is threatened. PEMSEA has created demonstration projects at three of these sites: Bohai Sea, Manila Bay and the Gulf of Thailand. The Bohai Sea covers a water area of 77,000 km^2, but about 40 rivers flow into it from a drainage basin that covers 1.4 million km^2 and is inhabited by 445 million people. Manila Bay covers an area of about 1,800 km^2. The basin that drains into Manila Bay includes an area of about 17,000 km^2 inhabited by about ten million people. The Gulf of Thailand is bordered by Thailand, Cambodia, Malaysia and Vietnam and has a coastline of 6,935 km. Twenty-three rivers, including five major ones, drain into the Gulf.

2.9.2. Reducing pollution in the Bohai Sea, Manila Bay and the Gulf of Thailand presents coordination problems of great complexity. Scores of local, provincial and national agencies share management responsibility for different aspects of sewage collection and treatment, industrial discharge control, urban runoff, oil spills, agricultural wastes and related pollution issues. A coordinated infrastructure investment strategy that insures that all jurisdictions contribute fairly to pollution management is required.

2.10. PEMSEA's risk assessment process was the technical basis for geographically larger and jurisdictionally more complex planning processes for Manila Bay, Bohai Sea and Gulf of Thailand.

2.10.1. PEMSEA has made RA/RM a critical component of the planning for water bodies exhibiting transboundary environmental problems (e.g., Gulf of Thailand) and pollution "hotspots" (e.g., Manila Bay and Bohai Sea). The risk assessment process has been used in these contexts to identify the primary environmental concerns as well as potentially important data gaps. The concerns are then the basis for identifying potential interventions and management measures as part of the management framework. The data gaps are addressed as part of the environmental monitoring component.

2.10.2. In Manila Bay, Bohai Sea and the Gulf of Thailand, RA was the technical basis for much of the planning that occurred in all three contexts. In the Manila Bay project, the geographic scope included adjacent coastal provinces and the National Capital Region. The planning processes included extensive consultation with multiple national agencies, littoral provinces and many local governments. RA was the technical basis for identifying priority environmental issues, an oil spill contingency plan and the Operational Plan for the Manila Bay Coastal Strategy. In the Gulf of Thailand, RA was used primarily in the context of planning an oil spill contingency strategy embodied in an intergovernmental agreement involving Thailand, Cambodia and Vietnam. In the case of Bohai Sea, the RA was the technical foundation for what ultimately became the Bohai Sea Sustainable Development Strategy. A legal framework for implementing the strategy is under consideration by the national legislature.

2.11. PEMSEA's emphasis on risk assessment as a key component of transboundary environmental planning goes well beyond the conventional technical analysis required in the development of most subregional plans.

2.11.1. The PEMSEA risk assessment approach distinguishes among retrospective RA, prospective RA, RM and risk communication. Retrospective RA focuses on changes in habitats, resource hazards or other coastal conditions, and the likely causes associated with such changes in conditions. Prospective RA draws attention to potential "stressors" in the marine environment, such as nutrient phosphate, nitrate and heavy metals — and the degree to which the current concentrations exceed specified standards. Risk management involves establishing the need for specific collective interventions, such as more intensive sewage treatment requirements or new technologies for disposing of solid wastes for reducing current and potential stressors and improving resource conditions. Risk communication involves sharing valid information about risks to residents, as well as potential costs and benefits of various strategies for risk reduction.

2.11.2. While some jurisdictions confine risk assessment to the analysis of specific proposed development activities (i.e., power plant construction, development of a fisheries

harbor), perhaps as part of an environmental impact assessment process, the PEMSEA approach assesses risks more systematically over a specified geographic area. Making RA the foundation of regional ocean planning is unique and innovative.

2.12. PEMSEA's risk assessment process provides both a useful technical analysis of site conditions — and successfully integrates the development of key capacities into the project design process.

2.12.1. The PEMSEA approach to risk assessment begins as part of a training project for staff and other key technical stakeholders. Those who participate in the training then contact other agency staff involved in data collection and management. They share their knowledge of RA and solicit data useful in developing the RA document. The RA plan is thus applied learning — an end in itself and an important part of staff capacity building. Participants are taught key concepts about RAs and methods of assessment and use them immediately in the development of an RA for their area. They thus learn the importance of RAs, how to develop such an assessment, and they begin to assess the availability and usefulness of data for RA purposes in their area.

2.12.2. The process of preparing RAs has an additional important impact: it communicates the importance of data collection, data sharing and careful technical analysis for management. The act of preparing the RA both communicates the importance of data collection and analysis for management. It also demonstrates a high standard of technical analysis that helps communicate the significance of good technical analysis in the ICM process.

2.13. Risk assessment preparation has helped develop networks of technical specialists at the ICM sites, Manila Bay, Bohai Sea and Gulf of Thailand.

2.13.1. The use of local multi-disciplinary working groups in the preparation of RAs has enhanced information-sharing and collaboration among local technical specialists. It also facilitated the participation of local experts in other ICM activities including environmental monitoring, IIMS and area/issue-specific projects. In most sites, this approach required more time than would have been the case had consultants been hired. However, working with a multi-disciplinary local team is a more sustainable and cost-effective way of building local capacity for RAs and strengthening the link between the technical experts and concerned management units.

2.14. Establishing the appropriate institutional mechanism for the long-term coordination of the management of pollution hotspots is a major remaining challenge.

2.14.1. PEMSEA has facilitated a comprehensive technical analysis and planning effort at each site. Technical Working Groups (TWGs) and other coordinative bodies have been established and are functioning. In Manila Bay, an institutional mechanism must somehow incorporate a large number of agencies and organizations at the national and local levels with legal mandates and interests in the Bay. Building consensus and political will are main factors for delay. A coordinating mechanism for the management of Manila Bay has been proposed, and a draft Executive Order creating a Manila Bay Council has been circulated for review and comment by the stakeholders. In the case of Bohai Sea, national legislation on environmental management of the Bohai Sea has been tabled at the State People's Congress. Its approval will facilitate the establishment of a regional coordination mechanism. In the Gulf of Thailand, the

focus has primarily been on addressing oil spill preparedness and response. The Partnership Agreement in Oil Spill Preparedness and Response in the Gulf of Thailand signed by Vietnam, Cambodia and Thailand in 2006 constitutes a major institutional achievement.

Immediate Objective 3: Capacity Building

2.15. PEMSEA has created a sophisticated strategy for building professional capacity that incorporates not only developing and nurturing necessary ICM skills and knowledge, but also focuses on strengthening ICM organizations and creating new institutions.

2.15.1. PEMSEA's ICM and capacity-building strategy incorporates all three conceptions of capacity building: skills transfer, organizational strengthening and institutional reform. Developing management skills and knowledge is the primary emphasis, but direct and indirect efforts to strengthen organizations and engage in institutional reform are also obvious. Skill building, such as training in ICM concepts or oil spill contingency planning, is a dominant part of the PEMSEA agenda. However, the distinction between simple skill building and organizational strengthening is not always clear-cut. Training in areas such as the design of IIMS, for example, is in one sense, skill building. The intention is to develop the knowledge and skills necessary to design, construct and maintain an information management system to support coastal management. However, a larger purpose of IIMS is to provide for a decision-support system that would improve the information basis for planning, investment and regulatory decisions in coastal and ocean management. Finally, capacity-building activities such as the training of national task forces to develop strategies for addressing land and sea-based activities contributing to ocean pollution or to set in place more systematic processes for monitoring, evaluating and reporting on national and local ICM programs constitute efforts to encourage institutional reform.

2.16. PEMSEA is successfully implementing a strategy of capacity building based on an emphasis on "adaptive management."

2.16.1. PEMSEA has developed a long-term, "adaptive management" approach to site-level ICM projects. Adaptive management encourages a problem-oriented approach to management and to capacity building. With regard to local ICM management, project staff begins with environmental profiles detailing local conditions and engage with local communities, government officials, NGOs and other stakeholders to identify key coastal issues and develop and evaluate strategies for addressing these issues. These management strategies are intended to be the most appropriate for addressing coastal resource conditions — and the local political and administrative environment. The notion of adaptive management assumes that as local ICM management strategies are implemented, new administrative or environmental problems may emerge. An "adaptive" capacity assumes that such problems can be correctly diagnosed and once identified, new or modified strategies will be developed that are better tailored to the revised understanding of local environmental, administrative and political conditions.

2.16.2. The RPO's emphasis on adaptive management in capacity building is manifest in the numerous modifications it has made in its basic ICM training module; modifications made to better respond to revised understanding of local management needs and

local staff skills and knowledge. The adaptive management emphasis can also be seen in the additional trainings for those engaged in designing and implementing the IIMS at ICM sites. The need for revised training became obvious as problems with regard to implementing the IIMS became evident.

2.17. The core of PEMSEA's capacity-building efforts is developing the necessary skills and knowledge for adaptive ICM management for which it has created a remarkable number and variety of training modules.

2.17.1. The major types of capacity-building activities carried out by PEMSEA are summarized in Table 2.

Table 2: Types and Participants in PEMSEA Capacity-Building Activities, 1994–2006

PROGRAMS	Number of PROGRAMS	Number of PERSONS
Pilot Phase (1994–1999)		
Training	18	248
Internship	8	8
Study Tour	7	57
Total	34	314
Second Phase (2000–2006)		
Training	72	1,419
Internships	14	14
UN Volunteers	1	1
Study Tour	8	185
Fellowships	2	2
Total for 2nd Phase	97	1,621
Grand Total	131	1,935

2.17.2. As Table 2 indicates, training is the major capacity-building strategy. During the period 1994–2006, 90 trainings were organized, offered or supported by PEMSEA including training on:

- ICM;
- Use of Geographic Information Systems (GIS);
- Marine pollution water quality monitoring;
- Oil pollution preparedness, response and cooperation;
- Integrated environmental impact assessment (IEIA);
- Implementing international conventions;
- Environmental risk assessment and natural resource damage appraisal;
- Chemical spill and port audit;
- Establishment of IIMS
- Coastal strategy development;
- Public awareness and participation
- Project development and management for coastal and marine environmental projects;
- Development and implementation of coastal-use zoning plan and institutional framework;

- Contingent evaluation and environmental resource valuation;
- Leadership in ocean and coastal governance;
- Integrating social science concerns into the ICM framework and programs; and
- Integrated Management System regarding port safety, health and environment.

2.18. PEMSEA's skill-building agenda is defined primarily by its own conception of the essential skill and knowledge "building blocks" of ICM and, to a lesser extent, by the expressed preferences of project staff.

2.18.1. As the list above indicates, PEMSEA has developed and offered a wide variety of training courses tailored to the needs of those responsible for designing and implementing ICM projects. As the programme matures, the needs of some sites have become more diverse and specialized — and thus there is some demand for more site participation in the development of the training agenda.

2.19. Those participating in PEMSEA's trainings regard them as both relevant and effective.

2.19.1. PEMSEA compiles evaluative comments from trainees at the end of each of their trainings. These ICM courses were designed to encourage participants (senior environmental and natural resource officers, coastal planners, managers and trainers) to develop and implement ICM programs within their respective countries. The participants from trainings held between 1995–1998 indicated that the ICM training did further participant understanding of the ICM system and its application and developed participant confidence in establishing an ICM program.

2.19.2. With regard to training and other capacity-building efforts, the larger question is how effective they are in promoting effective application of skills and knowledge on ICM projects and other activities. To answer this question, PEMSEA conducted a questionnaire-based survey. Eighty-five trainees responded to the survey**.** Ninety percent of those who responded had actually developed or assisted in the development of coastal management projects subsequent to the training. Generally, respondents felt that the trainings had succeeded in developing a positive attitude toward ICM. The respondents indicated a strong general understanding of the ICM approach, basic concepts and principles, but less familiarity with specific topics such as GIS and institutional relationships.

2.19.3. Respondents indicated that several of these topics/skills were not applied because of insufficient organizational capacity to make effective use of them. Respondents indicated that the ICM training course had significantly influenced or contributed to 38 ICM initiatives in the region. Nearly 60 percent indicated that they felt better prepared to meet the demands of coastal management. Finally, nearly all respondents (97%) found the ICM course useful and recommended that their colleagues participate in future ICM training courses.

2.19.4. This survey provides valuable insight into the effectiveness of ICM training during the first phase — as well as indicating possible directions for future ICM training. For a broader perspective on ICM capacity building, the quality of coastal management initiatives undertaken as part of the regional approach can be examined and the degree to which capacity-building efforts contributed to that success can be speculated.

2.20. PEMSEA's capacity-building trainings have been instrumental in developing the basic human infrastructure and "intellectual capital" needed for effective ICM in the region.

2.20.1. PEMSEA's trainings, particularly those related to ICM, are aimed primarily at local and national government staff of agencies implementing ICM programs and projects. Some of the more specialized trainings, such as those on port safety audits or oil spill contingency planning, may be directed toward more specialized staff in particular agencies with responsibilities in coastal areas. Other trainings, having to do with topics such as resource and environmental valuation, may include academics as well as agency staff. A total of 1,667 people have participated in PEMSEA trainings since 1994. This is an impressive number, even allowing for some double counting of people who participated in more than one training. It is not clear what proportion of the total of those who might be thought of as regional ICM professionals this represents.

2.20.2. Participants in training programs and workshops come from all over the region. Table 3 summarizes the geographic distribution of trainees during the second phase.

Table 3: Percentage of Participants in PEMSEA Training by Country.

Country	Phase 1	Phase 2
Brunei Darussalam	5	0.03
Cambodia	6	3
People's Republic of China	11	8
DPR Korea	6	5
Indonesia	13	9
Malaysia	8	15
Philippines	21	20
RO Korea	3	5
Singapore	3	0.18
Thailand	11	20
Vietnam	8	11
Others	5	4

2.21. PEMSEA's internship program has developed a cadre of effective ICM practitioners and advocates knowledgeable and supportive of PEMSEA's SDS-SEA.

2.21.1. The internship program provides an opportunity for young professionals to work in the RPO. The program provides opportunities for developing a variety of project management skills, but perhaps more importantly, interns can get more direct experience of the vision, philosophy and strategies for developing and expanding local and regional ocean and coastal management. In the second phase, ten interns participated in the program, including three each from Vietnam and Thailand, two from China, and one each from Cambodia and the Republic of Korea. In addition, there were four international interns, three of whom were from Canada and one from France. One UN volunteer also participated. The long-term professional impact of the program can be seen by examining the career trajectories of previous interns. For example, one of the interns in the first phase is now the Deputy Director General in the Ministry of Environment in Cambodia.

2.22. In addition to developing ICM skills, PEMSEA's capacity-building efforts are successfully strengthening the organizations within which skills will be applied.

2.22.1. While activities such as training, study tours, internships and technical reports form the backbone of its formal capacity-building efforts, how these efforts contribute to PEMSEA's organizational strengthening and institutional reform is significant. In addition to the skill development associated with ICM-related trainings, several ICM activities are designed in ways that have at least the potential of substantially contributing to organizational strengthening. For example, one of the first steps in the ICM development process is the formation of an interagency coordinating committee at each of the ICM sites. These PCCs are comprised of representatives from government agencies with management activities governing human uses and activities that affect coastal areas, usually involving agencies whose jurisdiction includes agriculture, planning, marine affairs, tourism, health, environment or fisheries. One of the interagency committee's prime functions is to coordinate all the related environmental management efforts in coastal and marine areas. To the extent that the committees have been successful, they have helped identify potentially conflicting policies or endeavors as well as opportunities for joint action. They have created the potential — and the practice — of sharing information, organizing deliberations on how to address particular resource-use issues and improving communications among agencies. This is one example of how the practice of ICM has helped build capacities leading to organizational strengthening.

2.22.2. These organizational strengthening activities help provide part of the basic infrastructure for sustained coastal management in the region. They form a critical part of an organizational context in which the individual skills and knowledge ICM practitioners gain in training can be continually applied. A systematic effort to build and sustain organizational capacity is one of PEMSEA's primary management legacies.

2.23. Institutional reform, the most complex component of PEMSEA's overall capacity-building strategy, is proving effective in a variety of settings.

2.23.1. Some of the capacity-building activities are directed at more fundamental institutional reform. Training on risk assessment, on port safety audits or oil spill contingency planning can be thought of as institutional reform. They are designed to encourage the substitution of new decisionmaking processes and standard operating procedures for addressing key ocean and coastal issues. The Gulf of Thailand Project provides a good example of institutional reform. With PEMSEA assistance and guidance, Cambodia has developed its own oil spill contingency plan. Fourteen agencies participated in the plan development process. The plan preparation process helped identify gaps and misunderstandings about agency roles and responsibilities in responding to a potential spill in the Gulf of Thailand. The plan is viewed as an "action-forcing" document. Trainings on responding to a simulated spill have already been conducted as a way of insuring clear understanding about roles and responsibilities in case of a real spill.

2.23.2. Beyond training, the PEMSEA emphasis on interagency partnerships, PPP and other institutional innovations are central to the notion of "integrated" coastal management. Such integration requires new habits of consultation, information sharing, planning and shared decisionmaking. The knowledge, skills, habits and dispositions associated with such partnerships are cultivated by PEMSEA in its trainings, but reinforced in

meetings, site visits, study tours and publications. The intention is to create new management procedures that are inclusive of relevant stakeholders, based on the best available technical information and wise precedents for future management actions.

2.24. PEMSEA's efforts to successfully capture, record and apply what is being learned about the design and implementation of effective ICM programs sets it apart from most donor projects.

2.24.1. PEMSEA has created a very substantial library of conference proceedings, training manuals, environmental assessments, site plans, technical reports, videos, PowerPoint presentations, CDs, case studies and other materials that document their activities in great detail. They also publish a substantial magazine, "Tropical Coasts." Many of these materials are accessible on their website.

2.24.2. The materials make it possible to trace the evolution of the design of specific site strategies or the reorganization and refinement of how ICM training is conceived. Detailed manuals on why and how to conduct port auditing, RAs, integrated information management and a wide variety of other topics and issues are also available. The editing and graphic design in published documents is generally superb.

2.24.3. Coastal managers in the region — and others interested in coastal management — thus have access to a substantial body of material and models that can be useful in the design or redesign of management programmes, in developing individual plans, strategies or decisionmaking procedures. Important documents are also available in local languages. Part of the value of this material is the consistency with which it reflects an overall vision of how ICM should be designed and implemented. Because PEMSEA promotes a particular strategic view of how ICM programs should be constructed, the careful consumer — one familiar with PEMSEA's strategic view — can view the individual site's environmental profiles, plans and other products as manifestations of the overall PEMSEA strategy.

2.24.4. If there is anything missing from this material, it is more explicit attention to the application of "adaptive management" in PEMSEA's work. What were the significant adaptations made by PEMSEA, both in the RPO and at the site level? How did the need for adaptation emerge? How were the needs assessed? How were new approaches or strategies developed? There's no explicit strategy for learning, although clearly learning has occurred. The RPO staff is a potentially great repository of "tacit knowledge" about designing and running site programs and special projects. There is much to be gained from a more systematic effort to collect and record their experience with specific organizational strengthening and institution-building efforts. Their capacity for "reflective practice" should be nurtured — and greater emphasis should be put on collecting and recording their "lessons" from practice.

2.25. The continuing success of PEMSEA's "adaptive management" strategy will require a more explicit approach to learning and knowledge management at the project site level.

2.25.1. Looking from the RPO downward to the project sites, one can see a clear strategy for ICM development. The ICM project development strategy is sufficiently explicit that one might even speak of a "blueprint" or "template" for local management. To the credit of PEMSEA staff, those terms work only in the most general sense. PEMSEA staff are well aware that the general elements of local ICM design, such as

environmental assessments, PCCs, stakeholder participation strategies, action plans and the like, will have to be carefully tailored to address the local environmental, political, and administrative conditions, as well as the capacities of local staff. Learning occurs and lessons are applied as site level problems develop and are addressed, usually with the assistance of RPO staff.

2.25.2. At the local project level, the strategy for learning and adaptive management is often less clear. For example, pilot and demonstration projects are a feature of most site-level strategies. These specific projects should be thought of as mini-experiments from which lessons can be extracted about whether to "scale up" to additional, similar projects and, if so, what the requisite requirements are for constructing successful projects. While these pilot and demonstration projects are often carefully and thoughtfully designed, the procedures for learning from them is often not explicit. For example, in Batangas a mangrove restoration project is being implemented at a site at which a substantial number of migrants have located, mostly in temporary shelters in the inter-tidal area. Water and sanitation facilities are lacking. The tides flush out some of the waste, but returns with additional plastic bags, packaging material and other flotsam associated with human settlements. What does this project suggest about how to incorporate semi-permanent settlements in mangrove projects? What, if anything, does it reveal about how to manage solid wastes in nearshore squatter settlements? Most importantly, what is the strategy for learning from this experience? It is not clear. Likewise, in Sihanoukville, a pilot solid waste management project is being developed to address the growing accumulation of solid and human wastes in a large non-tenured settlement. In another community, coastal fishers are being organized. Both are potentially important projects addressing significant coastal issues. Both lack an explicit strategy for extracting lessons for potential application in other settings.

2.25.3. A more systematic emphasis on learning from the management experience at each site might involve doing more of what already happens informally: reflecting on the meaning and implications of practice. Staff from the PCC, the RPO and other local agencies could meet once or twice a year to identify the perceived strengths and weaknesses of the local management activities of the last several months and to engage in dialogue about why some activities succeeded better than others and how management might be improved. The "lessons" from such dialogues might not be definitive, but the explicit practice of engaging in and recording reflections on management practice could enhance organizational learning and lead to improved management practice.

Immediate Objective 4: Regional Networks and Regional Task Force

2.26. PEMSEA has created networks of experts, of local governments, and regional task force of experts that, when taken together, firmly link the national demonstration and parallel ICM sites into a regional consortium and partnership. The regional networks of experts have provided a range of support services in coordination with the field activities.

2.26.1. The networks have proved highly useful in providing specialized skills training, generating reviews, information exchange and knowledge transfer. Effectiveness required merging of environmental monitoring and information networks with the Regional Network of Local Government (RNLG), and the legal experts' network with

the Regional Task Force of Experts (RTF). The networks have been used in making scientific advice available in packaged form, in obtaining advice and technical assistance in the context of verifications of priority issues and applications of risk assessments, and the development of related environmental monitoring programs. They have also assisted in the preparation of coastal strategies, the development of coastal-use zoning schemes, and in obtaining experts for training and analyzing specific problems. An IIMS has been developed and associated networking has been put in place. These actions have helped link the available regional expertise and expose this community to management activities and needs.

2.26.2. PEMSEA has successfully supported the use of modern high-technology communication tools, in establishing e-forums and building websites, including the PEMSEA website. The website interfaces with media through a media resource center and with the youth through a youth center. This generated a surge in hits, from about 6,000 in mid-2002 to over 235,000 in February 2004 (*Tropical Coasts,* vol. 11, no. 1, p. 65). The PEMSEA website thus clearly fills a need for environmental information dissemination and is an active and valuable source of information for a variety of stakeholders, including policymakers, resource managers, the private sector, civil society, and the academe. This situation stimulates the partnerships even further. The ICM sites likewise have their own websites, linked to an e-community network called Coastalinks, the aim of which is to establish a clearinghouse mechanism for ICM knowledge in the region. It will help disseminate lessons learned to all stakeholders throughout the region. Training workshops have been organized to help the sites get the websites into practice.

2.27. The RTF provided field technical assistance in critical issues related to coastal and marine management establishing interactions, cooperation, confidence and partnerships.

2.27.1. The pool of experts, from which the RTF members are selected, was established early on and RTF members have since been mobilized to enhance the skills of the local PMO staff. An RTF concept paper with information on operational modalities and a database of experts and RTF members and other networks were also prepared. RTF members are mainly young professionals from the Regional Programme and its partner organizations who are normally associated with work at the ICM sites. When necessary, they can go to the sites to assist local staff and others in conducting ICM project activities. Participating countries can ask for such assistance. The development of the Sihanoukville Coastal Strategy and ICM program is one example in which the RTF was helpful.

2.27.2. The RTF has been providing assistance through guideline generation on the analyses of critical local issues. An example is the tourism survey in Sihanoukville, that included the industry and its local and foreign customers. Based on this, the RTF specified guiding principles for sustainable coastal tourism development using ICM practices. Similar inputs have been provided in other cases, such as in Sukabumi. Assistance has been provided with respect to the development of the coastal strategy and ICM website, as well as the introduction of zoning schemes.

2.27.3. In initiating ICM parallel sites, partners have organized forums and workshop-type consultations where the participation of experts from the RTF has been used. Initial

risk assessments have been carried out with multidisciplinary local working groups and experts and the RTF. The process has also helped establish linkages with experts throughout the Region. In this way, regional advisory and analytical support services have been provided for implementation in the field.

2.28. The network of local governments by promoting information sharing and regional collaboration has generated commitments, mutual reinforcements, and linked the ICM sites into a regional partnership.

2.28.1. The development of a network of local governments has been a very important step. The network has firmly linked the PEMSEA national demonstration and parallel ICM sites into a regional network. The usefulness and efficiency of the network is demonstrated through the annual forums, which are hosted by the participating local or national governments on a rotational basis, facilitating sharing of knowledge, and exchange of experiences, expertise and lessons learned. This has gradually led to a collective commitment and effort in the region to achieve sustainable coastal and marine development. An agreement has been reached to pursue a shared vision under the framework of the SDS-SEA, which includes specific implementation targets committed to by the governments. This is one example of a major result of PEMSEA for which the Regional Network has played a significant role.

2.28.2. The network has generated due provision of recognition to the local governments that are successfully implementing ICM practices. The network serves as a mechanism for scaling up activities: obtaining enhanced commitments of local leaders, generating support and assistance from donors, co-financing, and developing cooperative programs. It stimulates the creation of local forums, such as the Shihwa Civil Forum in ROK, generating cooperation, and enhancing information exchange, transparency, accountability, public awareness and participation. Similar experiences are found in Batangas and in Chonburi Province. The network has provided stimulation to the local governments by noting that implementation of ICM practices is one means of responding to national policies and meeting challenges of decentralization in a proactive manner. The network has also in this way served as a mechanism to establish and increase political will. This is a key factor in developing finance mechanisms, and an enabling environment, including for public-private partnerships. The network has reviewed the institutional arrangements and provided insights for further developments in this respect. This effort has included exchanges with other regions where related arrangements have been put in place, e.g., Australia and Canada.

2.28.3. Through these reviews and regular exchanges, the network has further stimulated implementation of specific ICM practices, such as zoning schemes. The linking of the ICM sites has helped create a critical mass of sites and expertise in the region. This shows governments and communities solid results, in the form of socioeconomic and environmental benefits, as well as identified problems and lessons learned. The network has also demonstrated that political will and commitments have been generated through PEMSEA. This is further brought out by three more countries joining the Regional Programme voluntarily. The foundation and mechanisms to gradually achieve sustainable development of coastal and marine environments in the region now needs to be utilized and sustained through the implementation of the SDS-SEA.

Immediate Objective 5: Environmental Investments

2.29. PEMSEA has been at the forefront and has been aggressive in its efforts to create investment opportunities in support of ICM.

2.29.1. The other important way by which partnership with the private sector is being harnessed is through their direct investment in environmental enterprises such as solid waste management facilities and water treatment and sewerage systems. These can be undertaken as joint ventures with the local government units (LGUs), or through a build-operate-transfer (BOT) scheme or its variants. These schemes are particularly important in places where government resources are severely constrained, as is the case in the Philippines. Not surprisingly, the earliest efforts by PEMSEA in fostering PPPs in support of CRM have been undertaken in that country.

2.29.2. To this end, PEMSEA has organized various meetings and roundtable discussions to promote greater understanding and interest in the PPP mode of providing environmental services in support of ICM. These have succeeded in obtaining interest from potential private sector investors, leading to actual proposals/bids for specific projects in certain ICM sites. At the same time, local governments have benefited from greater understanding of their financing options for important infrastructure especially for waste management, and particularly how to pursue private sector investments in such facilities. PEMSEA has also directly acted as "matchmaker" in certain cases, helping bring potential private sector partners and local governments together to discuss and forge potential partnerships. Technical assistance in project development and documentation has also been provided in specific cases.

2.30. For reasons largely beyond PEMSEA's control, progress has been slow in getting PPP projects to reach actual operationalization.

2.30.1. There are inherent challenges in fostering PPPs especially in a situation where local governments can have a short lifespan, and planning horizons are consequently limited. The experience with attempts to push such PPPs in the Philippines, where local governments face elections every three years, is illustrative. In Bataan province, the process of negotiation and selection of a private sector partner for a proposed waste management facility was overtaken by a change of leadership in the provincial government. While the provincial government had gone through the process of identifying and evaluating eight private sector proponents for a sanitary landfill facility under the previous governor, actual selection of the firm was overtaken by the 2004 elections which resulted in the election of a new governor. The new administration has yet to move the project forward due to certain questions on the project's features. In San Fernando City, Pampanga, in the Philippines, a proposed solid waste management facility had reached the stage of actual identification of the private sector partner before the elections led to the election of a new mayor. However, the project has remained stalled due to difficulties in defining the appropriate mode of financing the project.

2.30.2. There is also built-in tension between the objective of promoting more PPPs, and that of promoting public welfare as these projects are put in place and operated. While the need to attract more of these types of investments is well acknowledged, it is also important to ensure that the services provided by the privately-provided facilities are available at reasonable and affordable cost. One of the biggest obstacles

to attracting stronger private sector interest in provision of sanitation and sewerage systems is the market uncertainty associated with the likely negative reception from the public for additional user fees. Thus it has been a challenge to attract private sector partners to go into PPPs for such facilities, which are a critical element in sound ICM Practices.

2.31. The need for a clearer legal framework to govern PPP investments has partly hampered progress in implementing such investments in support of ICM.

2.31.1. The other apparent obstacle to wider and faster promotion of PPPs in support of ICM is inadequacies in the legal framework governing them. The Philippines played a pioneering role in the 1990s by being the first to enact legislation (the BOT Law) to govern PPPs in public infrastructure. Most of the other countries in the region have yet to come up with a comprehensive legal framework to guide evaluation processes and contract provisions for such PPPs, thereby hampering adoption of this mode of provision for public facilities in support of ICM. In Danang, Vietnam, there was an expressed need for clearer rules and guidelines to govern PPP investments in ICM-related facilities.

2.31.2. Notwithstanding these hurdles to PPPs largely beyond its own control, PEMSEA is to be commended for its unrelenting efforts to (1) strengthen capability of local governments in its member countries to undertake such innovative partnerships, and (2) promote private sector interest in such arrangements through both forums and bilateral discussions. The most immediate objective is to attain successful operationalization of at least one such project at the local level, which could then serve as a demonstration project to encourage and educate other similar ventures. It may not be too long before such a viable demonstration project is finally achieved, given that several such initiatives are already in the pipeline, thanks to PEMSEA's vigorous efforts in that direction.

Developing and adopting policy, legal and financing program reforms to facilitate PPP investments is equally important, especially in countries where private sector participation in environmental infrastructure improvement projects is new or relatively uncharted. PEMSEA's strategy is to demonstrate the value of PPP as a viable option for providing on-the-ground facilities at the local government level and, as a consequence, stimulate and facilitate national government policy reform.

Immediate Objective 6: Scientific Research

2.32. PEMSEA has ensured that scientific inputs are used to support decisionmaking for coastal and marine management.

2.32.1. PEMSEA seeks to link science to management. Strong linkages have been established with research institutions, including universities. Cutting-edge issues are being addressed, such as biological effects monitoring using tested, screened bio-indicators, and eco-toxicology. Advisory groups of experts from required disciplines have been established to incorporate science in the decisionmaking and management. The scientific communities at the local level have been incorporated as partners in the ICM activities, and have helped in analyzing key coastal concerns. Site visits confirmed that the success of ICM implementation depends upon scientific

inputs. Training and exchanges have been provided. Through the ICM activities, the trainees have been given tasks and work.

2.32.2. The close linkage to scientific institutions has stimulated establishment of training centers for ICM at universities, including the international training center in Xiamen. The environmental monitoring and assessment programs have been developed based on scientific inputs, tools and data processing, including GIS, with quality control and storage. Data management procedures have been installed, and data bases created, with data reporting and data sharing (i.e., the IIMS is functioning).

2.32.3. One key to the strategy has been to build a core of local experts and professionals who are part of the demonstration site team, are utilized in the programme, and can be tapped for related activities in replication efforts. The strong linking of universities to the ICM projects has implied that the scientific communities are exposed to the needs of management and the significance of an integrated approach as regards the coastal environment. PEMSEA actions are thus linking the research communities to societal needs, without reducing the importance and freedom of cutting-edge basic research. This will also support and enhance the understanding for the need of integration of scientific results, and multi- and interdisciplinary research. In turn this will lead to improved conditions for science in the region. Several scientific issues have been analyzed through workshops, generating high-level training and educational material, e.g., on determining environmental carrying capacity and establishing data management and information services. A list of publications is provided in Annex 5.

2.32.4. PEMSEA activities have provided experiences and knowledge with regard to institutionalizing scientific and technical inputs to decisionmaking, policy specification and environmental management, and in partnership with the scientific community. It has generated a mutual understanding between the partners, and helped weaken an important barrier.

2.32.5. There is a need to maintain the considerable intellectual capital arising from PEMSEA activities. An effective knowledge management system needs to be put in place. The knowledge packaging, sharing and application need further refinement so as to help countries, the region and others to achieve sustainable development.

2.32.6. Stronger partnership and understanding need be developed between the scientific and management communities. This is best achieved at local level, as pursued by PEMSEA, by involving consistently the complete range of scientific expertise in addressing practical issues.

2.32.7. PEMSEA should expand and consolidate its current list of multi-disciplinary experts into expert networks and involve them more proactively as partners in problem-solving activities. The expert networks could interact with policymakers like their counterparts in the Baltic and Mediterranean.

2.33. PEMSEA has successfully recruited leading scientists of the region into the Multidisciplinary Experts Group (MEG) of coastal and marine experts.

2.33.1. The MEG has provided critical insights into the basic scientific issues facing PEMSEA, has supported the use of science as a tool for management and has stimulated research groups in the region to take up or strengthen research regarding issues of

an ecological and socioeconomic nature. It has stimulated interdisciplinarity and integration, as well as use of indigenous knowledge. The membership has been restricted but the required disciplines are represented, although the social science participation should be strengthened. This is expected to be achieved through the integration of social sciences concerns in the component.

2.33.2. While working on a reactive and demand driven basis, the MEG has provided considerable input to the scientific aspects of the SDS-SEA, including emphasizing the interconnectedness with regard to the ocean conditions in the region, the land-ocean-atmosphere interactions, the need to consider the ocean as a whole and to properly take into account the interactions between the environmental and ecological compartments, as well as those of the climate system. The realization of these complexities is a fundamental motivation for the regional approach and the formulation of the SDS-SEA. The need for updating socioeconomic and ecological information and bringing the new information into the adaptive management cycle has also been demonstrated and stressed by the MEG. It has brought out the importance of maintaining the balance and sustainability of the interactions between the ecological and economic systems, as specified in the ecological-economics paradigm. The MEG has recognized the significance of PEMSEA initiatives in this respect, particularly on: ecosystem carrying capacity; transboundary impacts of national economic activities; and trade-offs between economic development and ecological benefits. The MEG has supported the development of scientifically-based water quality criteria; biological indicators and use of biological effects monitoring; as well as the need to further develop required techniques for use in the region. It has also helped with RA/RM and IIMS, but has not entered into considering the usefulness of these tools for insurance and financial mechanisms. The MEG has stressed the need to ensure that these tools and environmental monitoring be pursued as part of a package for management. This has, in effect, been very much the PEMSEA strategy.

2.33.3. As a result of PEMSEA and other actions, scientific expertise and skills have become available in the region to support the implementation of the SDS-SEA. This was confirmed during the EAS Congress 2003 through the presentation of several studies with published reports (Annex 6), the Workshop on Skills and Expertise and the Meeting of Experts to Identify Requirements for Scientific Support for the Seas of East Asia, which included the MEG members. A special effort of PEMSEA is the interdisciplinary forum of leading scientists, including some from outside the Region, gathered at intervals at the City University of Hong Kong to address cutting-edge environmental research needs.

2.34. PEMSEA policy research studies have promoted an increased understanding of the scientific dimensions and the complexity of key coastal and marine issues and have demonstrated the need for obtaining and utilizing scientific information in sensitive and critical management actions.

2.34.1. Policy research studies have been utilized in the context of building PPPs (e.g., on waste management in Batangas); promotion of opportunities for such efforts; public awareness creation and education on environmental management; mobilization of public participation; and formation of public sector corporations. The policy research has brought out the need for obtaining and utilizing scientific information in management actions, including: creation of public and other user understanding of how the coastal environment functions on the basis of scientific facts; marine-zoning

schemes (e.g., Xiamen; land and sea-use zoning); establishing proper institutional arrangements, adoption and integration of coastal policies, and legal regimes; and decentralization of decisionmaking. The studies have demonstrated the need to have the scientific community involved with the management team as a partner.

2.34.2. PPPs have likewise been initiated as a result of the development of local or national coastal strategies. These new partners have understood the need for scientific inputs and specialized technical assistance on environmental problems. The core of local experts built through the ICM practices has then become very useful. Socioeconomic concerns have been included and the linkages to environmental conditions brought out (e.g., the Case Study on the Integrated Coastal Policy of ROK). This has demonstrated the requirement to take the scientific aspects into account, as in the ecological-economics paradigm. The importance of transfer and sharing of knowledge has been shown, and this has been implemented and achieved through the related networks.

2.34.3. Several analytical case studies have been developed using the networks and the MEG, generating reports which integrate scientific information and the experiences of PEMSEA into packages useful for management, decisionmaking and policymaking (see list of references in Annexes 5 and 6).

2.34.4. Policy briefs have been prepared, bringing out the need for national policies, also using the comparisons between the situations before and after the actions implemented at the demonstration sites as arguments that improvements can be achieved without slowing down economic development. These briefs have been used by authorities.

Immediate Objective 7: Integrated Information Management System (IIMS)

2.35. The PEMSEA ICM approach is successfully addressing the continuing need for a system that ensures the availability of valid information to support planning and management.

2.35.1. Improved ocean and coastal planning and management requires valid information about resource locations and conditions, potential impacts of uses and activities on resources, jurisdictional boundaries, pollution sources, land-use plans and many other variables. In most countries, data collection for coastal management is, at best, incomplete and uneven. Even when there are data collection efforts, the information useful for effective coastal and marine management is most frequently collected and stored in multiple agencies in a variety of formats for different analytic and management purposes.

2.35.2. The promise of PEMSEA's IIMS is that the data necessary for effective planning and management can be identified, collected, coded, verified, stored and made retrievable in a single system accessible to all coastal management users. Such a system requires agreements about what should be collected and by whom, how data will be accessed and used, and what security measures, if any, are needed. Such a system also requires system hardware, appropriate software and the skills to ensure effective maintenance and use of both. Finally, such a system requires the understanding of system purposes on the part of both information managers and users and appropriate incentives to ensure effective system maintenance and use.

2.35.3. To a remarkable extent, PEMSEA is facilitating the creation of individual IIMS at project sites that meet such requirements.

2.36. PEMSEA has a well-developed IIMS capacity-building strategy that is tailored to the conditions of each site.

2.36.1. Project personnel and members of the IIMS task teams representing participating agencies at the sites were given two training programs: basic training on information management using IIMS and the IIMS Query System; and linkage to GIS and other external software. The original project goal was to train three staff at each site. Ultimately 201 participants were trained at 11 sites. However, capacity remains a concern. Lack of previous experience with databases (or even computers, in some cases) and language issues are among the challenges. Translation of the IIMS software into Chinese, Vietnamese and Korean has speeded up encoding at those sites. Manuals, special tutorials for some data managers, cross-site visits and other demonstrations are contributing to increased capacity.

2.37. Information management systems are functioning at each site, although the types of management support they are able to provide varies among sites.

2.37.1. PEMSEA's strategy has been to "establish an IIMS for coastal and marine environmental assessment planning, monitoring and management. This would enable the PEMSEA sites, with an IIMS established, to use IIMS in facilitating planning, management and other activities. The availability of information in a format that can be used in these various activities will contribute to desired outcomes, which will then facilitate the attainment of the overall goal of PEMSEA."

2.37.2. Since the beginning of PEMSEA's program, a primary system design objective has been to refine the system software. In addition to improvements in system software, a second key element in the IIMS strategy has been to ensure that the sites have the required software and hardware. Software and hardware have been obtained for Bali, Chonburi, Danang, Klang, Sihanoukville, Nampho, Bataan, Batangas, Cavite, Manila Bay, and Bohai Sea.

2.37.3. PEMSEA's goals were to: a) establish localized databases at each site; b) develop an IIMS maintenance manual; and c) train key personnel at each site. All 11 sites established local databases, but the level of use varies. Chonburi, Sihanoukville, Nampho, Batangas, Bataan and Cavite only have databases. Bali, Danang, Klang and Bohai Sea have linked databases to GIS. Manila Bay has linked its database with both GIS and predictive models. Databases are being continuously updated. Two manuals —*The Guide to Establishing IIMS* and the *IIMS User Manual* — were developed. Sites have also developed sustainability plans indicating how they will sustain and update the system.

2.37.4. The ultimate test of an information system is its usefulness in supporting planning and management. The Phase II goals for the IIMS were modest: a) site-specific demonstrations; b) preparation of technical reports; and c) preparation of executive briefs to distribute to relevant decisionmakers. Most sites are using IIMS for data storage. A few have used the data for specific applications such as RAs, coastal strategies and implementation plan development, resource valuation and gender analysis. Oil spill contingency analysis is being done for Manila Bay. Two papers are being prepared to illustrate potential IIMS applications: *Enhancing Coastal and Marine*

Management through Effective Information Management and *Applications of IIMS in Manila Bay.* PEMSEA staff believe that ultimately the IIMS will be sufficiently accessible and understood to serve as a decision-support system. Progress is being made, but effective use of the systems to support planning and management is occurring at only a few sites.

2.38. Project sites are developing plans to sustain their IIMS projects.

2.38.1. Information systems frequently take time and project resources to develop. Even when mature, their importance as an aid to planning and management is frequently not fully understood by many of the agency personnel who might be expected to make the most effective use of them. Potential users too often have limited knowledge of how to access and use the system. This is a challenge to effective, information-based planning and management everywhere. Because of the frequent gaps in training and disposition and responsibilities between information managers and potential users, information systems are vulnerable to budget cuts and other forms of administrative marginalization. PEMSEA has wisely mandated the preparation of sustainability plans for all the project sites under contract, and they have complied. Institutionalization is already occurring. In the Manila Bay project, the Department of Environment and Natural Resources (DENR) is taking over the system. Similar plans for incorporating IIMS in existing management agencies are occurring at Danang, Bali, Nampho and Bohai Sea.

2.39. A regional network linking ICM sites and pollution hotspots is being developed.

2.39.1. The IIMS software has been upgraded into a web-based IIMS version and a manual has been produced to guide users in uploading and accessing data. The software was tested at the Manila Bay site. Data can now be uploaded and accessed on the Internet from the three regional DENR offices. The Manila Bay Area Information Network was formed and institutionalized at DENR Regional Offices and the Environmental Management Bureau as the setting for implementing the network. Training for the web-based version was provided for 32 staff from Manila Bay and Bali. The Bali office is also uploading the Bali IIMS onto the Internet where it can be better accessed by provincial and regency agencies and academics. The Nampho ICM project is forming an IIMS network among 18 agencies to facilitate the sharing of information and to improve information management.

Immediate Objective 8: Civil Society Mobilization

2.40. The hallmark of PEMSEA's approach to achieving effective management of the seas and coasts of East Asia is summed up in its first name: Partnerships.

2.40.1. That the various sectors and stakeholders in society must work together to attain true sustainability had long been recognized and asserted in Agenda 21 from the 1992 Rio Earth Summit, and reaffirmed in the Johannesburg World Summit on Sustainable Development (WSSD).

2.40.2. The distinctive value in the PEMSEA ICM approach lies in the way it provides for both horizontal and vertical integration in the work to promote protection and management of the seas and coasts of the region.

2.41. The horizontal integration achieved by PEMSEA has been more inclusive and comprehensive than that attained in other similar initiatives.

2.41.1. Horizontal integration occurs across the major stakeholder groups (government, civil society and private business sector) and within each group. On the government side, for example, PEMSEA ICM sites bring together the various relevant agencies and offices both in the coordination mechanism (i.e., the Programme and site coordination councils) and in the implementation of specific projects and activities within the Programme.

2.41.2. Various key sectors of civil society are likewise involved in the work of managing the coasts and seas. These include NGOs and POs, the academe, church and religious groups, youth (usually through schools and colleges/universities), women, media and the local communities themselves. The deliberate inclusion of media as a key partner is significant: much of the challenge in promoting sustainable management of the seas of East Asia is in informing, educating and communicating to the general public. Clearly, various mass media institutions and journalists are critical partners in this endeavor, along with schools, colleges/universities, and church and religious organizations.

2.41.3. As indicated earlier, private firms have also been effectively tapped as important partners, particularly to provide financial, logistical and physical support for various activities within the Programme. Their participation is provided either separately through individual firms' commitment of funds, projects or personnel (e.g., for coastal cleanup or mangrove reforestation activities), or through pooled support via an organized foundation, like the Batangas Coastal Resources Management Foundation or BCRMF, and the Bataan Coastal Care Foundation or BCCF, which are both in the Philippines. The challenge is to sustain support from the private firms (e.g., Cavite for a Sustainable Environment Inc. or CASE began with 16 member firms but active membership has reportedly dwindled down to four firms) whose level of support and extent of involvement may be influenced by economic downturns that impinge on the firms' operations and profitability.

2.42. Effective partnerships have been well established at the technical and working levels.

2.42.1. There is clear evidence of well-established working mechanisms and coordination at the technical and working levels in the various ICM sites and marine pollution hotspots assisted by PEMSEA. Effective teamwork has clearly been achieved in most cases, via the project coordination councils, site coordination councils, and informal coordination mechanisms among the various government agencies and stakeholder groups concerned. These strong coordination arrangements that have been achieved at the technical and working levels are a source of confidence on the part of the evaluation team that the good work that has been accomplished can be sustained: 1) through changes in political leadership, and 2) beyond termination of external funding support.

Immediate Objective 9: Coastal and Marine Policy

2.43. A valuable feature of the PEMSEA approach is in the way it provides an effective combination of "top-down" and "bottom-up" impetus to policymakers to secure their "buy-in" and commitment.

2.43.1. Initiatives like ICM are most effective when there is an active champion who is able to inspire and mobilize action from the various partners in the endeavor. Usually it is the political leader in the area who would be the logical and most effective person to play this role. Thus, notwithstanding the good teamwork that has been achieved as described above, it has been commonly expressed in field interviews that support from the political leaders (i.e., local and national) is crucial, and can be either an obstacle when lacking, or a significant boost when present.

2.43.2. The PEMSEA approach is able to address this particular concern very well in the way it is able to provide an effective combination of top-down and bottom-up impetus to political leaders and policymakers whose decisions can make or unmake sound management of the seas and coasts of the region. The top-down pressure comes from the international pressure generated by the presence of a coordinating office (i.e., the RPO) that constantly monitors progress and assists in addressing possible implementation hurdles in the various project sites. Another key component of the top-down impetus is the mandate provided by the Putrajaya Declaration and the commonly-adopted SDS-SEA, which forces national and local governments to adhere to commitments agreed to, regionwide. There is also an important impetus provided by the PEMSEA Network of Local Governments (PNLG) particularly to the local executives. One clear manifestation of this is the way the new provincial governor of Bataan was reportedly convinced of the importance of the ICM initiative upon his attendance of the Bali meeting of the PNLG in 2005. While his province's parallel ICM site was established under his predecessor, his own "buy-in" was firmed up upon meeting with his counterparts in the rest of the region in the Bali meeting, and upon appreciating the much wider context of the initiatives in his province. On the part of national government officials, impetus is provided by the regular conduct of Programme Steering Committee (PSC) meetings, which makes it necessary for them to be able to share progress and substantive accomplishments in this regular forum.

2.43.3. On the other hand, the well-working teamwork, coordination and integration of efforts at the technical and working levels has provided a strong impetus for the political leaders from the bottom up. A leader cannot help but endorse an initiative that is seen to be already working well and has had substantive accomplishments as driven by dedicated workers at the operational level. The Governor of Batangas Province, for example, attests to how the drive, competence and effectiveness of the Provincial Government's Environment and Natural Resources Office (PG-ENRO) and its effective coordination of the Batangas coastal management program has convinced him of the critical importance of the PEMSEA-initiated ICM project in his province. This has in turn won his full support for the Programme, which the PG-ENRO and the PMO cite as very important for the continued progress of work in the Batangas ICM program.

2.44. PEMSEA has been instrumental in the integration of ICM principles and strategies in the national policy frameworks of member countries.

2.44.1. The effective balance of top-down and bottom-up impetus as described above has facilitated the integration of ICM principles and strategies into the national policy frameworks of PEMSEA member countries. China, for example, has already promulgated its Ocean Agenda 21 and its National Law on Sea-Use Management. Indonesia and the RO Korea have seen it fit to establish a separate and integrated

ministry dedicated to ocean and marine resources. RO Korea also has its Ocean Korea 21 and a Coastal Management Act that spells out national policy on the oceans. The Philippines, Thailand, Japan, Malaysia and Vietnam have adopted or are working towards a comprehensive national coastal and ocean policy.

2.44.2. There is likewise increasingly wider adoption of coastal zoning as an important management tool for ICM in the region, the usefulness of which has become well-established in PEMSEA ICM sites.

Immediate Objective 10: Regional Mechanism

2.45. The SDS-SEA initiated by PEMSEA provides a dynamic and useful regional framework and collaborative platform for regional cooperation and partnerships in regional coastal and ocean governance.

2.45.1. PEMSEA has successfully completed the SDS-SEA in collaboration with 16 national, regional and international collaborators and has the regional strategy endorsed by the 12 participating governments through the Putrajaya Declaration of 2003. This is a milestone achievement as it is the first regional marine strategy with framework programs consisting of 227 action plans covering local, national and global environmental and sustainable development concerns ranging from fisheries to climate change. The framework provides opportunities for concerned governments and international and UN bodies to collectively address national and regional concerns. PEMSEA has thus provided the much needed leadership role to make this collaborative framework possible.

2.45.2. The SDS-SEA implementation is indeed a challenge to all stakeholders of the region. Its endorsement by the participating governments and the collaborating partners demonstrate the political willingness and the perceived values inherent in the strategy for synergies and collaboration among the partnering stakeholders.

2.45.3. The SDS-SEA is a quality document, being: comprehensive (from problem identification to policy reform, institutional arrangement and management actions); relevant (Agenda 21, WSSD, MDG); holistic (pollution, climate change, land degradation, river-basin to coastal seas management); strategic (responding to key concerns at the local level, as well as cross-sectoral and cross-boundary concerns) and integrative (policy and functional integration from watersheds to coastal seas). The SDS-SEA allows the integration of sectoral strategies and action plans of line agencies and projects and programmes within its general framework, and clearly identifies roles and responsibilities of international and regional ocean-related bodies, projects and programmes, such as IMO, IOC, UNEP, COBSEA, SEAFDEC and NACA. It is undoubtedly a vehicle for intergovernmental, interagency and multi-sector partnerships and collaboration.

2.45.4. The SDS-SEA is different from many other marine-related strategies in that it builds upon the foundation of PEMSEA-tested local management actions, methodologies, and capacities in coastal and ocean governance. This not only serves to develop confidence in integrated management of coastal areas and the coastal seas, but also promotes national government commitments in terms of legislation and policy in scaling up demonstration activities to national and regional levels.

2.45.5. Substantial intergovernmental, interagency and multi-stakeholder consultations were undertaken at the national and regional levels in developing and achieving consensus on the vision, missions and action programs of the SDS-SEA, leading to its endorsement by the 12 participating governments and 16 key national, regional and international organizations. The consultative process has also served the region well with regard to buy-in and ownership by countries and major stakeholders since the signing of the Putrajaya Declaration, as evidenced in many areas, some of which are highlighted below:

- formulation and adoption of the Programme of Activities for the Implementation of the SDS-SEA by participating governments, including time-bound targets for national coastal and ocean governance policy, as well as ICM program coverage of the region's coastline;
- drafting and adoption in principle of a Partnership Agreement and Partnership Operating Arrangements, giving definition to the intergovernmental, multi-sectoral regional coordinating mechanism to oversee the SDS-SEA implementation, and identifying the roles and responsibilities of the partners within the operating arrangement;
- submission of proposals of financial support for the start-up and operation of a PEMSEA Resource Facility Secretariat;
- development of a Strategic Partnership with World Bank and UNDP, covering investments in pollution reduction in the LMEs of East Asia;
- signature of a Framework Programme for Joint Oil Spill Preparedness and Response in the Gulf of Thailand, by Cambodia, Thailand and Vietnam; and
- adoption of the Bali Resolution on the Establishment of a PEMSEA Network of Local Governments for Sustainable Coastal Development.

2.45.6. Another feature of the SDS-SEA is the provision of a suite of indicators for countries and their partners to track progress towards desired outcomes and changes, including process, stress reduction and impact indicators. The strategy also identifies monitoring and reporting responsibilities at the local, national, subregional levels, including inputs from private sector, academe, and civil society. Countries have indicated the seriousness with which they regard monitoring and reporting. A State of the Coasts (SOC) reporting system has been confirmed as a means of collating, analyzing and reporting on the performance of countries and other stakeholders in meeting the objectives and targets of the SDS-SEA. An SOC report will be produced and published every three years, and will be a principal reference document of the triennial Ministerial Forum and East Asian Seas Congress.

2.46. Existing efforts in developing the partnership arrangements has formed the basis for formalization of a regional institutional arrangement.

2.46.1. The adoption of the Putrajaya Declaration by the Ministerial Forum on SDS-SEA and the subsequent work to put in place operational arrangements for SDS-SEA implementation provides a sound foundation for the formalization of a regional institutional arrangement. The current proposed implementation arrangements will be formalized through a Partnership Agreement and Partnership Operational Arrangements on Implementation of the SDS-SEA. A PEMSEA Resource Facility (PRF) will be established to provide secretariat services and policy and technical

services, a partnership council to allow a forum for all partnering stakeholders to discuss collaborative activities and a partnership fund arrangement to receive financial contributions. The mechanism includes a triennial State of the Coast Report and an EAS Congress, which also features a Ministerial Forum. These basic elements have become the integral part of a dynamic regional arrangement that has yet to be tested in terms of operation.

2.46.2. The preparatory process of SDS-SEA has also included a review of regional mechanisms within and outside the EAS region. While economic and environmental benefits are the major motivations for regional cooperation, the effectiveness and sustainability of a regional ocean governance regime is highly dependent on a reliable source of funding. A legal instrument to formalize a regional mechanism may not be a prerequisite for success. Experiences from several other regions show that a regional convention does not at all guarantee success in achieving the goals. A review of existing regional mechanisms for coastal and ocean governance in the seas of East Asia concluded that greater planning and interaction between different sectors should be ensured; that the multi- and interdisciplinary approach must be emphasized; and the lack of financial resources and legal personality should be addressed. These results were utilized in the SDS-SEA preparation.

2.46.3. The uniqueness of the proposed PEMSEA implementing mechanism is that "partnership" is placed at the center of all forms of regional, national and local level cooperation. This approach is a departure from the standard conventional or non-conventional approach, which is primarily centered on "governments."

2.46.4. PEMSEA's partnership approach has proven to be effective in strengthening coordination of efforts, nationally and internationally, with firm political commitments. Such coordination is conducive to strengthening joint efforts in the implementation of international instruments that could contribute to reversing the trends of degradation and unsustainable development as well as improving safety and security at sea. Over the past 12 years, the region has seen an increasing commitment of the participating governments in the ratification of international conventions — from 51 in 1994 to 93 in 2004.

2.46.5. Cooperation, coordination and partnerships with other regional mechanisms have been pursued, including through scientific needs, e.g., with ICES; UNEP Regional Seas; and LME projects. The interactions have generated exchange of knowledge, experiences, as well as helped create groups or meetings to address cutting-edge problems of scientific nature.

2.47. PEMSEA has created the needed political and economic opportunity for regional cooperation through stronger buy-in of the participating governments and partners.

2.47.1. The number of countries participating in PEMSEA has increased from 12 to 15 with the entry of Myanmar, Lao PDR and Timor-Leste. The increase in geographical coverage is brought about by the need to incorporate all concerned countries in the region but more so of the increased political and economic opportunities created through improvement of environmental quality, increased investments and perceived ultimate improvement in the quality of life, as demonstrated in some of the PEMSEA ICM sites in the region.

2.47.2. While there is a recognized need for financial resources to arrest the rapid degradation of environmental quality and habitat restoration, PEMSEA's stepwise approach in coastal and ocean governance enables participating governments and partners to consolidate and pool resources through improved coordination at all levels and effective use of existing resources.

2.47.3. That PEMSEA was able to secure a stronger commitment from the Governments of China, Japan and ROK to commit financial resources to support the proposed PRF, and from the Government of the Philippines to continue hosting the RPO with expanded facilities, speak for the increasing buy-in of the participating governments. The active involvement of more than 30 institutional partners in co-convening the international conference for the EAS Congress 2006 speak for the synergistic and catalytic effects of PEMSEA in mobilizing regional and international partnership.

2.47.4. The ability of PEMSEA to develop a strategic partnership with the World Bank in pollution reduction also demonstrates the economic opportunities that can benefit from partnership arrangements.

2.48. The development of national coastal and ocean policies by participating governments and the efforts to scale up ICM will add momentum to the establishment of a formal regional mechanism.

2.48.1. PEMSEA has demonstrated the cost-effectiveness of ICM application and many countries in the region have already begun to replicate this working model throughout their coastline (e.g., China, Vietnam, Philippines, Cambodia) with corresponding efforts to support coastal and ocean governance through the development of national coastal and ocean policy or legislation (e.g., China, ROK, Thailand, Indonesia, Malaysia, Vietnam). The increased efforts in coastal and ocean governance in the last decade have greatly enhanced public awareness and interest to safeguard the life-support systems of the coasts and oceans.

2.48.2. Nevertheless, PEMSEA's current approach and level of effort is not sufficient to meet the objective of ICM coverage of five percent of the region's coastline by 2010. To achieve this target, it is essential that national governments develop and adopt policies in support of ICM scaling up, build a critical mass of ICM sites and expertise using good practices developed from PEMSEA's demonstration projects, and engage local governments as partners in the development and implementation of national ICM programs. Promoting ICM as planning and management framework for biodiversity, fisheries, ports, and ecotourism and extending the geographical coverage from river-basin to coastal seas as well as for poverty reduction in the coastal areas will also provide a stronger incentive and geographical basis for scaling up.

2.48.3. The momentum that has been generated by PEMSEA is instrumental in motivating national, regional and international efforts in promoting the concept of sustainable development for the seas and oceans. This momentum is critical in accelerating the political will and management actions of the governments and partners to implement the SDS-SEA.

2.49. Overcoming Challenges to the Implementation of the SDS-SEA.

2.49.1. Beyond the rhetoric of regional collaboration, implementation of SDS-SEA is a challenge especially when the funding support from GEF winds down. The key to the successful and sustainable implementation of the SDS-SEA is the regional partnership mechanism that is being forged among the PEMSEA participating governments, international agencies, donors, private sector, NGOs, user countries, and other concerned stakeholders. While the partnership approach to governance of regional oceans is innovative and unfamiliar to many, it offers many advantages, such as:

- the formation of an EAS Partnership Council will enable stronger and longer term commitments among the governments and their partners, as the implementation of the SDS-SEA fulfills international, regional and national objectives and mandates of governments and many partnering organizations;
- the organization of a triennial Ministerial Forum provides senior government officials the opportunity to review the progress and impact of the SDS-SEA implementation programme, and to renew their countries' commitments to the sustainability of the regional ocean;
- the conduct of a triennial EAS Congress will improve linkages among related regional programmes and projects and ensure the transfer of lessons and good practices among managers and practitioners in different countries; and
- the transformation of PEMSEA Regional Office into a PEMSEA Resource Facility (PRF) will allow multi-source financing for SDS-SEA-related projects, other than GEF.

2.49.2 GEF funding is essential as a catalyst to build upon and strengthen the regional partnership mechanism that has been established under PEMSEA. While there are admirable commitments from China, Japan, RO Korea and the Philippines in providing major funding and facility support to the Secretariat and a few other participating nations making in-kind contributions, long-term sustainability of the partnership will depend on the capacity and willingness of the partners to work together to meet the targets and objectives of the SDS-SEA over the long term. The estimated commitments of countries, international agencies and institutions, donors, private sector and NGOs to activities under the SDS-SEA framework are currently of the order of $3 billion to $4 billion, but it is evident these activities and the benefits being derived are not widespread among countries, or in some cases within countries. The GEF funding provides the means to achieve equity among partners in the governance of the East Asian Seas, and to confirm the value of the regional partnership mechanism as a viable means of governance.

3. PROJECT MANAGEMENT

3.1. GEF Evaluation Criteria.

3.1.1. Implementation Approach

3.1.1.1. Effective programmes are based on an explicit set of assumptions about how programme inputs and activities are designed to result in intended outcomes. One of the most salient features of PEMSEA is the detail with which the assumptions on the establishment of effective site level ICM projects and regional collaboration strategies have been developed, tested and refined. The PEMSEA implementation strategy includes:

- stakeholder consultations at each site concerning key environmental and socioeconomic issues, including land-based activities, and use and user conflicts affecting the coastal environments;
- the development of a PCC composed of personnel from key agencies with coastal management responsibilities;
- a heavy emphasis on building ICM skills and knowledge and strengthening organizations;
- crafting and adoption of a coastal strategy, with the shared vision for sustainable coastal development, and identification of the missions of various stakeholders, the strategies and action programs that would address the issues, and the roles and responsibilities of each key sector and agency;
- the preparation of a coastal environmental profile and other technical studies, including risk assessment; and
- the identification and formation of key partnerships.

3.1.1.2. Agency and community involvement, as well as public awareness campaigns, are critical parts of the PEMSEA design and implementation strategy. The continued dialogues through partnerships and participation have created a sense of ownership, and strengthened political will and commitment to the Programme. These also helped reduce and resolve conflicts and laid the ground for long-term collaboration with cost-effective and socially acceptable solutions to the identified problems. The approach also has broken down or weakened some traditional barriers and helped create trust and confidence.

3.1.1.3. The logical framework of the Programme is based on the achievements, issues and lessons learned from the GEF Pilot Project activities together with an analysis of the major environmental issues of the region, the causes, baseline conditions and alternative courses of action. A central feature of PEMSEA's implementation program is building partnerships to achieve a sustainable, longer-term path to environmental management. The partnerships have been initiated through generation of the shared vision followed by capacity building at local levels using locals to the extent feasible, providing techniques, technical and scientific advice, tools, catalytic funding, and identification of participants and recipients. It has

basically been a bottom-up approach that involved the local government and its leadership.

3.1.1.4. The logical framework has been followed, but has been tailored to the unique characteristics of sites and the diversity of the region. The longer-term perspective has been secured through the close involvement of the governments and authorities at local and, as appropriate, at the national level. The adaptive approach and management is demonstrated through the successful implementation in very different political settings and national legal systems, with decentralized governance in some cases and strongly centralized ones in other cases. Very effective partnerships have been established in all cases, with resulting local ownership.

3.1.1.5. Another important part of the implementation strategy has been the networking involving a wide range of participants. Technical analysis is a key component of the PEMSEA strategy. Scientific communities have been linked to sites at local levels as partners in analysis, planning and management, and at regional levels through networking and regional expert groups. The results of the monitoring and evaluation activities have been utilized in adaptive management, knowledge transfer, and specifications of dedicated systems such as the IIMS. The recommendations in the Mid-term Review have been implemented to the extent possible.

3.1.1.6. Identification of participants, recipients and stakeholders at local levels through the conduct of consultations to generate consensus on a shared vision, and the creation of partnerships, including local NGOs and community groups, have stimulated communication. The locals have been encouraged to develop and use an active communication plan. This has generated trust, transparency and accountability and helped improve equity and fairness.

3.1.1.7. The Programme has also stimulated this whole process through its publication and the generation of an active, regularly updated website. The high-level and diversified publication, *Tropical Coasts*, has generated very good visibility for PEMSEA at all levels. The EAS Congress 2003 confirmed this and has cemented it. The media have been successfully informed and cultivated in distributing information, creating awareness and raising the profile of PEMSEA — and the issues it seeks to address. An example is the Media Forum on Partnerships in Environmental Communication at the Congress 2003, and the resulting interest of the media. A media resource center has been established in PEMSEA's website where relevant information is posted from time to time.

3.1.1.8. PEMSEA also has been given strong recognition outside the region. This is confirmed by the participation of PEMSEA, by invitation, in global conferences, as well as invitations to the Regional Programme Director (RPD) and staff to present PEMSEA in other countries and regions. Exchanges, and in some cases, cooperation, have been established with other regional organizations, including European and North American ones, and with the UNEP Regional Seas Programme and Large Marine

Ecosystem (LME) projects. Throughout the implementation of the Programme, the guidance of the Programme leadership has been very essential in building PEMSEA towards a sustainable development institution. This is demonstrated in many ways.

3.1.1.9. It is worth noting that the Programme has been able to involve high-level participation such as former heads of states, ministers and heads of UN and regional organizations, and CEOs of business communities. At the local level, this has been matched by the concerned governors, mayors, leaders from the communities, NGOs and other civil society. Processes and programs are locally and regionally driven. The confidence of the IMO in the decisionmaking processes at the RPO has been a very important positive step to make this possible.

3.1.1.10. The following constraints in programme implementation are noted:

- the limitations of the RPO as regards staffing;
- the initial limitations as regards capacity of the local professionals at the sites;
- the limited active technical support of the Executing Agency (although its decentralization approach has been a blessing);
- some language barriers; and
- some gender problems in some countries.

3.1.1.11. The political setting and government structure in some countries with respect to centralization or decentralization has, in some cases, been a problem, which were overcome by flexibility and adaptation. Through the development of many activities, and the synergistic effects of success, the management has become quite complex with great demands on the technical expertise and staff time of RPO and the leadership of the RPD. The situation has been successfully handled through a pragmatic approach using decentralization, relying on very dedicated staff and on non-interference from the outside as long as the process worked, which has so far been the case.

3.1.1.12. The implementation approach is considered highly satisfactory by the Evaluation Team.

3.1.2. Country Ownership

3.1.2.1. The emphasis on local ICM projects that address local coastal issues has often generated active community participation usually manifested through the development of a shared vision and action programmes for the sites. Local governments and stakeholders demonstrate a strong sense of ownership and commitment. The success of the local ICM practices, particularly in Bali, Batangas, Danang, and Xiamen, has generated national interest. The ICM practices have been gradually incorporated into national development plans (e.g., China) and legal systems (e.g., China, Vietnam, Indonesia, Malaysia and ROK) as part of governance. There is, however, a need for further attention to the integration of the ICM outcomes with socioeconomic planning and

development, and to the valuation of the benefits. Recognizing that PEMSEA's focus has been on ICM implementation at the local government level, it is apparent that not all central governments have the same appreciation of the potential value of an integrated management approach with regard to improved coasts and ocean governance. Additional effort is required to package and present the outcomes of ICM projects to policymakers at the national level, with a view to strengthening ICM scaling up programs and supporting initiatives across participating countries.

3.1.2.2. Through strong partnership developments, networking, institutional linkages, and pro-active communication, the policymakers and decisionmakers have been incorporated into the system of governance, which strengthens their sense of ownership of the Programme. Research institutions and universities have been linked to the local sites and through regional networks. NGOs have adequately participated at the local level. Efforts to achieve stronger cooperation and coordination with other regional organizations as well as other ongoing projects/programmes in the region are being made (such as Yellow Sea, South China Sea project, IW:Learn, COBSEA, FAO, UNEP-GPA, CMC, OPRF, Nippon Foundation, etc.). Through intergovernmental partnership building, PEMSEA has facilitated an atmosphere of cooperation, mutual understanding and trust. This has contributed immensely to regional ownership of the regional programme. The relevance of the results of PEMSEA has been demonstrated beyond doubt, perhaps in particular, through the inclusion of ICM-related practices in national directives and adjustments in legal systems, as in governance. The sustained financial commitments are well-presented through replication efforts in parallel sites, in scaling up efforts, and in ministerial declarations. PEMSEA has provided only catalytic support to the parallel sites, in the form of technical advice, access to information and training, as well as membership in the RNLG. The international recognition of PEMSEA and the ICM sites have also enhanced the possibilities to obtain environmental investments through better access to interested investors and financial institutions.

3.1.2.3. The Team finds the approach highly satisfactory.

3.1.3. Stakeholder Participation and Public Involvement

3.1.3.1. A basic part of the Programme strategy is the development of a shared vision for change and sustainable development. Stakeholder participation is a key component in developing that shared vision and commitment. Participation begins with the designation of the PCC composed of representatives of agencies with coastal responsibilities. The PCC sets the policy direction for the ICM site, helps set policy priorities and addresses key coastal conflicts. At some sites there are also TWGs to address scientific issues. Most sites hold community forums and workshops as routine component of their planning and programme design activities. Each site also develops a public awareness plan that may include mailers about the project, poster contests, videos, special components in high school curricula and many other elements. The result, as previously noted, is a high level of understanding and commitment to the project at all levels

of society. Another form of partnership is being developed between the public and the private sector on the design and development of environmental improvement infrastructures.

3.1.3.2. As a whole, there has been achieved a vertical as well as a horizontal integration of stakeholder participation: vertically from governments to municipalities and communities, and horizontally across municipalities in a province participating in the ICM implementation, and across stakeholder groups such as civil society organizations and the private business sector. One possible scope for improvement would be enriching the participation of the youth through more direct representation in planning and coordination mechanisms such as the PCCs and Site Coordinating Committees (SCCs). Youth should also be incorporated as an important target sector in PEMSEA'S future network. The network mechanism could be more aggressively pursued using the "cell model", starting at the local level and progressing through provincial, national and regional levels (e.g., EAS Congress Youth Forum).

3.1.3.3. Stakeholder participation is judged highly satisfactory by the Evaluation Team.

3.1.4. Sustainability

3.1.4.1. Over the past decade, PEMSEA has helped enhance the technical skills among a large cadre of professionals, the knowledge of key ICM concepts, the institutional foundations and the understanding and political commitment needed for sustainable programme activities at both project site and regional levels.

3.1.4.2. The SDS-SEA is the primary expression of PEMSEA's strategy for sustainable resource use and approach to promoting sustainable coastal management practices. The SDS-SEA was developed through a series of meetings, workshops and consultations involving governments at local and national levels, community groups, scientific communities, public and private enterprises, NGOs, academics and potential outside funding sources. The SDS-SEA was presented to senior government officials before it was formally adopted in December 2003 through the Putrajaya Declaration by the respective Ministers. An implementation arrangement is being put in place. This includes a Partnership Agreement on the Implementation of the SDS-SEA, with Partnership Operating Arrangements, and a Strategic Action Plan for the transformation of PEMSEA into a regional implementing mechanism for SDS-SEA implementation. Co-financing plans have been specified, including potential catalyzing support through GEF/UNDP with co-financing of a PRF secretariat from the Governments.

3.1.4.3. The SDS-SEA implementation approach thus follows the model of PEMSEA. It is based on the progress made through the Programme. As seen, this demonstrates collective commitments, including: timely, sustained counterpart contributions from countries, together with the

establishment voluntarily of parallel ICM sites; sustained PPP arrangements; inclusion of ICM practices in regulatory frameworks at national and local levels; the development and regulatory confirmation of institutional and community arrangements for the implementation of coastal and marine environmental management including tested and established ICM practices; development of the intellectual capacity, scientific and technical skills through linkages with universities/academe; and enhanced public awareness of the socioeconomic benefits of ICM, public participation and households' willingness-to-pay for improved environmental facilities and services. Ecological factors are incorporated in the management, realizing the significance of ecological economics.

3.1.4.4. The shared vision for development which has been agreed through consensus remains a fundamental pillar for achieving sustainability. The proven replication of ICM sites and entry of additional countries in the Programme also shows the synergism, cooperation and willingness to implement reforms, including institutional and policy changes. In the long term, PEMSEA's progress provides incremental global benefits through a demonstrated effort in addressing freshwater-coastal sea linkages. Also seen is the relation of the SDS-SEA to WSSD commitments. The communication network is in place, covering local, national and regional levels. This brief situation analysis underlines the significance of the Programme achievements for future development, and the opportunity to create sustainable practices and institutions at regional levels. The Programme efforts have paved the way for the creation of a Regional Commission, or Council, for Sustainable Development.

3.1.4.5. The Evaluation Team considers the efforts and the results of PEMSEA as a whole to achieve sustainability to be highly satisfactory.

3.1.5. Replication Approach

3.1.5.1. The approach of PEMSEA is already being replicated. The first phase began with two ICM pilot sites — Batangas and Xiamen. The success of these sites — and the lessons drawn from them — made it possible to have other successful demonstration sites at Chonburi, Bali, Danang, Nampho, Port Klang and Sihanoukville. These demonstration sites have contributed to replication of ICM sites at Bataan, Shihwa, Sukabumi, Cavite, Quangnam as well as ten sites in China and three additional sites in Bali.

3.1.5.2. Thailand provides one example of replication. In Chonburi Province in Thailand, the successful results in the Sriracha Municipality triggered several other municipalities to adopt PEMSEA's ICM approach. A provincial program involving nine municipalities has been developed and agreed upon by the respective Mayors and the Chonburi Governor for 2006–2008. Funding has been allocated from the provincial budget and the municipalities. In some cases, the program includes not only estimates of costs but also of expected benefits. This gives an indication of the benefit-cost ratio, in the range 30-40. The Chonburi case is a reminder of how influential PEMSEA sites can be if the right opportunities are provided to local officials to view local ICM site management practices.

3.1.5.3. Several countries are offering to develop their respective ICM sites, provided PEMSEA will offer technical guidance and assistance. Such assistance is being provided by the RTF. PEMSEA capacity building and related network of education and research institutions have developed an extensive skill resource in the region. The dissemination of lessons learned, of experiences and knowledge is being achieved through several high level publications, workshops reports, a network of information exchange and of universities in the region, the use of an e-forum mechanism, and the creation of international training centers and centers of excellence.

3.1.5.4. The Team evaluates the approach as highly satisfactory.

3.1.6. Financial Planning

3.1.6.1. At the programme level, the GEF fund allocation for the project in the amount of $24.2 million has provided the core funding for PEMSEA activities in its two phases since 1994, which has subsequently leveraged substantial resources coming from various sources (Annexes 7 and 8). In addition to core project funds, member countries, notably the Philippines, Malaysia, Japan, China, RO Korea and Thailand, have also provided significant contributions by way of hosting major activities (e.g., the EAS Congress in December 2003, meetings of the PSC). The EAS Congress held in Putrajaya, Malaysia was a concrete example of how combining resources from various sectors, institutions (both public and private) and countries can bring about tangible commitments to safeguarding the coasts and seas of the region. Staff estimates place counterpart funds that have been mobilized in support of PEMSEA at around $25 million (Annex 7).

3.1.6.2. Within specific countries with ICM sites, national and local governments have likewise provided counterpart funds to support the work of SCCs, PCCs and PMOs. At the same time, the non-government sectors including private businesses and NGOs provide resource contributions either in cash and/or in kind to support various site-specific activities and projects under the Programme within countries (see box). Voluntary initiatives have been encouraged that are funded and managed by private sector entities, either as individual enterprises or through a collective foundation that brings enterprises to pool resources and efforts together in support of ICM initiatives. Apart from the examples from the Philippines, similar private sector participation is harnessed in the oil spill mitigation initiatives in the Gulf of Thailand, in the ICM program in Xiamen, and in other PEMSEA project sites.

3.1.6.3. Some ICM sites have managed to develop a certain degree of financial self-sustainability via a user-fee system for environmental services (e.g., diving fees in the municipalities of Mabini and Tingloy in Batangas, Philippines) provided within the project site. Indeed, PEMSEA can validly claim to have produced some of the first concrete examples of working mechanisms providing for payments for environmental services (PES), now widely recognized to be an important instrument for achieving sustainability in environmental protection initiatives.

Private Sector Funding for PEMSEA Initiatives: Philippine Experience

In Bataan province in the Philippines, 17 companies located in the export processing zone within the province have put up about PHP100,000 (about $2,000), while the Petron Corporation, which has an oil refinery in the province, has contributed PHP1 million (about $20,000). The contributions have been pooled through the Bataan Coastal Care Foundation, and administered by Programme Coordinating Council (PCC) of the Bataan ICM Program through the PMO and utilized for projects such as coastal cleanups, mangrove reforestation, alternative livelihoods for fisherfolk, and establishment of a marine sanctuary.

In the province of Batangas, apart from monetary contributions made directly by private member-firms to support projects of the Batangas Coastal Resource Management Foundation (BCRMF), beach resorts have taken on the responsibility of regularly maintaining the marine sanctuaries. It is in the same area where a diver's fee system has been employed successfully by two adjacent municipalities to raise funds for supporting various activities on coastal resource management in the ICM site. PHP1.8 million (about $35,000) was raised in 2005 out of this diver's fee system.

3.1.6.4. It is quite important to note that apart from resources provided specifically for PEMSEA-initiated activities in the various project sites in the region, substantial resources have been provided for related and parallel activities in support of coastal and marine resources management by other funding agencies and entities. This has been facilitated by the way in which PEMSEA promotes people-to-people as well as sector-to-sector interactions through its ICM and subregional sea areas/pollution hotspots management activities. In most cases, these non-PEMSEA but related projects were actually facilitated, encouraged or catalyzed by achievements made by PEMSEA initiatives, making it fair to attribute credit to PEMSEA for having leveraged the allocation of such other resources coming from other sources to the promotion of sound management of the EAS, even outside PEMSEA's own program.

3.1.6.5. PEMSEA's management framework provides ample opportunities for various local stakeholders to work in partnership to address issues of mutual concern. In particular, the framework also enables various concerned stakeholders, especially resource providers such as donor agencies, international financial institutions, UN agencies and international developmental organizations to work with national and sub-national stakeholders collectively to provide solutions to priority problems and capacity needs (Annex 9).

3.1.6.6. There are many examples that illustrate how the integrated management strategy and approach has facilitated collaboration by third parties at sites/projects where PEMSEA had helped prepare the foundation. In each case, new investments and/or new opportunities were either provided directly to local stakeholders, or in a collaborative effort with PEMSEA, to enhance the capacity of individuals, communities or sectors. Some of these are highlighted in Annex 10.

3.1.6.7. An estimate made by PEMSEA staff of funding resources made available for the pursuit of SDS-SEA implementation outside of direct PEMSEA initiatives places the amount very conservatively at about $4.6 billion (Annex 11). This is likely to underestimate the real figure substantially, for at least two reasons. First, the estimate only included cash resources provided, whereas substantial resource contributions in kind have also been provided by various partners in the member countries with project sites. Second, in most cases and for most member countries, the estimate only captures resource contributions from government and public institutions, whereas non-government sources have also put in a substantial amount of resources, both in cash and in kind. As such, the above figure could easily double if a fuller accounting of all such resources leveraged by PEMSEA efforts for the East Asian coasts and seas could be taken.

3.1.6.8. The Team evaluates the financial planning as highly satisfactory.

3.1.7. Cost-effectiveness

3.1.7.1. PEMSEA has operated on core funding of $8 million for the first phase (1994–1999), and $16.2 million for the second phase (1999–2006), or $24.2 million over the last 12 years. This is equivalent to an average of $2 million a year, a relatively modest amount considering what has been achieved within each member country and regionwide. The socioeconomic benefits coming out of the PEMSEA initiatives come in numerous forms. These include the increased revenues in existing livelihoods and enterprises and generation of alternative livelihoods, which are documented in published reviews. It is also manifested through the improved environmental conditions, the enhanced efficiency in using natural resources, including through use of zoning schemes, and the adjustments of national legal systems and policy to include ecological and marine environmental concerns and management. The Programme has demonstrated that environmental degradation can be stopped and reversed while maintaining economic development. ICM has been firmly installed in the region, with adequate inter-sectoral and interagency mechanisms institutionalized, including reliable local counterparts to national and international partners, with partnership agreements and public-private enterprises.

3.1.7.2. Compared to what is being provided in other similar projects, the Programme has provided seed funding that is well within or comparable to the norm. The cost-sharing and co-financing strategy of PEMSEA has worked very well. The Programme has succeeded in raising more than the expected co-financing, counterpart provisions and in-kind support. As noted in the previous section, the latter have been quite substantial and have amounted to more than the actual GEF core funding, thereby effectively more than doubling original project resources. These counterpart resources have been mobilized through public and professional participation, media coverage, high-level attendances in many consultations, meetings, and provision of infrastructure and equipment. The largest counterpart support has been provided for ICM

implementations, from national and regional governments, municipalities and other partners, to an amount of $17.7 million, slightly larger than the GEF/UNDP provision for the whole programme. For the subregional activities, Bohai Sea and Manila Bay in particular, an amount of $6.3 million has been leveraged. The other programme components have received counterpart support of about $1.5 million in total, of which about half came from donors (SIDA/CMC), IMO and UNEP-GPA and the remaining from foundations, research centers and government authorities. Even more substantial are the resources from other sources and initiatives that have effectively been leveraged by PEMSEA's own initiatives. As indicated in the previous section and in Annex 11, the estimated $4.6 billion that have been invested in coastal and marine resources management in the region by others is likely to be a significant underestimate, a large part of which can be considered to have been provoked by PEMSEA's own initiatives and successes.

3.1.7.3. Cost-effectiveness compares very well with — and in certain areas (e.g., in the Philippines) appears to significantly exceed — that of some similar actions in the area and in the region as a whole. Numerical estimates to allow quantitative cost-benefit analysis regionwide cannot be done with any degree of precision, but attempts to quantify costs and benefits in specific areas, notably in Xiamen (Annexes 12 and 13) and Chonburi, Thailand could be illustrative. In Xiamen, socioeconomic benefits of ICM based on estimated incremental revenues in ports and shipping, marine fisheries, tourism and real estate and property development, along with direct nature and environmental services created, were estimated at RMB 29.3 billion in present value terms (about $3.6 billion) in the period 1995–2001. Against total costs of RMB 1.9 billion or $235 million, the net benefits amount to about $3.4 billion, or a benefit-cost ratio of about 15:3. (Annexes 14a–14f provide relevant data on costs and benefits associated with the ICM program in Xiamen.) In Chonburi, coastal rehabilitation in Angsila Municipality has been estimated to result in benefits amounting to THB 31.4 billion, against total costs of THB 849 million, or a benefit-cost ratio of 37. From these illustrative examples, it appears safe to surmise that the catalytic investments made by PEMSEA have probably yielded far more in socioeconomic benefits in the region.

3.1.7.4. Programme delivery has been in accordance with the schedule, in the range of 75–95 percent for all components in the second half of 2004, except as regards the regional mechanism which was at about 60 percent delivery at the time. This is very reasonable in view of this component being dependent upon the others. The financial planning appears very prudent, including contingency plans for delays and for a possible transition period (see 10th PSC Proceedings, 2004).

3.1.7.5. The Team finds the cost-effectiveness highly satisfactory.

3.1.8. Monitoring and Evaluation

3.1.8.1. There are adequate monitoring and evaluation efforts made on PEMSEA's activities and outputs.

These efforts include the following:

- PEMSEA submitted Quarterly Accomplishment Reports (QARs) to UNDP and IMO providing summary of the progress on Programme activities. Each year, PEMSEA conducted planning sessions to identify milestones for the year and confirmation of new targets for the coming year. The planning sessions enhance collaboration and understanding among the implementers of various program components and provided the basis for in-house monitoring by its Management and Technical Committees.
- PEMSEA also provided reports for the Assessment of Implementation Progress by UNDP, governments and programme management conducted by the Intercessional Consultative Group (ICG). Under the assessment, governments have to assess whether the programme is relevant, whether the programme has adequately used its resources, and be given satisfactory ratings (e.g., ICG report of 2001).
- PEMSEA is also required to submit an annual Project Implementation Review (PIR), with basic data on project progress, financial delivery, participation by stakeholders and programme impacts. The reviews presented state of implementation for each immediate objective and descriptive assessment.
- From 2000 to 2003, PEMSEA also submitted Results Oriented Accomplishment Reports (ROAR) to GEF on project progress and performance.
- PEMSEA has undergone a Mid-Term Evaluation in mid-2003 which confirmed that the outputs and outcomes have contributed to the attainment of the development objective and that the Programme adhered to the accomplishments of its log frame indicators.
- PEMSEA progress and outputs are also reviewed by the PSC which meets annually to assess PEMSEA programme implementation, progress of component activities and outputs, approval of workplan and budgets as well as provide guidance for improvements.
- PEMSEA's ICM project sites report their achievements, outputs, lessons learned from ICM implementation at their annual workshop through the regular meetings of the RNLG.
- Finally, the EAS Congress 2003 also provided opportunities for PEMSEA to report to its partners and the policymakers regarding PEMSEA's progress and achievements.

3.1.8.2. The QARs also presented the problems encountered in project implementation, which included delays due to time required for the preparation of reports in appropriate languages; translations; frequent changes in focal points and restructuring in governments or administrations; changes of elected local or national decisionmakers (governors, mayors, administrators); lack of experience in UN procedures at ICM sites by the staff; and lack of proficiency in English.

3.1.8.3. The PIR of 2003 provides an information overview of progress and issues during the fourth year of implementation. Some highlights are: (a) the official participation of Japan in 2002; (b) a growing appreciation and support of the SDS-SEA; (c) endorsement of coastal strategies with

stakeholders commitment; (d) establishment of more parallel sites such as in Sukabumi, Indonesia; (e) a $1.2 billion leveraged private sector investment in Shihwa and Bohai Sea; (f) Investors Roundtable Conference for Manila Bay projects; and (g) the RNLG Forum.

Challenges encountered included: (a) difficulties with implementation of activities in the environmental investments component due to lack of awareness of the PPP mechanism, and related responsibilities and commitments from the public sector; (b) the need to strengthen awareness campaigns and networking efforts; (c) refinement of the IIMS taking more time than expected and incomplete database at sites complicating full application; (d) need for strengthening of technical skills in specialized activities; and (e) some delays in project delivery, requiring more technical assistance from the RPO.

3.1.8.4. PEMSEA has received highly satisfactory ratings from the Secretariat Managed Project Review undertaken by the GEF.

3.1.8.5. Several lessons learned can be identified:

- Ownership by local governments for ICM implementation and sustainability is important.
- The co-financing and cost-sharing approach of PEMSEA allows local ownership to be developed.
- The government inputs to PEMSEA totaled $8.9 million by 2003, exceeding the pre-determined $3.3 million by a factor of 2.7. This was achieved through: consultation with and support of local governments and agencies; project activities built on local governments needs; strengthening of human and financial resources and facilities; and good negotiation of PEMSEA staff.
- Sustainability can be achieved through strong government action, supporting legal system, sound science and capacity building.
- Mobilizing local governments to address environment issues is the right approach, together with institutional arrangements to ensure local participation and strengthen local capacity.
- While multi-agency participation and intersectoral engagement is required, this is often complicated by interagency conflicts and competition at local and national levels. Negotiations, persuasion and pragmatism are required.
- The PPP development is strongly affected by political commitment, trust, and social acceptability of identified investment opportunities, local awareness, and capacity among public and private stakeholders.
- Public awareness creation and participation is very essential for success.

3.1.8.6. It appears that on the basis of the above, the monitoring and evaluation of the Programme has been very thorough throughout the period. This is also evidenced by the adaptive management which has been applied, seen in the adjustments of training and capacity-building approach; in the adaptive learning through which the differences between ICM sites and their requirements were taken into account; the negotiation of the SDS-

SEA; and the efforts in addressing the coordination and cooperation with other projects and programmes in the countries and the region which are supported by donors or global financial institutions.

3.1.8.7. An overview of results of PEMSEA activities in relation to GEF-adopted indicators are shown in Annex 15.

3.1.8.8. The Evaluation Team finds the monitoring and evaluation activities of PEMSEA highly satisfactory.

3.2. Role of IMO and UNDP

3.2.1. The IMO as executing agency has played a significant role, both in accepting the task and in realizing that the Programme should be regionally-owned, with its implementation guided and managed within the region. The RPD has been given the necessary authority to manage the implementation of the Programme, including decentralized decisionmaking. Fully recognizing the importance of the EAS region as a major maritime transport zone, the IMO has concurred with the strategy of an integrated regional mechanism like PEMSEA. The Evaluation Team wants to put this on record and stresses the necessity of maintaining the approach. The country and regional ownerships are essential for the sustainability of the PEMSEA regional mechanism.

3.2.2. The IMO has provided counterpart support and participated in activities of particular interest to the Organization: maritime training courses and workshops. The counterpart (third party) input from IMO is $431,000, or about 60 percent of the expected, listed contribution. On the other hand the overhead received by IMO has been slightly less than $1 million. The IMO has been represented at PSC meetings. At the 11th PSC meeting in August 2005, the representative of IMO, while acknowledging the achievements of PEMSEA, confirmed that IMO will not continue as executing agency for PEMSEA after completion of the present phase. The Evaluation Team considers this regrettable. PEMSEA has made very considerable progress and by establishing the SDS-SEA, aim at a consolidated regional implementation of WSSD commitments and Agenda 21, and also supporting UNCLOS.

3.2.3. The UNDP Office in Manila, Philippines, has been instrumental in providing the necessary administrative backstopping for PEMSEA. The Office has been very helpful also in supporting the RPD so as to facilitate the management of the programme implementation. The Evaluation Team found the interaction with and understanding of the UNDP Office very helpful. Regrettably, the counterpart (third party) contribution expected from UNDP has so far not been provided.

3.2.4. Obviously, the change in executing agencies implies a loss of experience and the functional and operational cooperation that has been established among IMO, UNDP, the participating countries and the Regional Programme Office. It is unfortunate that IMO has found reason to withdraw its support at this critical point, during the transition of PEMSEA into a regional mechanism when all efforts ought to be dedicated to maintain and enlarge regional participation, rather than establishing a working relationship with a new executing agency.

4. FINDINGS AND CONCLUSIONS

4.1. Attaining the Development Objective

4.1.1. The Evaluation Team is of the opinion that the development objectives "To protect life-support systems, and enable the sustainable use and management of coastal and marine resources through intergovernmental, interagency and intersectoral partnerships, for improved quality of life in the EAS Region," requires consistent long-term efforts and commitments on the part of the governments, other stakeholders and donor agencies. However, the Team noted substantial progress has been achieved during the current phase in building partnerships for advancing policies, implementing strategic management frameworks and action programs at national and local levels, a pre-requisite in achieving the development objective.

4.1.2. PEMSEA has built the necessary cooperation framework at local, national, subregional and regional levels to achieve the long-term development goals:

1. At the local level, the Evaluation Team noted that PEMSEA has successfully demonstrated the applicability and cost-effectiveness of the ICM framework and processes for achieving sustainable use of the natural resources and ensuring environmental sustainability. The working models at the ICM demonstration and parallel sites across the region shall serve as the learning centers for ICM replication and scaling up. The outputs of the ICM sites, specifically the Coastal Strategies and the respective Operational Plans, serve as references for provincial and municipal medium-range economic development plans. Through the implementation of these ICM programs at increased sites, the socioeconomic benefits and improvement of environmental conditions will be gradually realized. These findings are supported by the site visits of the Evaluation Team. Some comparisons between present and previous environmental conditions were made through interviews with local stakeholders, who also showed an enhanced awareness of their responsibilities and the importance of the environment. Local leaders and communities testified that some improvements have been made in terms of human health, accessibility to clean water and sanitary facilities, as well as cleaner environment and restored habitats, in part due to public awareness and mind-set changes of local leaders and managers brought about by the ICM projects.

2. At the national level, PEMSEA promoted the development of national coastal and ocean policies, legislation and action plans to strengthen coastal and ocean governance. PEMSEA provided policy guidelines, policy briefs and organized policy workshops and think tanks to enhance national efforts towards this direction. National efforts in managing larger body of coastal waters were also strengthened through the implementation of the Bohai Sea project and the Manila Bay project. PEMSEA has been playing a very important catalytic role in the bigger Bohai region in facilitating the partnerships among the coastal provinces of Shandong, Liaoning and Hebei, the City of Dalian, Tianjin Municipality and other stakeholders to address common priority issues in relation to their shared resources. This was manifested through the Bohai Sea Declaration and the Bohai Sea Sustainable Development Strategy. Bohai Sea has unique social, economic and ecological

features, supporting about 35 percent of the population of China, producing some 40 percent of its seafood, and handling about 25 percent of goods going through its ports. A national legislation on the Bohai Sea based on the implementation of the Sustainable Development Strategy has been tabled at the National Assembly for adoption. The implementation of this strategy with the enactment of national legislation will enable a large scale clean-up and management of this important inland sea of China. PEMSEA's contribution in this aspect should not be ignored.

3. At the subregional sea level, PEMSEA has been able to engineer subregional partnership among the littoral countries of the Gulf of Thailand. The development and endorsement of the Joint Statement of Cambodia, Thailand and Vietnam on Partnership in Oil Spill Preparedness and Response in the Gulf of Thailand, together with the related Framework Program is a clear evidence of a high-level of commitment of these countries to sustain this subregional cooperation. This has generated considerable developments as regards capacity and preparedness in all three countries. A noticeable subset of the Gulf of Thailand program is the Port Safety, Health and Environmental Management System (PSHEMS) developed by PEMSEA, tested and established in the Port of Bangkok (Thailand) and Port of Tanjung Pelepas (PTP) in Malaysia. The port management and other stakeholders have considered this a successful undertaking, responding to several international conventions, including the Basel Convention, SOLAS and MARPOL. The replication of such efforts would certainly improve the port safety, health and environmental measures of ports around the region.

4. At the regional level, the development and endorsement of the SDS-SEA, an unprecedented output of PEMSEA, which has been adopted by the 12 participating governments and 16 international and regional collaborators, has provided the much needed regional policy and management frameworks and platforms for regional cooperation. A partnership mechanism has been developed and, upon endorsement by the concerned governments by the end of December 2006, will provide the needed institutional arrangements for its implementation. The SDS-SEA is intended to catalyze and synergize national efforts to implement the various strategic action programs contained in the document.

4.1.3. The Evaluation Team is of the opinion that efforts should build on these progresses as a solid foundation to catalyze greater national and local commitments, and such efforts should continue.

4.1.4. In most cases, however, actual valuation of social and economic effects from ICM implementation remains to be done. Such valuation will be useful to generate deeper commitments of elected leaders and policymakers, and the Evaluation Team recommends that this be pursued.

4.2. Immediate Objectives and related GEF Operational Programmes

4.2.1. On basis of the synthesis given in Section 2 the Evaluation Team concludes that the Immediate Objectives of PEMSEA have been met. Adaptive management has been applied so as to adjust to changing conditions. At the time of the evaluation the overall implementation rate was 95 percent.

4.2.2. The PEMSEA contribution to meeting expected outputs of related GEF Operational Programmes, essentially 8, 9, 10, was analyzed in the Mid-Term Evaluation (see its report at Annex 1). The progress has continued. The strong advances of PEMSEA as regards the cost-sharing and co-financing strategy, with contributions from national, provincial, local governments and municipalities are very encouraging signs with respect to creation of longer-term commitments. Such are required for sustainable development to be achieved and are essential for reaching the objectives of the GEF Operational Programmes. The Evaluation Team finds that the policy commitments resulting from PEMSEA actions are as important indicators in the same direction. The adoption of coastal strategies and implementation plans with commitments from provincial governments and municipalities are examples. The gradual adoption of national coastal and ocean policies, often including ICM practices are examples of national policy commitments. This is corroborated by the increase in ratifications of international conventions, and the indications of enhanced understanding for their roles.

4.2.3. The subregional activities in Bohai Sea, Manila Bay and Gulf of Thailand have progressed further. The Government of China has committed about $7 billion to the implementation of the activities outlined in the Bohai Sea Declaration. The Gulf of Thailand riparian states have committed to an intergovernmental agreement contained in the Joint Statement on Partnership in Oil Spill Preparedness and Response in the Gulf of Thailand, and the related Framework Program. The Evaluation Team views these as very important developments and commitments.

4.2.4. The private sector investments and the PPP mechanism have not progressed as targeted. However, important breakthroughs have been made in the most advanced ICM demonstration sites. These include Xiamen and Danang. The zoning scheme introduced in Xiamen has generated considerable increased efficiency and returns to both public and private sectors. The PEMSEA results have stimulated involvement and positive interest from the private sector and have helped create the required dialogue and understanding between the public and private sectors. The enhanced awareness has generated a change in perceptions. User fees have been promoted, are becoming acceptable and are introduced in several sites. However, the challenge of putting more PPP projects into actual implementation remains. The Evaluation Team is of the opinion that the take-off is not far away in time, provided the facilitation prevails.

4.2.5. The capacity building and public awareness creation achieved by PEMSEA is providing another foundation for medium-term commitments. The number of ICM sites has increased impressively from two or three at the beginning of the 2nd phase to about 26 at the time of the evaluation. Through the operational networks, these sites are linked together. This provides for a critical mass of ICM expertise and community in the EAS region. A core base of practical experiences of ICM has been developed. The skills need to be maintained and re-training and awareness creation must continue of managers, experts, leaders and the public. Active and inclusive stakeholder participation in ICM activities has enhanced sustainability of the initiatives and commitment of the various partners. A further scope for improvement would be enriching the participation of the youth through more direct representation in planning and coordination mechanisms.

4.2.6. PEMSEA has generated a wealth of information and experience over the past years. It will be extremely useful if efforts be made to provide synthesis and lessons learned from the implementation of ICM programs and subregional seas and hotspots especially distilling reasons why some sites are more advanced than the others in terms of attaining the immediate objectives. Based on the PEMSEA experience, further effort in building a critical mass of middle-level professions proficient in integrated management would be beneficial for duplication and scaling up. More attention on the development and consolidation of regional training centers could help meet the manpower needs and create an enabling environment at local and subregional levels. The importance of capacity development through ICM demonstration sites should also be underscored.

4.2.7. PEMSEA has been focusing on local level implementation and to a certain extent might have neglected building a stronger involvement of the central agencies other than the yearly Programme Steering Committee meeting and the EAS Congress. It is imperative that PEMSEA should reach out to central agencies by involving them more frequently in policy or leadership workshops, seminars and study tours to successful sites.

5. RECOMMENDATIONS

5.1. Having been witness to what PEMSEA has achieved over the two phases of GEF funding support, the Evaluation Team strongly recommends continued GEF funding support for the PEMSEA project, based on the following observations and arguments:

- The East Asian region is too critical in the world economy, and its coasts and seas far too vital to the global environment, for it not to be able to access an appropriate share of GEF funding support at this time.
- GEF support for PEMSEA has been relatively modest, yet has been extremely productive, making it arguably one of the most efficient and effective uses of GEF resources.
- A considerable amount of time is required for effective partnerships for the environment to be established and take root, and more time is needed to consolidate the gains made towards the goals of SDS-SEA on a self-sustaining path.
- The unevenness of capacities within the region makes continued external support essential, especially in the efforts toward leveling such capacities.
- There has been clear positive momentum attained so far with the various PEMSEA initiatives, that an interruption through non-renewal of GEF support would be both costly and wasteful.

5.2. Annex 16 provides more detailed support for the above observations and arguments.

5.3. Renewed support for PEMSEA is recommended over a transition and transformation period of six years, as part of a ten-year regional programme. The proposed ten-year project time frame is broken down as follows. The first three years, 2007–2010, constitute a transition period which will build further momentum for the implementation of SDS-SEA through partnership projects, and will further consolidate the PEMSEA results with the continued catalytic support of GEF/UNDP. This will be followed by a three-year transformation period wherein the region is largely "weaned" from external funding support as a sustainable self-financing mechanism is phased in. The final four years will constitute the period for achieving sustainable operation.

5.4. Commitments for even stronger counterpart support have already been secured for a possible third phase of GEF support to PEMSEA. The commitment from the Host Country to continue providing infrastructure for the Regional Office has been obtained, with additional office space already being offered. Commitments have been secured from China, Japan, and RO Korea to provide significant financial support. Further commitments from other Governments of the region are being sought to permit continued support and active participation in the implementation of the SDS-SEA, as well as facilitate the interaction, coordination and cooperation between PEMSEA and other related programmes in the region.

5.5. The proposed EAS Partnership Council with accompanying Ministerial Forum, an idea that has already gained acceptance in principle by the Governments in the region, could provide the comprehensive regional coordination and decisionmaking mechanism that would also serve as venue for obtaining necessary government commitments. This mechanism could potentially evolve into a more comprehensive Regional Commission for Sustainable Development.

5.6. It could act as a facilitator, and could help in achieving the needed coordination and cooperation among related international initiatives and projects in the region. It would also provide for an

enabling mechanism to attract investments and raise financial resources. The viability of establishing this mechanism has been studied through the PEMSEA mechanism in the follow-up to the Putrajaya Declaration, including through national consultations slated for the first half of 2006. The results are to be presented for adoption at the EAS Congress 2006.

5.7. In light of the evaluation, the team expresses concern over the potentially large cost and the wastefulness of interrupting the momentum of progress already built in the region through the PEMSEA initiatives. To PEMSEA's credit, site-specific initiatives in the various ICM sites and marine pollution hotspots now mostly manifest sustainability on their own, owing to the strong partnerships that have been firmly put in place and resource contributions and commitments that have been made by various partners on the ground. Nonetheless, a critical mass of human and financial resources for the entire region, while emerging, has yet to be achieved, and external funding assistance will continue to be essential in firmly securing such critical mass that will provide a self-sustaining momentum.

5.8. It is also incumbent upon the international organizations to acknowledge that, through their participation and support, a valuable partnership arrangement has been created which should be utilized, maintained and not lost or put to waste. The continued monitoring of the progress at the local, national, subregional and regional level established through the partnerships and networks will support the process. The proven and functioning partnership strategy with co-financing and cost-sharing requires solidarity and faithful delivery of commitments. It is quite likely that seeing such a mechanism serving the EAS region well will provide encouragement to other regions to follow suit.

6. LESSONS LEARNED

6.1. Efforts toward sound management of the seas and coasts of East Asia are by no means confined to the PEMSEA initiatives. There are numerous other initiatives that have been or are being undertaken by other entities, whether led by governments (both national and local), donor agencies, civil society organizations, private business enterprises or communities themselves. But the Evaluation Team share the view that none of these stand out as prominently as PEMSEA's overall approach and specific initiatives do, by virtue of its winning formula summed up in the word making up its first name: Partnerships.

6.2. The PEMSEA record over the past 12 years offers distinctive lessons for other initiatives addressing sustainable management not only of coastal and marine resources, but of natural resources in general. Among these lessons, the Evaluation Team would particularly wish to highlight the following:

Lesson 1: Success and sustainability hinges on the proper combination of key Programme ingredients.

6.3. PEMSEA appears to have hit upon the right formula for success and sustainability in the management of marine and coastal resources, not out of chance but borne out of careful analysis and deliberate design, tested and refined through its 12 years in operation. Key ingredients include (1) a clear shared vision, (2) inclusive, multi-level partnerships, (3) active stakeholder participation sustained through appropriate incentive mechanisms, (4) adequate funding streams marked with resource counterparting, (5) science-based management support, (6) purposive capacity building and organizational strengthening, and (7) active communication and advocacy. The vision must be well-articulated and widely owned, whether at the level of the community, or at the level of the entire region (e.g., the SDS-SEA). Partnerships need to be fostered among all concerned stakeholders, and at different levels. Participation, not mere consultation, needs to be ensured and sustained through both material and non-pecuniary incentives, including mechanisms to foster team building, community spirit, and concern for the common good. Adequate resource support must be mobilized from various sources, including private sector investments. Scientific knowledge, including from the social sciences, must be put to good application in the management of programme initiatives. Capacity building must be a continuous effort, addressing all partners and focused on identified needs and weaknesses. And since sustainability ultimately hinges on responsible citizens' action, public information, communication and advocacy is a critical element that demands an orchestrated approach and commensurate investment in effort and resources.

6.4. In PEMSEA, each of these elements has been deliberately pursued and strengthened as critical components of a unified and coherent effort. It has been well-recognized that lack of or weakness in one element impairs the effectiveness of the entire programme.

Lesson 2: Partnerships must be inclusive.

6.5. Inclusive partnerships that harness efforts and resources from all relevant stakeholder groups at various levels and in all aspects of the work are critical to effectiveness and sustainability. The hallmark of the PEMSEA approach has been its deliberate strategy of promoting both vertical and horizontal integration. This entails coordination among the various levels of governance spanning the community, municipal, provincial, national and regional levels, and

among and across the various functional units of government, enterprises in the private sector, and sectoral groups in civil society. In PEMSEA, all relevant stakeholder groups are harnessed in the partnership; all have defined roles and commitments to complete a unified whole. The various government agencies concerned in ocean and coastal affairs (e.g., those concerned with fisheries, ports management, watershed management, etc.) are brought together to cooperate with private enterprises, NGOs, church and religious groups, the academe, women's groups, schools, and others. We have heard it cited, for example, that other donor initiatives in coastal resources management in the region often focus primarily on community and civil society participation, but fail to give commensurate importance to the role of the private sector, of the academe, or even of the local government in the partnership. Such lopsided participation is bound to handicap the effort sooner or later. PEMSEA avoids this pitfall though its inclusive approach to partnership. The composition of the PCCs reflects the comprehensive and inclusive nature of the partnerships that PEMSEA has engendered in its various initiatives in the region. With such inclusiveness, complementarities and synergies are maximized, thereby enhancing both efficiency and effectiveness in its outcomes.

Lesson 3: PEMSEA's combination of top-down and bottom-up impetus is effective in securing necessary political commitment.

6.6. Political support and commitment from the decisionmakers at various levels is critical to the success of ICM. Without the "buy-in" from the concerned political leaders, partnerships are incomplete and hampered from securing full and sustained benefits. The PEMSEA approach has provided an effective combination of top-down and bottom-up impetus to political leaders through its simultaneous vertical and horizontal integration strategy. Actual experience with specific political leaders has demonstrated how the networking of local governments across the region and other intergovernmental/international mechanisms in the Programme (e.g., PSC meetings, the EAS Congress) have been highly instrumental in attaining and reinforcing their commitment. For example, it has been cited how the commitment of one local chief executive from the Philippines who simply "inherited" his province's PEMSEA project was firmly secured and reinforced with his participation in the Bali meeting of the PEMSEA RNLG. The meeting served as an eye-opener that reportedly impressed on him the larger context and importance of the project at the regional and even global perspective.

6.7. At the same time, the active horizontal partnerships across municipalities, across relevant national government agencies, and especially across the various stakeholder groups as manifested through the PCCs have also provided a simultaneous impetus from the ground, spurring the political leaders to exercise their leadership and political will in promoting ICM. Such appeared to be the case in another province in the Philippines, where the new governor's political commitment was inspired by the demonstrated dedication and competence of the multi-stakeholder council that oversees his province's ICM program, and its technical secretariat within his staff. Furthermore, site visits by municipal leaders and managers to the ICM demonstration sites have been effective in convincing them of ICM's benefits, and moving them to initiate ICM practices in their own localities.

Lesson 4: Partnerships do not happen overnight.

6.8. Partnerships for the natural environment take time and patience to build and foster. PEMSEA's achievements in the region through its various site-specific projects certainly came neither easily, nor promptly. To begin with, concern for the environment is not in the first level of

human beings' hierarchy of needs. It takes much time to build awareness and appreciation for the value of protecting and sustaining marine and coastal resources against the more pressing need for food and income. Hence, building a critical mass of dedicated workers and advocates on the ground necessarily takes a great deal of time and effort. To pursue faithful implementation of SDS-SEA, critical mass has to be achieved at various levels. Such critical mass appears to have been achieved at the level of the individual ICM sites, where some measure of sustainability appears to have been attained. Critical mass has yet to be achieved at the national levels, with less than five percent of national coastlines so far put under ICM. This is even more so at the regional level, where the SDS-SEA objective of placing 20 percent of the coastlines under ICM remains a distant goal.

6.9. Nonetheless, momentum has clearly been achieved, as experience has demonstrated that partnerships, once formed, tend to take on a certain self-sustaining nature that makes their maintenance much less costly than establishing them. The implication is that the PEMSEA approach needs to be given further ample time with appropriate resource support for it to reach self-sustaining momentum at the regional level.

6.10. PEMSEA has clearly shown the way to the sustainable management of the seas and coasts of East Asia. Other initiatives in pursuit of the same end would do well to heed the lessons it has generated through the last 12 years. In so doing, the same measure of accomplishment it has achieved could conceivably be attained with future initiatives in considerably less time.

ANNEXES

1 The Project and Its Development Objective

2 List of Persons Met and/or Interviewed (Individually or in Groups)

3 Summary Showing Project Document Compliance and Internal Evaluation of ICM

4 Dynamics of Coastal and Ocean Governance and ICM Cycle

5 List of PEMSEA Publications

6 Summary / Overview of Other Materials Available to the Evaluation Team

7 Resource Mobilization

8 Local Government Counterpart Resource Mobilization

9 PEMSEA Cooperation and Collaboration with Partners

10 Leveraging Collaboration and Support

11 Resources for the Pursuit of SDS-SEA Implementation

12 Selected Indicators of Benefits and Costs Associated with ICM in Xiamen

13 Quantified Benefits and Costs

Tables
a. Environmental and Socioeconomic Benefits of ICM (1995–2001)
b. Quantified Benefits and Costs

14 Documented Benefits from ICM: Xiamen Demonstration Site

Tables
a. Investments in Environmental Services (Million RMB)
b. Government Investment in Preservation Zones (Million RMB)
c. Number and Area of Natural Reserves of Xiamen
d. Earnings of the Port and Sea Transportation (in million RMB)
e. Status of Real Estate Market of Xiamen
f. Estimated Net Benefits of the Economic Sectors (million RMB)

15 Overview of Results in Relation to GEF Adopted Indicators (Monitoring and Evaluation Working Paper 10, November 2002)

16 The Need and Merit of a Third Phase of GEF/UNDP Support for the Seas of East Asia

ANNEX 1

The Project and Its Development Context

The Project and Its Development Context

The PEMSEA Programme vision is improved quality of life in the East Asian Seas (EAS) region. This region comprises seven named seas, from the Bohai Sea in the north to the Indonesian Seas in the south, and embraces six large marine ecosystems (LMEs).

PEMSEA is motivated by the importance of the coastal and marine resources for the people, the social conditions, and the dominating role of the seas as transport routes and for the economy of all the countries. About 40 percent of the Gross Domestic Product of the coastal nations is due to coastal and marine areas. Fish provides the main source of animal protein for the region. On average, about 60 percent of the nearly 2 billion people of the region live within 100 km of the coastline. In several countries, close to a hundred percent live within this zone (e.g., The Philippines, Republic of Korea, Singapore, Malaysia and Japan). The approach and activities of the PEMSEA Programme have been designed to advance policies, management frameworks and action programs of each participating country towards achieving the longer-term goal.

The EAS region is socially, economically and ecologically interconnected: interregional population movements, maritime trade and the nutritional importance of fish all contribute to interregional connectivity. The tourism industry is of major importance for most of the countries, with the coastal areas becoming large attractions also for the recreation of the population. Rapid urbanization of coasts has added to the pressure. Several coastal megacities have emerged, with large associated ports and economic power, but with it came significant poverty and large vulnerability. The financial crisis of 1997–1998 and globalization have stimulated further regionalization, brought the countries closer and expanded the political relationship between the economically, relatively stronger northern countries with the southern part, which has already been closely connected through ASEAN for over three decades.

Map of the East Asian Seas Region.

Ecological interconnectivity is coupled with ocean circulation, influenced by the *Kuroshio*, the Equatorial currents, and the exchange between the Pacific and the Indian Oceans, e.g., through the Java current. Wind-generated surface layer circulation and mixing play major roles in local and subregional conditions, along with topographic features. The Asian monsoon has a large influence on seasonal conditions, with strong winter and summer seasons in the northern parts of the region. In the southern parts, the recurrent El Niño phenomenon can have devastating effects, generating droughts and forest fires.

Ocean circulation governs the physical, chemical and biological conditions. Fisheries are rich with several important migratory and shared stocks. Aquaculture is a major industry. The high biological productivity is also stimulated by upwelling zones and terrestrial runoff. Several large rivers enter the region, such as the Mekong, Yangtze, Yellow and Red Rivers, together with many smaller ones. The region is the world center of marine biological diversity, which is also strongly influenced by oceanographic conditions. The biodiversity constitutes a rich genetic resource, as yet not really utilized.

The region is subject to severe natural hazards, including tsunamis, earthquakes, typhoons and other tropical storms, sandstorms due to the Asian monsoon, forest fires and El Niño-related effects. A number of environmental hazards are related to human actions, e.g., red tides, some other harmful algal blooms (HABs), oil spills, urban runoff, contaminated seafood, untreated sewage disposals, and the introduction of non-indigenous (invasive species) through deballasting. Coastal pollution and degradation through many processes are very serious. Coastal erosion is a growing problem, illustrated by the gradual subsidence of major coastal cities like Bangkok — a problem that will be exacerbated by global climate change.

Many of the processes causing environmental degradation require more time than a natural hazard event like a tsunami or a typhoon to generate the visible and economically-harmful impact. This is due to the resilience and assimilative capacity of the ecosystems. However, they also require more time to be stopped and reversed. If the capacity of the ecosystems is surpassed, the impacts become irreversible. There is a continuous interaction between economic and ecological systems. The sustainability of these interactions is elucidated in the ecological economics research. In the region, impacts on the natural system are being seen and are having socioeconomic effects. There is a need for action, which has been repeatedly pointed out by international reviews. Most of the countries have realized this. This is indicated by their endorsement of international conventions and agreements. However, implementation is weak. The interconnectivity has stimulated political relationships, just as it has illustrated the vulnerability. This interconnectivity has started to stimulate common policies.

There are many opportunities that can be used to further forward implementation as regards the environment and sustainable development: the UNCED 92 Process, with developments of national Agenda 21s, institutional rearrangements, and adjustments of legal systems; and the WSSD 2002 Process. The WSSD highlighted the interactions between poverty eradication, environmental improvement and security, in the broad sense, including food, health and freshwater. In the region, about 15 percent of the population is living on less than one or two US dollars a day. Taken together, all these factors are inspiring a new effort in regional collaboration and partnerships. The aim is to reverse the overexploitation of resources, return to a sustainable interaction between economic and ecological systems, and work towards sustainable development. This vision may be a dream, but it has nevertheless been the context of PEMSEA — from Seven Seas to One Ocean.

ANNEX 2

List of Persons Met and/or Interviewed
(Individually or in Groups)

List of Persons Met and/or Interviewed
(Individual and in Groups)

A. IMO

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Director
Marine Environment Division

B. GEF OFFICE

Mr. Randall Purcell – *Via Teleconference*
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Land Degradation and
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Mr. Dao Xuan Lai
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Sustainable Development Cluster

UNDP Phnom Penh

Ms. Anne-Isabelle Degryse-Blateau
Programme Director and Deputy Resident Representative

UNDP Bangkok

Mr. Poonsin Srisangkom
National Coordinator of GEF/SGP
Thailand

Mr. Kunchit Sukjaimit
Secretary
Thai Fund Association
Committee Member, GEF/SGP

Mr. Chalong Ditsee
Committee Member, GEF/SGP

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Dr. Huming Yu
Dr. Jihyun Lee

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Ms. Stella Regina Bernad
Ms. Bresilda Gervacio
Ms. Maria Corazon Ebarvia
Ms. Maria Teresita G. Lacerna

Technical Assistants

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Ms. Belyn Rafael
Mr. Rainier Requinala
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Mr. Do Manh Thang
Ms. Phan Thi Thu Thuy
Ms. Tran Thi Tham Uyen
Mr. Truong Cong Hai
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People's Committee of Danang City
Vice-Director
ICM Project

Mr. Phung Tan Viet
Director
Department of Planning and Investments

Mr. Huynh Phuoc
Deputy Director
Danang DOST

Dr. Huynh Ngoc Thach
Association for Environment and Nature
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Mrs. Phan Thi Nu
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Mrs. Le Thi Tham
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Ms. Ho Hoai Ha
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Director
Department of Aquaculture, Agriculture and Forestry

Mr. Ngo Quang Vinh
Director
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Mr. Nguyen Dinh Thu
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Mr. Nguyen Thai Phien
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People's Committee of Son Tra District

Mr. Dang Cong Thang
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4. Chonburi, Thailand

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Deputy Director
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Mr. Phom Somphea
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Mr. Ke Pha
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12. Xiamen, China

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13. Klang, Malaysia

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14. Bali, Indonesia

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ANNEX 3

Summary Showing Project Document Compliance and Internal Evaluation of ICM

Summary Showing Project Document Compliance and Internal Evaluation of ICM

Programme Component 1: Integrated Coastal Management.

Outputs		Bali	Chonburi	Danang	Klang	Nampho	Sihanoukville	Batangas[1]	Xiamen[1]
1.1	Six national demonstration sites selected	✔	✔	✔	✔	✔	✔	Phase 1	Phase 1
1.2	Project development and management mechanism developed	✔	✔	✔	✔	✔	✔		
1.3	ICM Project Staff trained in ICM principles and practices	✔	✔	✔	✔	✔	✔		
1.4	Environmental Profiles	✔	×[2]	✔	×[2]	✔	✔		
1.5	Public perceptions on sustainable use of marine resources, environmental stress and their solutions analyzed	✔	✔	✔	✔	NA	NA		
1.6	Environmental risk assessment	✔	✔	✔	✔	×[3]	×[3]		
1.7	Strategic environmental management plan (SEMP)	✔	✔	✔	✔	✔	✔		
1.8	Action plans to address priority environmental and management issues prepared and submitted to local government for review and adoption	✔	✔	✔	✔	✔	✔		
1.9	Institutional arrangements, both organizational and legal, at the local level to implement, manage, monitor, evaluate and replicate ICM initiatives	ongoing	ongoing	ongoing	ongoing	✔	ongoing		
1.10	A monitoring programme to track environmental changes	✔	ongoing	✔	ongoing	✔	✔		

[1] *2nd Cycle ICM.*

[2] *Environmental Profile incorporated in the Coastal Strategy.*

[3] *Due to insufficient data with which to base Risk Assessment, the decision was to put up an Environmental Monitoring Laboratory to enable data gathering for the coastal and marine condition.*

Outputs		Bali	Chonburi	Danang	Klang	Nampho	Sihanoukville	Batangas[1]	Xiamen[1]
1.11	IIMS for sharing, storage and retrieval of scientific, technical and management data	✔	✔	✔	✔	✔	✔		
1.12	Financing options and mechanisms to sustain environmental management operations and to facilitate investment in environmental improvement projects	✔	NA	✔	✔	NA	ongoing		
1.13	Adoption by local government of the SEMP, action plans, institutional arrangements and financing options	✔	✔	✔	✔	✔	✔	Phase 1	Phase 1
1.14	Implementation of SEMP and action plans initiated	✔	✔	✔	✔	✔	✔		
1.15	A project monitoring program mechanism in place	✔	✔	✔	✔	✔	✔		
1.16	Documentation of lessons learned, etc.in Batangas Bay and Xiamen	NA						✔	✔
1.17	National and regional training courses or in-service training on the application of ICM	NA						✔	✔

Programme Component 2: Subregional Sea Areas.

Project Document Outputs		*Bohai Sea*	*Gulf of Thailand*	*Manila Bay*
2.1	Project development and management mechanism	✔	✔	✔
2.2	Scientific and technical personnel from each site trained in basic and specialized tools for risk assessment	✔	✔	✔
2.3	Initial risk assessment: screening of ecological, human health and societal concerns in subregional sea areas/environmental hotspots	✔	✔	✔
2.4	Refined environmental risk assessment/Natural resource damage appraisal (NRDA)	✔	✔	✔
2.5	Risk management options and strategic environmental management plan (SEMP)	✔	✔	✔
2.6	Action plan development and implementation	✔	✔	✔
2.7	Environmental monitoring program	✔	NA[4]	✔
2.8	Regional task force engaged in technical support and training program	✔	✔	✔

[4] *Environmental monitoring program and data management system incorporated in the Framework Programme for Joint Oil Spill Preparedness and Response in the Gulf of Thailand.*

Programme Component 3: Capacity Building.

Project Document Outputs		Completed	Remarks
3.1	Assessment of impacts and lessons learned from the training program undertaken during the GEF Pilot phase	✔	
3.2	Specialized short-term training courses organized for technical and management skills upgrading of government officials, trainers, and concerned stakeholders	✔	• 6 ICM training courses (2 more than what is required) • 4 training courses on Risk Assessment and Risk Management (2 more than what is required) • 8 training courses on Oil Pollution, Preparedness, Response and Cooperation (6 more than what is required) • 3 training courses on Port State Control (2 more than what is required) • 3 training courses on Natural Resources Damage Appraisal for Tropical Ecosystems (1 more than what is required)
3.3	Implementation of internship/professional upgrading program	✔	
3.4	Degree training program to support special skills development for participants from selected countries in East Asia	partially	• Facilitated degree training program by posting fellowship opportunities in the PEMSEA website • Established linkage with City University of Hong Kong, Xiamen University, National University of Singapore, World Maritime University, etc. • At least 2 participants currently engaged in degree training program.

Programme Component 4: Regional Networks.

Project Document Outputs		Completed	Remarks
4.1	Functional networks to provide a range of support services for coastal and marine environmental management in the region	partially	• Legal Advisors Network merged under the concept of Regional Task Force. • Environmental monitoring network merged under the Regional Network of Local Governments implementing ICM. • The expertise of the local network and marine affairs was utilized during the Workshop for Better Coastal and Ocean Governance.
4.2	A multidisciplinary Regional Task Force of experts to provide field technical assistance and support services in response to critical and timely issues related to management of the coastal and marine environment	✔	

Programme Component 5: Environmental Investments.

Project Document Outputs		Completed	Remarks
5.1	Environmental and coastal/marine resource development or management opportunities emerging from each ICM demonstration and parallel site, and subregional pollution hotspot location	✔	
5.2	Mechanisms to catalyze, promote and advance investments in environmental opportunities	✔	
5.3	Regional round table meetings of private sector companies and investors, intergovernmental and international financial institutions and agencies, donors and public sector institutions and agencies	✔	
5.4	Investment processes	✔	
5.5	Synthesis of policy/regulatory issues related to creating a climate conducive to environmental investments	✔	
5.6	Draft financial plan for supporting or sustaining a regional mechanism	✔	

Programme Component 6: Scientific Research.

Project Document Outputs		Completed	Remarks
6.1	A multidisciplinary expert group (MEG) of coastal and marine experts to provide technical advice and guidance to the project	ongoing	Case studies on trade offs between economic development and ecological benefits and transboundary impacts of national economic activities merged and ongoing; planned workshop to be conducted piggybacking with APFIC Consultative Forum, August 2006, Kuala Lumpur, Malaysia.
6.2	Analytical case studies in key areas of applied scientific research in coastal and marine environmental management a. Ecosystem carrying capacity b. Impacts of maritime trade on endangered species c. Trade-offs between economic development and ecological benefits d. Transboundary impacts of national economic activities e. Socioeconomic benefits of ICM	ongoing	Final meeting of the multidisciplinary expert group (MEG) of coastal and marine experts to be held as a Side Event during the East Asian Seas Congress in December 2006.

Programme Component 7: Integrated Information Management System.

Project Document Outputs		Completed	Remarks
7.1	A prototype database, standard format and guidelines for the collection, compilation, processing and exchange of information	✔	
7.2	Project personnel trained in extended applications of IIMS	✔	
7.3	A functional IIMS established at project sites	✔	
7.4	Application of IIMS for integrated environmental impact assessment	✔	
7.5	An IIMS linking ICM sites and pollution hotspots into a regional network	✔	
7.6	A technical support group within the PDMO with responsibility for the management of technical information for all aspects of the project, including hardware, software and peripherals required to link all the ICM sites, hotspots and other relevant project sites/ institutions into a network	✔	

Programme Component 8: Civil Society.

Project Document Outputs		Completed	Remarks
8.1	A mechanism to promote collaboration and involvement of concerned environmental journalists, religious and other grass-roots organizations in the planning and management of the coastal and marine environment in the East Asian Seas	✔	
8.2	Training and workshop opportunities for concerned NGOs, grass-roots organizations religions and other stakeholder and media groups at the local or national level, to increase their understanding of, and participation in strategies and actions of the Regional Programme in the protection and management of the coastal and marine environment	✔	
8.3	Young environmentalists concerned with securing a sustainable future for the East Asian Seas	✔	
8.4	Site and project personnel trained to integrate social science concerns into coastal and marine environmental management programs and projects	✔	
8.5	Multimedia materials related to project activities and outputs	✔	

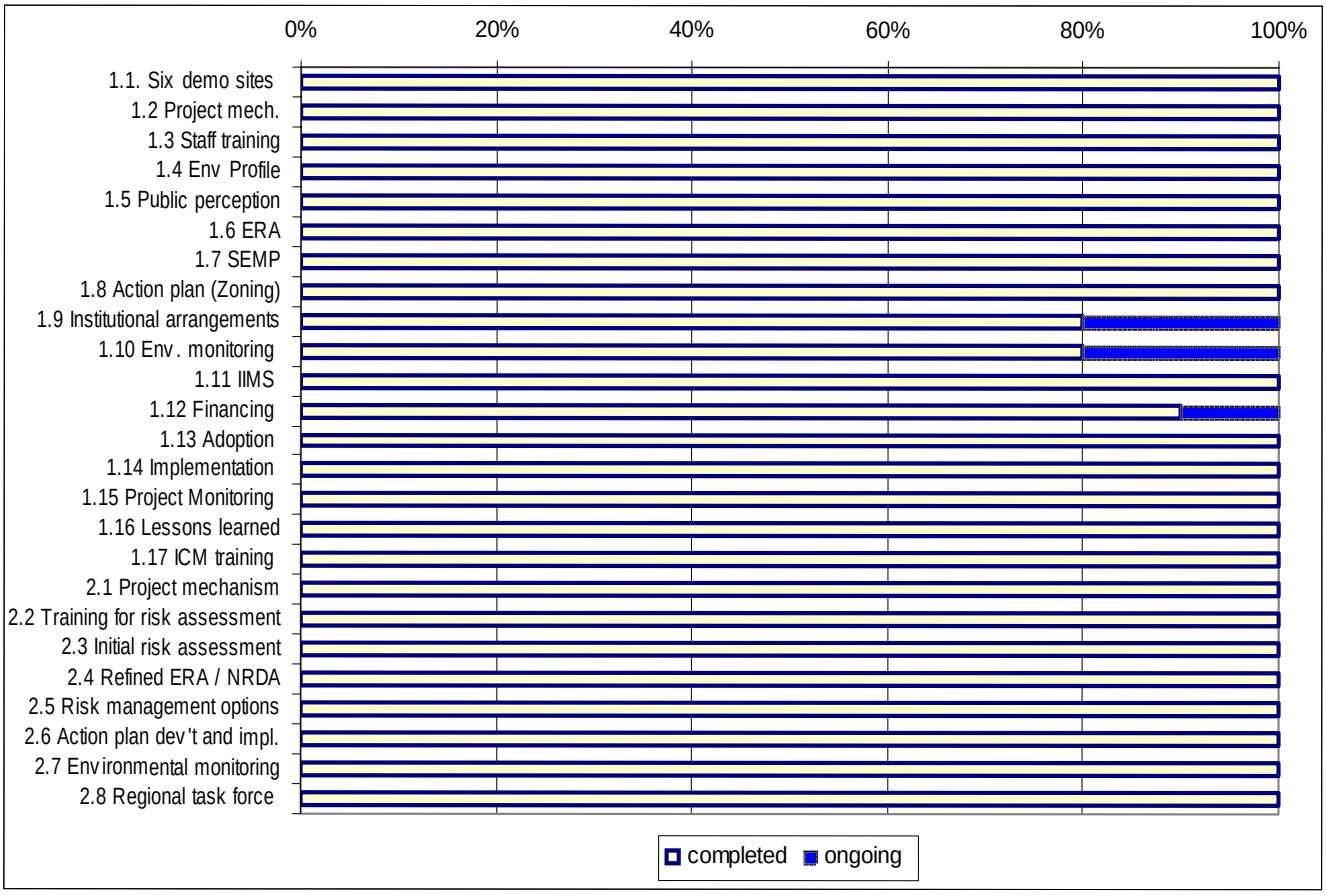
Programme Component 9: Coastal and Marine Policy.

Project Document Outputs		Completed	Remarks
9.1	Cross sector reviews of current national policy governing coastal and marine area management as well as marine environmental action programs including identification of successes and constraints	✔	
9.2	Sample policy guidelines for the development of a national and regional management framework related to issues in the coastal and marine environment	✔	
9.3	Recommendations for a policy framework for building partnerships in environmental protection and management of the East Asian Seas	✔	

Programme Component 10: Regional Mechanism.

Project Document Outputs		Completed	Remarks
10.1	Analysis of the ratification and implementation of international conventions, bilateral and multilateral agreements related to coastal and marine environmental management in the East Asian Seas including effectiveness, constraints and barriers	✔	
10.2	Review of the processes, procedures, mode of operation, cost and benefits, and constraints of existing regional arrangements for environmental protection and resource management in other regional seas	✔	
10.3	Working group on international waters projects in the region	✔	
10.4	Recommendations for a regional arrangement for implementing international conventions in the East Asian Seas including mode of operation and a sustainable mechanism prepared and reviewed by stakeholders	✔	
10.5	A regional marine environment resource facility	✔	
10.6	Policy conference on regional arrangement for implementing international conventions in the East Asian Seas convened	✔	
10.7	A functional regional mechanism established	ongoing	The EAS Partnership Council will be adopted at the Ministerial Forum in December 2006. The inaugural meeting of the 'regional mechanism' will be held on 15 December 2006.

Graph Showing Status of Project Document Completion (for Programme Components 1 and 2).



ANNEX 4

Dynamics of Coastal and Ocean Governance and ICM Cycle

Figure 1. Dynamics of Coastal and Ocean Governance.

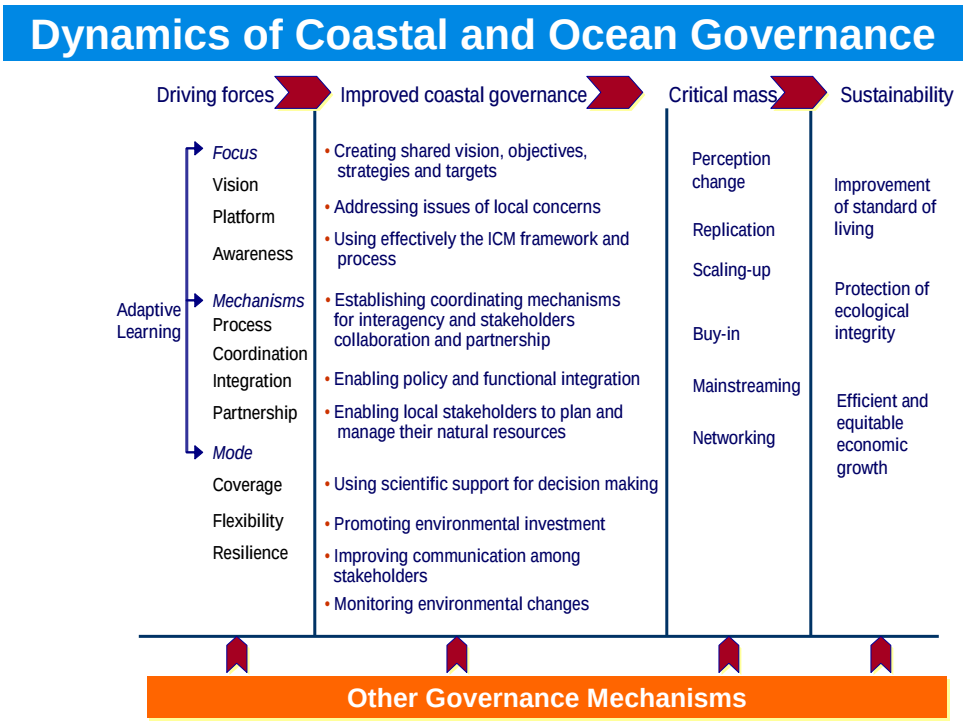


Figure 1 provides a general statement of the PEMSEA approach to the design of ICM sites and intended outcomes. It indicates how identifying issues of local concern, establishing coordinating mechanisms, doing careful technical analysis and similar activities are designed to change perceptions of what's important and possible, create networks and support and ultimately enhance environmental conditions and enhance livelihood conditions.

Figure 2. ICM Programme Cycle.

ANNEX 5

List of PEMSEA Publications

LIST OF PEMSEA PUBLICATIONS

Technical Reports	
1	Port Safety Audit Manual Vol. 2
2	Port Safety Audit Manual Vol. 1
3	The Development of National Coastal and Marine Policies in the People's Republic of China: A Case Study
4	Case Study on the Integrated Coastal Policy of the Republic of Korea
5	Integrated Environmental Impact Assessment for Coastal and Marine Areas: A Training Manual
6	Manila Bay Refined Risk Assessment
7	Danang Initial Risk Assessment
8	Southeastern Coast of Bali Initial Risk Assessment
9	Bohai Sea Risk Assessment
10	Port Klang Initial Risk Assessment
11	Chonburi Initial Risk Assessment
12	Framework for National Coastal and Marine Policy Development
13	Integrated Information Management System (IIMS) for Coastal and Marine Environment: a) A Guide to Establishing IIMS and b) User Manual with CD-ROM
14	Xiamen: An ICM Journey
15	A Perspective on the Environmental and Socioeconomic Benefits and Costs of Integrated Coastal Management: The Case of Xiamen, PR China
Workshop Proceedings	
1	Determining Environmental Carrying Capacity of Coastal and Marine Areas: Progress, Constraints, and Future Options
2	The East Asian Seas Congress 2003: Regional Implementation of the WSSD Commitments for the Seas of East Asia
Info. Series	
1	Proceedings of the Pilot Intersessional Consultative Group Meeting
2	Proceedings of the Consultative Workshop on the Gulf of Thailand Environmental Management Project
3	Proceedings of the Senior Experts Dialogue on Coastal and Marine Policy

4	Manila Bay Initial Risk Assessment
5	Regional Consultative Workshop on Strengthening Recovery of Ship Pollution Clean-up Costs and Damage Claims
6	Proceedings of the National Conference on Media as Key Partners in Environmental Sustainability
7	Proceedings of the First Meeting of the Multidisciplinary Expert Group
8	Valuing Benefits from Integrated Coastal Management: Workshop Report
9	Proceedings of the Experts' Meeting on Strategies for Better Coastal and Ocean Governance
10	Proceedings of the 2nd Forum of the Regional Network of Local Governments Implementing Integrated Coastal Management (RNLG)
11	Proceedings of the Seminar on Leadership in Ocean and Coastal Governance
12	Proceedings of the Senior Government Officials' Meeting on the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA)
13	Proceedings of the Preparatory Meeting for the Working Group on the Implementation of the SDS-SEA
14	Proceedings of the Working Group Meeting on the Implementation of the SDS-SEA
15	Consensus Building for the Formulation of the Sustainable Development Strategy for the Seas of East Asia
16	Meeting of the Working Group on the Regional Implementing Mechanism for the SDS-SEA
17	Proceedings of the 4th Subregional Meeting of the Gulf of Thailand Project Task Team
18	Proceedings of the Fourth Forum of the Regional Network of Local Governments Implementing Integrated Coastal Management: Building Better Coastal Governance through Stronger Local Alliance
19	Proceedings of the Workshop on Ecosystem Management of Interrelated River Basins, Estuaries and Coastal Seas
Tropical Coasts Magazine	
1	Tropical Coasts, July 2000: Who Pays for the Damage? Oil and Chemical Spills
2	Tropical Coasts, December 2000: A Challenging Journey—Coastal and Marine Policymaking in East Asia
3	Tropical Coasts, July 2001: Transboundary Environmental Issues
4	Tropical Coasts, December 2001: Partnerships for the Environment
5	Tropical Coasts, July 2002: Keeping the Essentials Flowing
6	Tropical Coasts, December 2002: Rare...Endangered.. For Sale.
7	Tropical Coasts, July 2003: The Regional Approach
8	Tropical Coasts, December 2003: The Role of Media in Sustainable Development

9	Tropical Coasts, July 2004: PEMSEA Experiences in the Evolution of Coastal Management
10	Tropical Coasts, December 2004: Coast to Coast — From Demonstration to Replication
11	Tropical Coasts, July 2005: Call to Action — Disaster Risk Reduction and Post-Tsunami Reconstruction
12	Tropical Coasts, December 2005: Port Safety, Security, Health and Environment
Programme Steering Committee Meeting Proceedings	
1	Proceedings of the 7th PSC Meeting
2	Proceedings of the 8th PSC Meeting
3	Proceedings of the 9th PSC Meeting
4	Proceedings of the 10th PSC Meeting
5	Proceedings of the 11th PSC Meeting
Strategies	
1	Manila Bay Coastal Strategy
2	Danang Coastal Strategy
3	Environmental Strategy for the Seas of East Asia
4	Bali Coastal Strategy
5	Klang Coastal Strategy
6	Chonburi Coastal Strategy
7	Sihanoukville Coastal Strategy
8	Sustainable Development Strategy for the Seas of East Asia
9	Sustainable Development Strategy for the Seas of East Asia/Putrajaya Declaration of Regional Cooperation for the Sustainable Development of the Seas of East Asia
10	Coastal Strategy of Nampho City, DPR Korea
11	Bohai Sea Sustainable Development Strategy
Policy Briefs	
1	PEMSEA Policy Brief – Sustainable Trade in Marine Endangered Species in East Asia
	Others
1	PEMSEA Mid-Term Evaluation Report
2	Sustaining Benefits

ANNEX 6

Summary/ Overview of Other Materials Available to the Evaluation Team

Summary / Overview of Other Materials Available to the Evaluation Team

Project Document Compliance Matrices
1. ICM sites 2. Pollution Hot Spots 3. Programme Components 3 to 10
Site Terminal Reports
1. ICM sites 2. Pollution Hot Spots
Programme Component Terminal Reports
1. Programme Components 3 to 10
References for Programme Management
1. Socioeconomic and demographic characteristics of PEMSEA countries 2. GEF Operational Program relevant to PEMSEA 3. PEMSEA's Second Phase Objectives 4. GEF Contributions to the PEMSEA Regional Programme 5. Co-financing of the Regional Programme 6. List of GEF Focal Points 7. List of UNDP Resident Representatives 8. List of PEMSEA National Focal Points 9. Terms of References of National Focal Points 10. Organizational and functional charts 11. List of current and former staff 12. List of PSC Meetings 13. Terms of References of Programme Steering Committee 14. Status of implementation of Mid-Term Evaluation recommendations 15. List of mission reports (Second Phase) 16. List of sub-contracts issued to the sites (Second Phase) 17. List of Collaborative Projects 18. List of M&E Reports Submitted to UNDP/GEF 19. List of Planning Workshops held 20. Table showing financial auditing schedules and team
References for Immediate Obj.1 (ICM)
1. Framework of ICM Program Development and Implementation 2. List of local coastal strategies adopted and being implemented 3. Case Study on Socioeconomic Benefits of Integrated Coastal Management (ICM) in Xiamen, PR China (1995–2001) 4. Marine Management and Coordination Committee of Xiamen, PR China
References for Immediate Obj.2 (Pollution Hotspots)
1. Joint agreements for Gulf of Thailand 2. Risk Assessment/Management in Subregional sea areas 3. Consultation Process on the formulation of the Manila Bay CS

References for Immediate Obj.3 (Capacity Building)
1. Capacity-Building Activities of the Regional Program for the Second Phase (number of programs and trainees) 2. Participants to PEMSEA Capacity-Building Activities by Country (Second Phase) 3. Annual Total of Country Participants Trained by the Regional Programme for the second phase 4. List of Interns and Fellows of the Regional Programme for the second phase 5. List of Workshops and Seminars organized by Regional Programme (Second Phase) 6. List of Training Courses (Second Phase) 7. List of outside of the region participants to PEMSEA capacity-building activities
References for Immediate Obj.4 (Regional Networks/RTF)
1. List of RTF mobilization 2. Diagram PEMSEA database (PEMSEA gateway)
References for Immediate Obj.5 (Environmental Investments)
Diagram on Public-Private Partnership (PPP) for environmental management
Additional References for Immediate Obj.8 (Civil Society Mobilization)
1. List of Publications by Categories and Year Published (Second Phase) 2. List of NGOs involved in PEMSEA activities 3. List of Private Sector involved in PEMSEA activities 4. List of academic institutions involved in PEMSEA activities 5. List of Tropical Coasts published 6. List of videos produced 7. Graph showing trends of PEMSEA website
Reference for Immediate Obj.9 (Coastal and Marine Policy)
Outline of baseline information on the state of coast report
References for Immediate Obj.10 (Regional Mechanism)
1. International conventions ratified by the participating countries prior to 1994 and after 1994 (Table) 2. PEMSEA's Partnership Agreement 3. Partnership Operating Arrangement 4. Development of SDS-SEA (Diagram)
REPORTS
Bali ICM Project
1. Summary Report Stakeholders Consultation for Governor Decree Concerning Integrated Coastal and Marine Management in Bali Province 2. Inception Report: Strengthening Institutional Arrangement for the Implementation of Integrated Management in Bali, Indonesia 3. Need Assessment: Strengthening Institutional Arrangement for the Implementation of Integrated Management in Bali, Indonesia 4. Report: Inception Workshop of Coastal Strategy Implementation 5. Monthly Accomplishment Reports

6. Quarterly Accomplishment Reports
7. Annual Accomplishment Reports
8. Traditional Villages Competition Report
9. Bali Integrated Solid Waste Management Scheme: Pre-Feasibility Study Report
10. Denpasar Sewerage Scheme Development: Pre-Feasibility Study Report
11. Summary Report of the Contingent Valuation Method Survey
12. Coordination Meeting at City and Regencies within Bali Province
13. Development of Integrated Environmental Monitoring Program for Bali, Indonesia: Inception Report
14. Workshop Report on Integrated Environmental Monitoring Programme Development and Institutional Strengthening for Integrated Coastal Management Implementation in Bali
15. Development of Integrated Environmental Monitoring Programme for Bali, Indonesia: Inception Report
16. Preparation of a Draft Integrated Environmental Monitoring Programme for the Bali ICM Demonstration Site (Assessment Report on Existing Environmental Monitoring Programme at Bali)

Chonburi ICM Project

17. Report on application of IIMS Query system to generate reports for RA and environmental profile
18. Final Report on Establishment of IIMS
19. Report on the Coastal Strategy Declaration Ceremony of the Chonburi National ICM Project
20. Coastal Strategy Consultation Report
21. Updates on Project on Strengthening of Capacity for Marine Oil Spill Prevention and Management at the Local Level
22. Updates on Project to Enhance Local Capacity and Stakeholders' Support for Wastewater and Pollution Management
23. Updates on Enhancing Local Capacity and Stakeholders' Support for Wastewater and Pollution Management.
24. Inception Report on the Development of Sriracha Coastal Strategy Implementation Plan
25. Progress Report of the Chonburi National ICM Demonstration Project (July to September 2004)
26. Progress Report of the Chonburi National ICM Demonstration Project (April to May 2005)
27. Progress Report of the Chonburi National ICM Demonstration Project (July 2005)
28. Progress Report of the Chonburi National ICM Demonstration Project (August 2005)
29. Progress Report of the Chonburi National ICM Demonstration Project (September 2005)
30. Report on the Project Management Committee for the Chonburi ICM Project (June 2, 2005)
31. Final Report: Strengthening Municipal Level ICM Planning and Implementation
32. Report on the Coastal Strategy Declaration Ceremony of the Chonburi National ICM Project
33. Report on the Evaluation of Attitude/Consciousness of Target Groups towards Coastal Resources

Danang ICM Project

34. Inception Report: Coastal Strategy Implementation Plan
35. Start-up Report: Development of Coastal Strategy Implementation Plan
36. Report on Result of Pilot Integrated Environmental Monitoring Program

37. Inception Report: Development of Integrated Environmental Monitoring Program in Danang City
38. Final Report on Institutional Arrangements for ICM Implementation in Danang City
39. Inception Report: Institutional Arrangements in Danang City
40. Workshop Summary Report on Evaluation of the Effectiveness of Public Awareness Activities on Waste Segregation and Beach Cleanup
41. Summary Report of the Stakeholder Consultation Workshops on Waste Segregation and Beach Cleanup
42. Report on Public Awareness Survey
43. Summary Report of the Danang-wide Stakeholder Consultation Workshops
44. Final Report on the Establishment of IIMS and Linkage with GIS, including the Plan of Sustaining IIMS
45. Report on Application of IIMS and Linkage with GIS on the Generation of Data
46. Report on Collection, Collation, Standardization and Encoding of Data in IIMS
47. Report on IIMS and GIS assessment
48. Training on Environmental Risk Assessment for Danang ICM Site, 3-8 December 2001
49. Summary Report on the IEC Campaign of PPP in Environmental Investment
50. PEMSEA Investors Roundtable 2003
51. Summary Report on Danang Investors Roundtable 2003
52. Report on the Conduct of the Contingent Valuation Method Training Workshops
53. Report on CVM Pre-test
54. Monthly Accomplishment Reports
55. Quarterly Accomplishment Reports
56. Summary reports on Danang ICM Core Group meeting
57. Inception Workshop and Environmental Profile Development for the National ICM Demonstration Site in Danang, Vietnam
58. Summary Report: Inception Workshop, Danang, 7-9 June, 2000
59. Minutes of PCC meetings
60. Coastal-Use Zoning Plan for Danang City
61. Summary Report on Classification of Coastal Use Zones within Sub-Project on the Development of Coastal-Use Zoning Plan for Danang City
62. Report on Assessment of Coastal Use Conflict and Proposed Solutions for the Development of Coastal-Use Zoning Plan of Danang City
63. Draft Report on the Coastal Use Regulatory System of Danang City
64. Summary Report on Training Course on the Development of an Integrated Coastal-Use Zoning Plan and Institutional Framework for Implementation in Danang, Vietnam

Klang ICM Project

65. Port Klang ICM Projects Inception Report
66. Port Klang ICM Projects Revised Inception Report Project Management Summary
67. Port Klang ICM Projects Progress Report 1
68. ICM Project : Report on the Implementation and Evaluation of IEC Plan
69. Integrated Information Management System (IIMS) Training for Klang ICM Site
70. Training on Environmental Risk Assessment for Chonburi and Klang ICM Sites
71. 2nd Report on the Establishment and Operationalization of an IIMS for Port Klang
72. Public Awareness and Participation Training for Klang ICM Site
73. Mission Report of the Senior Programme Officer for the Technical Programme Operations, Port Klang, Malaysia

74. Annual Report 2001
75. Draft Integrated Environmental Monitoring Programme for the Port Klang ICM Demonstration Site
76. Draft Pre-Feasibility Report: Environmental Investment and PPP Project PEMSEA (UNDP-IMO-GEF)
77. Pre-Feasibility Studies for the Integrated Solid Waste Management in Klang and Kuala Langat

Batangas ICM Project

78. Planning Workshop Report: Updating the Strategic Environmental Management Plan of Batangas, Philippines
79. Report on Initial Analysis: Updating the Strategic Environmental Management Plan of Batangas, Philippines
80. Inception Workshop Report: Integrated Coastal Management in the Batangas Bay Region: A Case Study

Sihanoukville ICM Project

81. IBEMP Pilot Monitoring Program Report, July to September 2005
82. Beach Cleanup Report, Occheauteal Beach, Sihanoukville, Cambodia
83. Report on IIMS Establishment in Sihanoukville, Cambodia
84. Monthly Accomplishment Reports
85. Quarterly Accomplishment Reports
86. PCC Meetings Reports

Xiamen ICM Project

87. Project Inception Report: Refinement and Updating of Xiamen Strategic Environmental Management Plan (SEMP)
88. Project Start-Up/Organization Report for 2nd Cycle ICM Programme
89. Report on the Results/Findings of the Environmental Risk Assessment (Jiulongjiang River Estuary)
90. Report on the Regional Training Course on the Development, Implementation and Management of Coastal and Marine Environmental Projects, April 2–29, 2000
91. Progress Report of Regional Training Course on ICM in Xiamen, China, November 21–30, 2001
92. Pre-Feasibility Study Report on Environmental Integrated Management and Development Project for Maluan Bay, Xiamen
93. Appendix Dataset of Project: The Socioeconomic Benefits of ICM in Xiamen
94. Project Implementation Report: Socioeconomic Benefits of ICM in Xiamen
95. Progress Report of National Training Course on ICM in Xiamen, China, June 24–29, 2004
96. Progress Report of National Training Course on ICM in Xiamen, China, Nov. 27 to Dec. 2, 2005
97. Progress Report of National ICM Training for Trainers in Xiamen, China, Sept. 21–24, 2004
98. Inception Report: ICM in Xiamen, PR China: A Case Study
99. Environmental Management Manual

Bataan ICM Parallel Site

100. Inception Report on the Coastal-Use Zoning Plan for the Province of Bataan

Bohai Sea

101. Report on the Establishment of IIMS database in Bohai Sea
102. Report on data gathering, screening and conducting GIS data and verification on linking IIMS and GIS, National Marine Data and Information Services, SOA, China, May 31, 2004
103. Final Report: National Marine Data and Information Services, SOA, China, August 1, 2004
104. GEF Project – Integrated Information Management System of Bohai Sea
105. Summary of the Study and Discussion on the Training of IIMS
106. Assessment Report of GEF Bohai Sea Environmental Information Management System (IIMS)
107. The Report of the Plan for Ecological Environment Construction of Changxing Island in Dalian City, Liaoning Province
108. Annual Report for 2004
109. Annual Report for 2004
110. Quarterly Report, October – December 2004
111. Quarterly Report, July – September 2004
112. Quarterly Report, January – March 2005
113. Quarterly Report, April – June 2005
114. Quarterly Report, April – June 2004
115. Quarterly Report, January – March 2004
116. Quarterly Report, October-December 2003
117. Quarterly Report, July – September 2003
118. Quarterly Report, April – June 2003
119. Quarterly Report, January – March 2003
120. Final Report of GEF/UNDP/IMO Project Entitled " Development and Implementation of a Multi-sectoral Marine Environmental Monitoring Programme
121. Report on Waste Assessment and Management Improvement Measures for Bohai Sea
122. Inception Report on the Bohai Sea Functional Zoning
123. Research Report on the Bohai Sea Functional Zoning
124. Conclusion Report on the Integrated Land and Sea Use Zoning Scheme for Bohai Sea
125. Report on the Implementation of Public Awareness and Establishment of IIMS
126. Summary Report on the Meeting to Review the Draft SEMP inside CIMA
127. Summary Report on Stakeholders' Consultation Meeting for SEMP (draft)
128. Report of Legislative Framework of Environmental Management of Bohai Sea Area
129. Risk Management Plan in Bohai Sea, China
130. BCA of Risk Management Options and Recommendations on the Most Cost-Effective Options in the Bohai Sea, China
131. Final Report The Benefit-Cost Analysis of Identified Economic Activities and Recommendations on Priorities for Risk Management in the Bohai Sea

Gulf of Thailand

132. Report on Thailand's Existing Regulations and Laws Pertaining to the Recovery of Claims for Response/Cleanup Costs and Economic Damages as a Consequence of Oil Spills
133. Inception Report: Capacity Building for Natural Resource Damage Appraisal for Oil Spills with Special Focus on Fishery and Aquaculture
134. Report on the Consultation Meeting to Adopt the Draft National Oil Spill Contingency Plan and Joint Statement and Framework Programme of Cooperation for the Gulf of Thailand
135. Contingency Plan for Oil Spill Response in Cambodia

136. Cambodia Country Report on Assessment of Oil Spill Risk and Its Impacts
137. Report on the Analysis of Risks Associated with Oil Spill in the Southern Marine and Coastal Water of Vietnam and Proposed Response Strategy
138. Draft Joint Statement Cambodia, Thailand and Vietnam on Partnership in Oil Spill Preparedness and Response in the Gulf of Thailand
139. Project Inception Report: Project on Capacity Building for Oil Spill Response and Management in the Southern Region of Vietnam
140. PEMSEA Claims and CP Workshop, July 7th to 10th 2003 – Ho Chi Minh City, Vietnam, Close-up Report
141. Inception Report: Capacity Building for Oil Spill Preparedness, Response and Management in the Southern Region of Vietnam

UNPUBLISHED PROJECT OUTPUTS

Bali ICM Project

1. Institutional Analysis for the Implementation of Integrated Management in Bali, Indonesia
2. Draft Implementation Plan for the Bali Coastal Strategy
3. Development of Integrated Environmental Monitoring Program for Bali, Indonesia: Action Plan for Year 2004/2005
4. Integrated Beach Environmental Monitoring Program (IBEMP) for the Southeastern Coast of Bali, Indonesia: Action Plan for Pilot Test

Chonburi ICM Project

5. Integrated Coastal Management Action Plan for Chonburi Province on 2006–2008
6. Program on Enhancing Local Capacity and Stakeholder Support for Wastewater and Pollution Management
7. Strengthening of Capacity for Marine Oil Spill Prevention and Management at the Local Level
8. Impacts of Transfer of Dusty Cassava Flour and other Commodities in Sriracha Bay and Si Chang Island
9. Project on Conservation and Restoration of Marine and Coastal Resources in Sriracha Bay, Chonburi Province
10. Operation and Training Plan for the ICM Project of Chonburi Province, June to September 2005
11. Draft of Sriracha Coastal Strategy Implementation Plan
12. Coastal Management for Tourism and Conservation of Natural Resources at Koh Loi, Sriracha Municipal Town
13. The Proposed Action Plan for Public Awareness and Community Mobilization Activities
14. Communication Plan for the Chonburi ICM Project

Danang ICM Project

15. Final Coastal Strategy Implementation Plan
16. Pilot Integrated Environmental Monitoring Program
17. Institutional Analysis and Preliminary Recommendations for ICM Institutional Arrangements in Danang City
18. Communication Plan for ICM Danang

19. Action Plan on Community-based Cleanup
20. Action Plan on Implementation the Initial Risk Assessment
21. Pre-Feasibility Study of Construction of a Wastewater Treatment Plant in Hoa Khanh IP, Danang City
22. Pre-Feasibility study Hazardous Solid Waste Treatment in Danang
23. PEMSEA Investment Opportunity Brief: Integrated Industrial Wastewater and Hazardous Waste Treatment System, July 2003, Danang City, Vietnam
24. An Application of the Contingent Valuation Method on the Demand for Improved Sanitation Services in Danang, Vietnam
25. Classification of Coastal Use Zones and Proposed Development of Regulatory System within Sub-Project on the Development of Coastal-Use Zoning Plan for Danang City
26. Initial Analysis of Existing Institutional Framework

Klang ICM Project

27. Communication Plan for the National ICM Demonstration Project in Klang, Malaysia
28. Community-based Management Project ICM Port Klang 2005: Mangrove Rehabilitation at Kelanang Bay

Sihanoukville ICM Project

29. Communication Plan for ICM: Sihanoukville
30. Action Plan: Strategy for Sustainable Coastal Tourism Development of Sihanoukville
31. Action Plan for Coastal Pollution Prevention and Habitat Protection
32. Costal Environmental Profile of Sihanoukville

Batangas ICM Project

33. Integrated Coastal Management in the Batangas Bay Region: A Case Study

Xiamen ICM Project

34. The 2nd Cycle ICM Strategic Management Plan for Xiamen, PR, China
35. Environmental Risk Assessment Report of Jiulongjiang River Estuary Region
36. PEMSEA's Investment Opportunity Brief: Integrated Environmental Management and Development Project for Maluan Bay
37. Technical Report: The Socioeconomic Benefits of ICM in Xiamen
38. ICM Domestic Training in China
39. A Review of Integrated Coastal Management in Xiamen Over the Past Decade

Bataan ICM Parallel Site

40. Pre-Feasibility Study on the Integrated Solid Waste Management Project for the Province of Bataan

Bohai Sea

41. Sustaining IIMS in Bohai Sea
42. Risk Assessment Report
43. Initial Risk Assessment of Bohai Sea
44. Assessment Report on Changxing Island in Dalian City, Liaoning Province

45. Final Report: Benefit – Cost Analysis of Identified Economic Activities and Recommendation on Priorities for Risk Management in the Bohai Sea
46. Preliminary BCA and Action Plan
47. Final Report of Environmental Risk Assessment in the Bohai Sea, China
48. A Planning Study on the Control of Total Load of Sewage Discharged into the Bohai Sea
49. Advocacy and Communication Plan for the Bohai Sea Environmental Improvement Project (BSEIP), National Marine Data and Information Services, SOA, China, June 2005
50. Website Construction of Bohai Sea Enivironmental Management Project
51. Project Implementation Plan for Establishment of a Legal Framework and Implementing Mechanisms for Integrated Environmental Management of the Bohai Sea

Gulf of Thailand

52. Plan of Action: Capacity Building for Natural Resource Damage Appraisal for Oil Spills with Special Focus on Fishery and Aquaculture
53. Damage Appraisal Guide/Standard Operating Procedures: Capacity Building for Natural Resource Damage Appraisal for Oil Spills with Special Focus on Fishery and Aquaculture
54. Valuation Report: Capacity Building for Natural Resource Damage Appraisal for Oil Spills with Special Focus on Fishery and Aquaculture
55. Guidance on Oil Spill Risk Assessments
56. Draft Oil Spill Contingency Plan for the Southern Region of Vietnam
57. Joint Statement of Cambodia, Thailand and Vietnam on Partnership in Oil Spill Preparedness and Response in the Gulf of Thailand

PUBLICATIONS

Bali ICM Project

1. ICM Bali Newsletter
2. Southern Coast of Bali Initial Risk Assessment

Chonburi ICM Project

3. The Chonburi Coastal Strategy
4. The Chonburi Coastal Strategy (Thai version)
5. Chonburi Initial Risk Assessment

Danang ICM Project

6. Coastal Strategy of Danang City
7. Danang Initial Risk Assessment

Klang ICM Project

8. Port Klang Coastal Strategy
9. Port Klang Initial Risk Assessment

Batangas ICM Project

10. Strategic Environmental Management Plan: Province of Batanagas

Xiamen ICM Project
11. Proceedings of the 2nd Forum of the Regional Network of Local Governments Implementing Integrated Coastal Management (RNLG)
Bataan ICM Parallel Site
12. Review of Coastal Zone Policies related to Bataan 13. Bataan Coastal Strategy
Bohai Sea
14. Sustainable Development Strategy for Bohai Sea 15. Bohai Sea Environmental Risk Assessment
Gulf of Thailand
16. Gulf of Thailand Preliminary Oil Spill Risk Assessment 17. Proceedings of the Consultative Workshop on the Gulf of Thailand Environmental Management Project, 13-15 May 2001, Bangkok, Thailand
VIDEOS
Chonburi ICM Project
1. Chonburi ICM Video
Xiamen
2. Xiamen Story
Bohai Sea
3. Save Bohai Sea: Environmental Changes in Bohai Sea

ANNEX 7

Resource Mobilization

Resource Mobilization

Purpose	Partner	Counterpart Support ($)	Remarks
Component 1			
Demo Site			
Indonesia	Provincial Government of Bali	520,000.00	MOA of 13 March 2000
Vietnam	People's Committee of Danang Municipality (Vietnam)	709,250.00	MOA of 07 June 2000
Thailand	Provincial Government of Chonburi	287,394.00	MOA of August 2001
Malaysia	State Government of Selangor	491,895.00	MOA of 19 July 2001
DPR Korea	GBCIO[1] (DPR Korea)	698,435.00	MOA of 08 Sept 2000
Cambodia	Municipal Government of Sihanoukville	596,500.00	MOA of 12 June 2000
PR China	Municipal Government of Xiamen	350,000.00	MOA of July 2001
Parallel Site			
Philippines	Provincial Government of Bataan	155,000.00	MOA of 10 Feb. 2000, letter of 7 Feb. 2006
Philippines	Bataan Coastal Care Foundation	200,000.00	
Philippines	Provincial Government of Cavite	162,000.00	MOA of 8 March 2004
RO Korea	MOMAF (Shihwa Project)	6,000,000.00	
Indonesia	Sukabumi Regency	4,205,064.00	MOA of February 2003/ report of 1 Feb 2006
PR China	10 ICM Parallel Sites	3,000,000.00	estimated 300,000/site
Waste management facility (Batangas)	Wastes Systems New Zealand	200,000.00	MOA of 14 July 1999
Quest simulation model (Bali)	Hatfield Consultants	150,000.00	Proj. Doc. 22 June 2000
	Subtotal Component 1	**17,725,538.00**	
Component 2			
PR China	State Oceanic Administration (Bohai Sea)	2,647,300.00	MOA of 23 July 2000
Philippines	Government of the Philippines (Manila Bay)	1,867,347.00	Letter, January 2002
Manila Bay Environmental Management	Department of Environment and Natural Resources	948,347.00	MOA of 8 January 2001
Support for PEMSEA	Government of the Philippines	777,000.00	MOA of 8 January 2001
Manila Bay Environmental Management	Government of the Philippines	142,000.00	Letter, January 2002
Workshop on Ecosystem Management of Interrelated River Basins, Estuaries and Coastal Seas	MOMAF, Korea Maritime Institute, Masan City Government and Kyungnam University	60,000.00	
	Subtotal Component 2	**6,441,994.00**	

Purpose	Partner	Counterpart Support ($)	Remarks
Component 3			
Training/Regional Mechanism (2000–2001)	IMO	200,000.00	
Regional Training on IEIA	Sida/CMC	39,480.00	
Regional Training on Project Development Management	Sida/CMC	38,700.00	
Regional Training on ICM	Sida/CMC	69,640.00	
Port Safety & Environmental Management System (2002–2003)	IMO	150,000.00	PID, 08 Feb 2002
	Subtotal Component 3	**497,820.00**	
Component 4			
1st RNLG Forum, Study Tour	MOMAF	40,000.00	
2nd RNLG Forum, Leadership training, Study Tour	Municipal Government of Xiamen	20,000.00	
3rd RNLG Forum, ICM Study Tour, EAS Congress	Lembaga Urus Air Selangor (LUAS), State of Selangor	13,500.00	
4th RNLG Forum	Provincial Government of Bali	25,000.00	
	Subtotal Component 4	**98,500.00**	
Component 8			
Tropical Coasts	Sida/CMC	39,000.00	
Collaboration and Sharing Experiences in the Sustainable Development of Marine Coastal Resources	UNEP-GPA	19,000.00	MOU of January 2003
Renewal of Commitment for Collaboration and Sharing Experiences in the Sustainable Development of Marine and Coastal Resources	UNEP-GPA	80,000.00	MOU of May 2005
	Subtotal Component 8	**138,000.00**	

Purpose	Partner	Counterpart Support ($)	Remarks
Component 10			
EAS Congress (Maritime Transport Workshop)	IMO	81,174.00	
EAS Congress (Theme B Workshops)	Ship and Ocean Foundation	92,079.00	LOI, October 2003
EAS Congress (Land Based Pollution workshop)	UNEP-GPA	7,550.00	
EAS Congress (Fisheries and Aquaculture Workshop)	World Fish Center	30,000.00	
EAS Congress	Kualiti Alam Malaysia	2,652.00	
EAS Congress	Alam Sekitar Malaysia	3,183.00	
EAS Congress 2006	State Oceanic Administration	250,000.00	
Local Organizing Committee (LOC)	Department of Environment (DOE)	12,750.00	
Hosting of the Preparatory Meeting of the Working Group on the Implementation of the SDS-EAS	State Oceanic Administration	20,581.00	
1st Meeting of the Working Group on the Implementation of the SDS-EAS	Department of Environment and Natural Resources	4,000.00	
2nd Meeting of the Working Group on the Implementation of the SDS-EAS	Department of Environment and Natural Resources	5,000.00	
Dynamics of Regional Cooperation on Oceans and Coasts	Nippon Foundation	200,000.00	Grant Agreement
	Subtotal Component 10	**708,969.00**	
Programme Management/Resource Mobilization			
8th PSC Meeting	MOMAF, RO Korea	50,000.00	
9th PSC Meeting	Provincial Government of Chonburi	12,000.00	
10th PSC Meeting	Municipal Government of Xiamen	15,000.00	
11th PSC Meeting	Government of Cambodia	15,000.00	
	Subtotal Programme Management/Resource Mobilization	**92,000.00**	
	TOTAL	**25,702,821.00**	

ANNEX 8

Local Government Counterpart Resource Mobilization

Local Government Counterpart Resource Mobilization

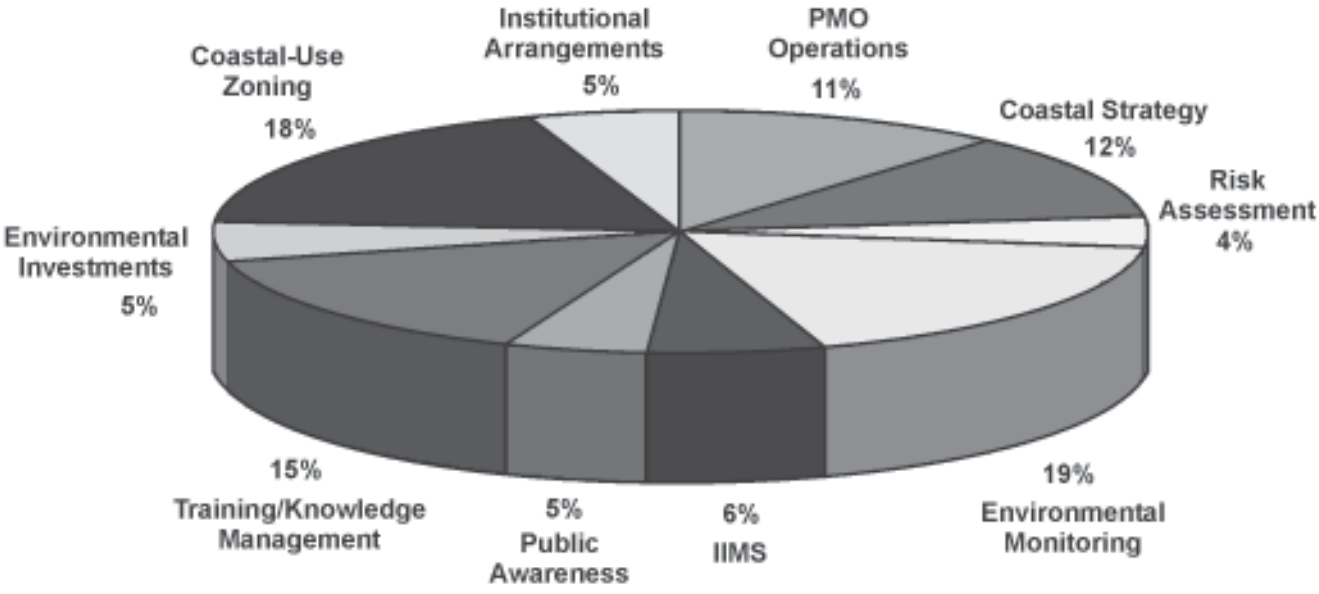
Contract/ Project Activity	Bali		Batangas		Chonburi		Danang		Nampho		SHV		Port Klang		Xiamen		Bataan	
	Cash (C)	Kind (K)	C	K	C	K	C	K	C	K	C	K	C	K	C	K	C	K
1. PMO Operations	11,156	8,400							79,863	6,953								
2. Coastal Strategy	1,200						45,090	2,750	14,630	46,468								
3. Environmental Risk Assessment	4,600	1,700				1,580	28,160	1,680										
4. Environmental Monitoring/IEMP							41,520	3,000	104,095	21,665								
5. IIMS		800					27,850		22,280	7,121								
6. Communication Plans/Public Awareness/ Videos/etc.	6,600						22,200	6,400	3,800	6,100								
7. Knowledge sharing/training/ ICM Training Center/ Workshops/Case Studies									10,306	746						130,000		
8. Environmental Investments	7,900						13,600	3,400					25,000					
9. Coastal-Use Zoning	7,500	4,025					75,600		25,975	43,035			8,000					9,000
10. Implementation Plan for Coastal Strategy																		
11. Institutional Arrangements	4,255						43,700	1,600										
12. Oil Spill Contingency/ Response																		
13. Resource Valuation/Natural Resource Damage Assessment																		
14. Coastal Strategy/ SEMP Implementation (i.e., other projects not fitting into above)									658,071	39,181				32,500		34,475		
TOTAL	43,211	14,925				1,580	297,720	18,830	919,019	171,269	0	0	33,000	32,500	0	164,475		

Contract/Project Activity	Total ICM		GRAND TOTAL	Percentage to Total
	Cash	Kind		
1. PMO Operations	91,019	15,353	106,372	6%
2. Coastal Strategy	59,720	49,218	108,938	7%
3. Environmental Risk Assessment	32,760	4,960	37,720	2%
4. Environmental Monitoring/IEMP	145,615	24,665	170,280	10%
5. IIMS	50,130	7,921	58,051	3%
6. Communication Plans/Public Awareness/ Videos/etc.	32,600	12,500	45,100	3%
7. Knowledge sharing/training. ICM Training Center/Workshops/Case Studies	10,306	130,746	141,052	8%
8. Environmental Investments	46,500	3,400	49,900	3%
9. Coastal-Use Zoning	126,075	47,060	173,135	10%
10. Implementation Plan for Coastal Strategy				0%
11. Institutional Arrangements	47,955	1,600	49,555	3%
12. Oil Spill Contingency/Response				0%
13. Resource Valuation/Natural Resource Damage Assessment				0%
14. Coastal Strategy/SEMP Implementation (i.e., other projects not fitting into above)	658,071	71,681	729,752	44%
	1,300,751	369,104	1,669,855	100%

* Exchange rate: as of Feb. 2006

USD 1 = 140.70 won
USD 1 = Rp 9,400
USD 1 = THB 40.84
USD 1 = PHP 53.05
USD 1 = VND 15.885
USD 1 = KHR 4,067
USD 1 = MYR 3.73
USD 1 = RMB 8.07

Figure 3. Local Government Counterpart Resource Mobilization by Project Activity at National ICM Demonstration Sites.



*based on subcontractual contributions totalling $1,670,000; 70% in-cash - 30% in-kind.

ANNEX 9

PEMSEA Cooperation and Collaboration with Partners

Collaborative activities that the Regional Programme has undertaken from July 2000 to December 2001

1. PEMSEA conducted a Regional Consultative Workshop on the Gulf of Thailand Environmental Management Project in May 2001 with the assistance of the Marine/Harbour Department of Thailand.

2. Oil Pollution Preparedness, Response and Cooperation (OPRC) training with the Harbour Department (Thailand), the Philippine Coast Guard, and East Asia Response, Ltd. (EARL). The Regional Programme in cooperation with IMO Technical Cooperation Division and EARL conducted an OPRC training course for supervisors and on-scene commanders in Bangkok, Thailand and Manila, Philippines. The training aimed to build the skills of relevant personnel in planning, coordinating and supervising response operations to oil spills along Manila Bay and the Gulf of Thailand and to promote intergovernmental, interagency and inter-sectoral partnerships.

3. A regional training on Strengthening Recovery of Ship Pollution Cleanup Costs and Damage Claims was conducted in partnership with the Maritime Port Authority of Singapore (MPA).

4. A workshop on Regional Network for Local Governments, implementation of the Shihwa ICM parallel site, and development of an environmental investment support fund with MOMAF, Kyonggi Provincial Government, City Governments of Ansan and Siheung, and the County of Hwasung, RO Korea.

5. Establishment of an ICM parallel site in Bataan, Philippines with the Bataan Coastal Care Foundation.

6. Waste management facility in Batangas, Philippines with Waste Systems New Zealand Ltd. and Batangas Environmental Services, Inc.

7. Development of a simulation model for Bali, Indonesia with Hatfield Consultants and Envision Sustainability Tools, Inc.

8. Development of a hydrodynamic and water quality model with Seaconsult Marine Research, Ltd.

9. Collaboration with Burapha University for the conduct of the risk assessment training and development of the initial risk assessment (IRA) for the Chonburi national ICM demonstration site.

10. Collaboration with the Universiti Kebangsaan Malaysia on the conduct of IRA for the national ICM demonstration site in Klang, Malaysia. The Port Klang Authority partnered with PEMSEA in 2001 to develop and field test the Port Safety Audit Manual.

11. Cooperation with Universiti Putra Malaysia and Malacca Straits Development Centre (MASDEC) for the organization and conduct of an international conference on the Straits of Malacca.

12. Establishment of a PEMSEA regional ICM training center with Xiamen University. The Training Center was officially inaugurated on November 24, 2001. The Regional Programme in cooperation with Xiamen University's International Training Center for Sustainable Coastal Development conducted a regional training on ICM. The course was designed to provide participants with the opportunity to analyze

practical issues and problems arising from multiple resource-use conflicts and resulting environmental impacts and learn about the process of integrated management planning and implementation for marine environmental protection and management as applied in Xiamen.

13. Cooperative activities with the Coastal Management Center (CMC) and the Swedish International Development Cooperation Agency (Sida) including organization and conduct of regional training courses and publication of *Tropical Coasts* magazine.

14. The Ministry of Maritime Affairs and Fisheries (MOMAF), RO Korea is jointly undertaking with PEMSEA a study on the establishment of an environmental investment support fund and environmental investment center.

15. Cooperation with World Wild Fund for Nature (WWF) – Philippines in the development of an environmental sensitivity index mapping process for Batangas Bay.

Collaborative activities undertaken by the Regional Programme from January – December 2002

1. The Regional Programme co-sponsored the Asia-Pacific Conference on Marine Science and Technology, which was organized by the Malaysian Society of Marine Sciences, the National Oceanography Directorate of Malaysia's Ministry of Science, Technology and the Environment, and the Institute of Biological Sciences of the University of Malaya.

2. The Regional Programme collaborated with the Environmental Studies Institute of Miriam College, Globe Programme, Philippine Science High School, Volunteer Service Overseas and WWF for the Development and Implementation of an Environmental Youth Camp Program.

3. The Regional Programme, in cooperation with EARL and Yantai Maritime Safety Administration and with the financial support of IMO, conducted a training course on Oil Pollution Preparedness, Response and Cooperation for Supervisors and On-Scene Commanders (OPRC Level 2) in Yantai, PR China in June 2002.

4. In PR China, the Regional Programme co-sponsored and jointly organized with the State Oceanic Administration (SOA) the Regional Workshop on Sharing Lessons Learned Towards Sustainable Coastal Development, which was hosted by the Xiamen Municipal Government. This Regional Workshop coincided with the Second Forum of the Regional Network of Local Government, Leadership Seminar and Study Tour held on 20–24 September 2002.

5. The Regional Programme participated in the World Summit on Sustainable Development in Johannesburg by setting up the PEMSEA exhibit and participating in the panel discussion at the workshop on Large Marine Ecosystems, as well as in ocean partnership group meetings and a plenary session of the intergovernmental meetings.

6. The Malaysia Institute of Maritime Affairs (MIMA) hosted the Experts Meeting on Better Coastal and Ocean Governance in Kuala Lumpur on 18-20 November 2002.

7. An Agreement was issued with GMA Network, Inc. for granting *gratis et amore*, the right to use the excerpts from the motion picture *Muro-Ami* to be included in the documentary entitled, "The PEMSEA Story."

8. In close coordination with PEMSEA, several consultations with various stakeholders were undertaken by HCL and ESTI at the National ICM Demonstration Project in Bali. The main output is a software/computer simulation model (Bali QUEST version 1 Beta) that facilitates debate and discussion among a variety of stakeholders, and was submitted in 2002.

During the 8th PSC Meeting, potential collaboration with the following observers were discussed:

1. ILO in the development of a complementary manual to PEMSEA's Port Safety Audit Manual, which covers aspects related to port worker safety in the landside port operations;
2. INTERTANKO on issues and initiatives relating to tanker port safety, oil spill response, and the ratification and implementation of international conventions by various countries in the region;
3. IOC/WESTPAC concerning testing of NEAR-GOOS and Remote Sensing Application for coastal management at PEMSEA sites;
4. Nippon Foundation concerning joint research toward a graduate degree program in ocean governance, and the establishment of a regional ocean think tank;
5. The Global Ballast Water Management Project on the development of a regional action plan for ballast water control and management;
6. The IMO Technical Cooperation Project on Particularly Sensitive Sea Areas;
7. The IAEA in technical cooperation projects related to harmful algal blooms;
8. The Maritime State University (MSU), Vladivostok, Russia, on hosting PEMSEA trainings using facilities of MSU and development of GIS for the Far Eastern Seas;
9. Tohoku University, Japan, concerning the IOC-related activities as well as aspects of satellite/physical oceanography;
10. UNEP/EAS on the Action Plan and the GEF project in the South China Sea; and
11. The World Bank on policy advice and financing of national coastal-related projects and programs.

Collaborative activities undertaken by the Regional Programme from January – December 2003

1. The Marine Department of Thailand hosted the 1st Senior Government Officials Meeting (SGOM) on 4–5 August 2003, and the 9th Programme Steering Committee (PSC) Meeting in Pattaya, Chonburi Province on 6–8 August 2003**.**

2. The Ministry of Science, Technology and Environment, Malaysia hosted the East Asian Seas Congress 2003 (8–12 December), in Putrajaya, Malaysia. The Department of Environment, Malaysia, is the National Focal Agency for PEMSEA, and also co-organizer of the EAS Congress 2003.

3. The Philippine Coast Guard (PCG) co-hosted the Training Workshop on Claims Recovery and Contingency Planning in February 2003.

4. A study tour in Xiamen ICM Demonstration site was conducted in March 2003 involving representatives from the Manila Bay area, Philippines; Sihanoukville, Cambodia; and Sukabumi Regency, Indonesia.

5. In February 2003, a Memorandum of Agreement was signed by PEMSEA and Sukabumi Regency to support, promote and collaborate on the development and implementation of an ICM parallel site.

6. Letter of Intention with the Ship and Ocean Foundation formalizing partnership with the Ship and Ocean Foundation to undertake activities including promotion and development of a regional strategy for sustainable development of the seas of East Asia, building national capacities, establishment and operation of regional think tank, organizing workshops and conferences.

7. The Marine Department (formerly the Harbor Department) hosted the 9th Programme Steering Committee (PSC) Meeting in Pattaya, Chonburi Province, on 6–8 August 2003.

8. The Project Management Office (PMO) of Chonburi ICM Demonstration Site is hosted by Sri Racha Municipality. Sri Racha also hosted the field trip for the 9th PSC Meeting in August 2003.

9. The Victoria Coastal Council was one of the supporting organizations of the EAS Congress 2003.

10. The Development Bank of the Philippines (DBP) co-hosted PEMSEA's Investors Roundtable held on 6 May 2003 at the DBP Building in Makati City.

11. In an agreement with Sky Foundation, Inc., the Knowledge Channel aired two PEMSEA videos, namely, (1) *Monsoon Tale*, which focuses on Xiamen, one of PEMSEA ICM sites, and Manila Bay, one of the subregional sea areas/pollution hotspots, and (b) *Kagandahan, Kabuhayan at Kaunlaran para sa Kinabukasan*, which focuses on BIGKIS-Bataan, the ICM program of the Province of Bataan.

12. The Philippine government-owned TV station, National Broadcasting Network (NBN-4), aired the *Monsoon Tale* video. Another government-owned station, Intercontinental Broadcasting Company (IBC-13), regularly aired the Bataan video and the Eco-Camp video.

13. The Management Association of the Philippines (MAP) assisted PEMSEA in promoting environmental investment opportunities in the Manila Bay area to its network of companies and executives, and co-organized the PEMSEA Investors Roundtable held on 6 May 2003 at the DBP Building in Makati City. The MAP also launched a book in February 2003, which includes photographs from PEMSEA ICM sites and activities. As part of the media network, PEMSEA is also working with the Environmental Committee of MAP to disseminate information about PEMSEA activities.

14. The Philippine Chamber of Commerce and Industry (PCCI) co-organized the PEMSEA Investors Roundtable held on 6 May 2003. As part of PEMSEA's Investment Network, PCCI remains a partner in the promotion of environmental projects among its members in the Philippines and its chamber partners within and outside the region.

15. PEMSEA organized a special session focusing on the Gulf of Thailand during the 6th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS 2003) held in Bangkok on 18–21 November 2003.

16. The International Association of Marine Aids to Navigation and Lighthouses Authorities (IALA-AISM) is a partner of PEMSEA in the development of the International Port Safety and Environmental Management (IPSEM) Code and has provided input as part of the peer review.

17. International Association of Ports and Harbors (IAPH) was a key partner of PEMSEA in the development of the IPSEM Code.

18. The International Navigation Congress, formerly the Permanent International Association of Navigation Congresses, or PIANC worked with PEMSEA in the development of the IPSEM Code and promotion of PSHEMS, and has given its inputs and suggestions as part of the peer review of the IPSEM Code.

19. The International Tanker Owners Pollution Federation (ITOPF), together with EARL, co-organized training workshops on claims recovery and oil spill contingency planning for PEMSEA's subregional sea areas/ pollution hotspots. It developed training materials and gave lectures for the workshops conducted in Manila in February 2003 and Ho Chi Minh City in July 2003.

20. A Memorandum of Agreement (MOA) between the International Ocean Institute (IOI) and PEMSEA was entered into by both parties in August 2003 to jointly pursue activities to promote coastal and ocean governance within the sustainable development framework.

21. The WWF Sulu-Sulawesi Marine Ecoregion Program held the Tri-National Integration Workshop on the Formulation of the Sulu-Sulawesi Marine Ecoregion Conservation Plan in June 2003. PEMSEA representatives participated in this workshop, which also served as avenue to review the integrated conservation issues, actions and responsibilities within local, national and ecoregional levels.

22. As a key partner of PEMSEA in the development and promotion of port safety and environmental management, United Nations Conference on Trade and Development (UNCTAD) Division for SITE has provided inputs as part of the on-going peer review of the IPSEM Code.

23. A key partner of PEMSEA in the promotion of port safety and environmental management is the United Nations Environmental Programme (UNEP). The Division of Technology, Industry and Environment (DTIE) of UNEP-Bangkok served as focal point and has provided inputs to the IPSEM Code.

24. In April 2003, a Memorandum of Understanding (MOU) was entered into by PEMSEA and UNEP/Global Programme of Action on Land-based Pollution (GPA) to enhance cooperation and to share experiences and knowledge in the governance of regional seas and oceans and sustainable development of marine and coastal resources. PEMSEA and GPA have agreed to collaborate on the production of *Tropical Coasts*, linkage of the respective websites, and development and dissemination of studies on national coastal policy, and to co-organize conferences and workshops. A PEMSEA staff participated in the Sixth Train-Sea-Coast Course Developers Workshop organized by UNEP-GPA and held in Germany from 23 June–3 July 2003.

25. The Maritime Transport Division of OECD has signified its willingness to be a partner in the development and promotion of the IPSEM Code.

26. Global Environment and Technology Foundation (GETF)/International Center for Environmental Financing and PEMSEA signed an MOU on 16 October 2003 to collaborate on innovative financing arrangements including the development of regional and national revolving funds.

27. Sponsors and Workshop Co-Organizers of EAS Congress:

- Asia-Pacific Forum of Environmental Journalists
- Global Environment Facility
- Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, Coordination Office, UNEP
- International Maritime Organization
- Selangor State Government
- Ship and Ocean Foundation
- United Nations Development Programme
- UNDP-GEF Regional Coordination Unit Asia and Pacific
- WorldFish Center

Supporting Organizations:

- China Institute of Marine Affairs
- Korea Maritime Institute, RO Korea
- Korea Ocean Research and Development Institute, RO Korea
- Maritime Institute of Malaysia
- Philippine Center for Marine Affairs
- Victorian Coastal Council, Australia
- Association of Southeast Asian Nations
- World Bank
- Asian Fisheries Society
- Coastal Management Center
- Conservation International
- East Asia Response Pte Ltd
- International Association of Independent Tanker Owners
- International Oceans Institute
- International Petroleum Industry Environmental Conservation Association
- International Tanker Owners Pollution Federation Ltd
- The World Conservation Union (IUCN) – Asia
- World Wide Fund for Nature – Philippines

Collaborative activities undertaken by the Regional Programme from January–December 2004

1. The Port Authority of Thailand (PAT) has designated Bangkok Port as the demonstration site for the Port Safety, Health and Environmental Management System (PSHEMS). Their participation started with the field testing of the PSHEMS manual. PEMSEA provided technical support for the establishment of PSHEMS at Bangkok Port, while PAT co-funded the training workshops and operating expenses of the project team.

2. An MOU with the Government of Quang Nam Province and the Ministry of Natural Resources and Environment on the Development and Implementation of an ICM parallel site in Quang Nam Province was signed on 10 November 2004.

3. The Cavite Province of the Philippines signed an MOA with the Department of Environment and Natural Resources (DENR) and PEMSEA on 8 March 2004 for the development and implementation of an ICM parallel site in the province.

4. The Quang Nam Province of Vietnam was officially accepted as PEMSEA's 5th ICM parallel site in August 2004 and signed the MOA in November 2004.

5. PEMSEA signed on 26 October 2004 an MOU with the Department of Sustainability and Environment of Australia on the collaboration and sharing of experiences and knowledge in the sustainable use and management of marine and coastal area.

6. Port of Tanjung Pelepas (PTP) demonstrated its commitment to support PEMSEA's PSHEMS initiative through the setting-up of the PSHEMS in the Port of Tanjung Pelepas. A Steering Committee

and project team was established for the implementation of the project. PTP co-funded the training workshops and operating expenses of the project team.

7. The City of San Fernando, Pampanga, Philippines, and the Pro-Environment Consortium, the selected private sector partner, signed an MOA for the development and implementation of an integrated solid waste management system for the city on 16 April 2004.

8. From 10–23 October 2004, the APEC Marine Environment Training and Education Center (AMETEC) of KORDI, RO Korea, conducted a training course on environmental monitoring related to oil spills with 13 participants from PEMSEA sites.

9. PEMSEA participated in the third APEC Integrated Oceans Management Forum held in Easter Island, Chile on 18–20 October 2004. PEMSEA shared the common vision and the efforts of the countries of the East Asian Seas region in the development and implementation of the SDS-SEA.

10. PEMSEA signed on 26 October 2004 an MOU with Australian Network of Maritime Education and Training Association on the pursuance of the common endeavor of assisting national capacity building for improvements in the health of the marine environment, including better coastal and ocean governance within a sustainable development framework.

11. The Department of Marine Science, Faculty of Science of Chulalongkorn University in Thailand organized two workshops in collaboration with the Pollution Control Department and PEMSEA to increase awareness and understanding of relevant agencies on environmental resource valuation and cost recovery from oil spills (i.e., CLC and FUND Conventions).

12. The City University of Hongkong and PEMSEA organized an IEIA training course, held on 24 November–4 December 2004 in Hong Kong. The University provided the course lecturers for the training course, which included participants from PEMSEA participating countries.

13. Under the partnership arrangements with PERSGA, Dr. Chua Thia-Eng, PEMSEA RPD, attended the PERSGA Retreat held in Jordan, from May 21–24 to share PEMSEA experience with regard to the regional collaborative framework, organization structure and sustainable financing initiatives. In addition, PEMSEA organized the missions of experts to assist in the development and conduct of PERSGA ICM Trainer Training in Sudan, May 12-18, 2005, and to undertake a training module on the application of economic instrument in managing coastal and marine resources in the PERSGA Workshop on ICZM and Economics in Jordan, June 19–23, 2005.

14. The IMPAC, CRC-Reef and PEMSEA collaborated in the development of an expression of interest to establish a partnership arrangement on effective management of the marine protected areas (MPA).

15. The Nippon Foundation collaborated with PEMSEA on the implementation of the project entitled Dynamics of Regional Cooperation on Coast and Ocean Governance. The first phase of the project began in March 2004 and was completed in August 2005.

16. A regional cable news network, CNBC Asia aired a 30-second special feature plug on

PEMSEA and its activities in the region. The plug was aired daily for a one-week period.

17. The Intercontinental Broadcasting Corporation (IBC-13) of the Philippines regularly aired the *PEMSEA Story*, the Bataan Video "*Kagandahan, Kabuhayan at Kaunlaran para sa Kinabukasan,*" and the PEMSEA Eco-Camp video. The videos began airing in May 2002. From September 2003–September 2004, an estimated 55 million viewers have seen the videos. In addition, PEMSEA provided IBC-13 two new videos for airing — the *EAS Congress Video* and the *Melasti: A Festival of Hope* video — last July 2004.

18. A privately owned production company, Isla TV aired its documentaries on NBN-4 and ZOE TV Channel 11. It aired the *Monsoon Tale* video twice in both channels.

19. Masan MBC, a major Korean TV broadcast company, produced a special one-hour TV program on Xiamen ICM experiences, in cooperation with PEMSEA and the Xiamen Municipal Government.

20. A Joint Communiqué was signed on 20 October 2004 with the Global Environment Facility Small Grants Programme (GEF-SGP) on the collaboration between PEMSEA and SGP through project development and implementation, relative to the sustainable development and management of marine and coastal areas of the seas of East Asia and the corresponding benefits derived by coastal communities, the poor and other marginalized groups within coastal communities.

Collaborative activities undertaken by the Regional Programme from January-December 2005

1. The Bali Provincial Government hosted the 4th Forum of the Regional Network of Local Governments Implementing ICM from 26–28 April 2005.

2. In Indonesia, the Bali Provincial Government, together with seven regencies and one municipal government, officially endorsed the Bali Coastal Strategy Implementation Plan and the Coastal Use Zoning Plan at the Bali ICM Workshop on 29 April 2005. As part of Bali Coastal Strategy Implementation, a partnership arrangement was also made between BAPEDALDA, a university, the tourism sector and other private sectors on the development and implementation of an Integrated Beach Environmental Monitoring Program through the signing of an MOA.

3. In Bataan, Philippines, an MOA was signed between the Province of Bataan, BCCFI and PEMSEA on 12 May 2005 for the extension of the implementation of the ICM program in the province. The Chair of the League of Mayors was one of the signatories of the MOA.

4. In Cambodia, with the assistance from PEMSEA, the Sihanoukville ICM project has initiated the implementation of an Integrated Beach Environmental Monitoring Program (IBEMP) through the operationalization of the Sihanoukville Environmental Laboratory (SEL). The IBEMP is a major step in consolidating efforts among public and private institutions, such as the Danish International Development Agency (DANIDA), Cambrew Ltd., and the Ministry of Environment, to conduct beach environmental quality monitoring

operations. Part of this initiative is the three-week capacity-building program led by the Regional Task Force members to strengthen the skills of implementers in data gathering and analysis. The project also assisted in the development of a Tourism Development Plan for one of the major tourist destinations, the Occheauteal Beach in collaboration with the Department of Tourism and the Department of Environment. The Municipal Government allotted about $20,000 for the implementation of initial activities for this project. Meanwhile, the Coastal-Use Zoning (CUZ) Plan was also finalized by local officials and was presented to the National Coastal Steering Committee (NCSC) for review and approval on 30 May 2005. While awaiting the formal acceptance and/or endorsement from the NCSC, the Municipal Government is identifying the preliminary mechanism for its implementation.

5. A Training Course on Oil Pollution Preparedness, Response and Cooperation (OPRC) for Supervisors and On-Scene Commanders, was held last 13–16 December 2005 in Cambodia. The course was organized and conducted through a partnership between PEMSEA, the Marine Department of Thailand, Industry Environmental Support Group (IESG) - Thailand and EARL.

6. The Working Group Meeting on the Implementation of the SDS-SEA was held from 15 to 18 May 2005 in Manila, Philippines. The Meeting was organized by PEMSEA RPO and hosted by the Philippine Department of Environment and Natural Resources (DENR). DENR provided support through hosting of dinners, field trip and local transport.

7. In collaboration with the Ministry of Maritime Affairs and Fisheries (MOMAF) of RO Korea, PEMSEA has organized and conducted the Workshop on Ecosystem Management of Interrelated River Basins, Estuaries and Coastal Seas in Masan, RO Korea, from 31 May to 4 June 2005. MOMAF has offered to host the Secretariat and further pledged to organize the second Twinning Workshop in Hainan, China, in December 2006 during the EAS Congress 2006.

8. The Government of Cambodia through the Ministry of Environment co-hosted the 11th PSC Meeting in Siem Reap last 1–4 August 2005. As the host country, Cambodia contributed support to the meeting by providing dinner for all the participants, local transport, logistical needs for the Secretariat Room, and shouldered expenses for the field trips.

9. A MOA was signed by PEMSEA, Ministry of Environment of Indonesia, Bali Provincial Government and Regency Governments of Buleleng, Jembrana and Tabanan in October 2005 to establish, develop and operationalize ICM parallel sites as part of the implementation of the SDS-SEA.

10. In October 2005, PEMSEA, the State Oceanic Administration (SOA) of China and the local governments of Dongying Municipality, Fangchenggang Municipality, Haikou City, Leting City, Lianyungang Municipality, Panjin Municipality, Qingdao Municipality, Quanzhou Municipality, Wenchang City, Yangjiang Municipality signed an MOA to establish, develop and operationalize ICM parallel sites.

11. PEMSEA collaborated with the Xiamen Municipal Government, UNEP, State Environmental Protection Agency of China and ICLEI in co-organizing the 2005 Global Coastal Cities Forum in Xiamen. The event took place last 8–11 October 2005.

12. An expression of interest followed by a proposal was submitted to the Regional Natural Heritage Programme (RNHP) of Australia on 9 January 2005 for a collaborative project on effective marine protected area (MPA) management in the Seas of East Asia. The project proposal was jointly developed by PEMSEA, the International Marine Project Activities Centre Ltd., the Cooperative Research Centre, Reef Research Centre Ltd., and its associate, International Ocean Institute Regional Operational Centre for Australia and the Western Pacific and several international NGOs such as WWF and the World Conservation Union.

13. PEMSEA has forged a partnership with the Thailand Environmental Institute (TEI) in jointly pursuing sustainable coastal management and development through capacity building and promoting partnerships. The MOU was signed on 25 April 2005 and will take effect until December 2006. TEI has conducted an on-site ICM training workshop in Sri Racha Municipality on 16–18 February 2005.

14. PEMSEA signed an MOU with UNEP-Global Programme of Action (GPA) on the renewal of commitment to collaborate on the sustainable development of marine and coastal resources and governance of the Seas of East Asia on 8 June 2005. The agreement will take effect until December 2006.

15. The Regional Programme Director attended and delivered a presentation at the First Regional Partners Workshop on Regional Coordination Mechanisms in the East Asian Seas Region organized by UNEP EAS Regional Programme and the Coordinating Body on Seas of East Asia (COBSEA) from 8–9 May 2005.

16. The Masan Munhwa Broadcasting Corp. (MBC) produced the video *Future of Our Coasts* that featured the ICM initiatives in ROK. PEMSEA translated the video to English for distribution to stakeholders and partners. MBC gave PEMSEA the right to distribute the translated video to media partners in the Philippines for broadcast in June 2005.

17. The Xiamen TV Station carried out the production of the *Xiamen Story* video, while PEMSEA financed the production and polished the final editing. The Xiamen Oceans Fisheries Department and Xiamen Municipality also extended some assistance in the development of the video. The Xiamen TV Station aired the video (Chinese version) twice in July 2005 in the program "Oceanic Viewpoint." The video was aired through the coordination of the Xiamen PMO.

18. Danang Radio and Television aired the *Danang: A City at the Crossroads* video twice a month from June–September 2005. The airing of the video was coordinated by the Danang City PMO.

19. A letter of agreement was signed between GEF/UNDP/IMO PEMSEA and CCI Asia Group Corp. in June 2005 for the broadcast of PEMSEA videos. The airing of videos will continue until July 2006.

20. PEMSEA, Plymouth Marine Laboratory (PML) and Plymouth Marine Applications Ltd. (PMA) signed an MOU to enhance collaboration and share experiences and knowledge in the sustainable use and management of coastal and marine areas.

21. The Training Course on Oil Pollution Preparedness, Response and Cooperation (OPRC) for Supervisors and On-Scene Commanders was held 13–16

December 2005. The course was organized and conducted through a partnership between PEMSEA, the Marine Department of Thailand, Industry Environmental Support Group (IESG)-Thailand and EARL.

22. A draft MOA was prepared between PEMSEA, SCOTIA and the Municipality of Puerto Galera for the Development and Implementation of PPP projects.

Collaborative activities undertaken by the Regional Programme from January 2006 to the present

1. In line with the collaboration between the Nippon Foundation and PEMSEA on the implementation of the project entitled Dynamics of Regional Cooperation on Coast and Ocean Governance, a special *Tropical Coasts* Magazine Issue on Dynamics of Regional Ocean Governance is being developed. The issue is scheduled to be published by July 2006.

2. PEMSEA, in partnership with the City University of Hong Kong and the Coastal Management Center, is organizing a training workshop from 5–10 June 2006 at the Centre for Coastal Pollution and Conservation of the City University of Hong Kong. The Workshop will focus on integrated environmental impact assessment (IEIA) for coastal and marine areas.

3. The countries of Cambodia, Thailand and Vietnam signed the Joint Statement of Cambodia, Thailand and Vietnam on Partnerships in Oil Spill Preparedness and Response in the Gulf of Thailand on 12 January 2006. The signing was facilitated by PEMSEA. The event marked a significant milestone for the three countries and the PEMSEA-supported Gulf of Thailand Environmental Management Project.

4. PEMSEA and the League of Cities of the Philippines (LCP) signed an MOU to share experiences and knowledge in integrated coastal and marine management and sustainable financing mechanisms.

5. The Department of Environment and Natural Resources of the Philippines agreed to host the 12th PSC Meeting in Davao City, Philippines, on 1-4 August 2006. As host country, the Philippines offered to provide logistical support (i.e., secretariat room, meeting materials and equipment, local transport and guide), as well as the hosting of a welcome dinner and the field trip. The Regional DENR office will also serve as the local Secretariat to the Meeting.

6. The Ministry of Land, Infrastructure and Transport (MLIT) of Japan organized and facilitated the PEMSEA lecture on SDS-SEA to the members of the Japanese Association of Coastal Zone Studies last 15 February. The lecture was delivered by Dr. Chua Thia-Eng.

7. The PEMSEA received an invitation to the 12th Pacific Congress on Marine Science and Technology (PACON 2006) to be held in Yangon, Myanmar, on 11–15 of June. The RPD is invited to deliver the keynote address.

8. PEMSEA received an invitation to the First Technical Working Group Meeting for the ASEM Ocean Initiatives. The Meeting will be held in Manila, Philippines on 29-31 March. PEMSEA is invited to make a presentation regarding its initiatives and to contribute in the discussions regarding the formulation of an Action Plan for the said Ocean Initiative.

9. PEMSEA through the RPD participated in the panels/forums at the Third Global Forum on Coasts, Oceans and Small Islands in January.

10. PEMSEA and the Municipal Government of Sihanoukville, Cambodia, signed a contract on the Pilot-Scale Implementation of a Solid Waste Management Project in Sihanoukville. The contract duration is from 20 February–30 June 2006.

11. With the financial and technical support of PEMSEA, the Municipal Government of Sihanoukville will implement the Tourism Development and Management Plan for Occheauteal Beach in Sihanoukville.

12. To facilitate the sustainability of the ICM Programme in Sihanoukville, PEMSEA provides continuous financial and technical assistance to the PMO operations. The PMO will focus on the implementation and evaluation of the ICM Program as well as co-organize important events and forums including the National Forum/Consultation on Sustainable Coastal and Marine Management in Sihanoukville held 6-8 March 2006, in coordination with the Ministry of Environment of Cambodia.

13. With PEMSEA's assistance, the Environmental Management Department (BAPEDALDA) of Indonesia and the Bali Provincial Government will undertake various activities to ensure sustainable implementation of the ICM project activities toward the completion of the ICM demonstration project, and promote the replication of Bali ICM experiences in other coastal areas of Indonesia.

14. The Local Government Academy (LGA) and PEMSEA agreed to collaborate in the development and implementation of a national ICM Training Program, with Batangas Province as the demonstration site. The LGA will be tapped to participate in this project to provide expertise on developing the teaching skills of the professionals and packaging course materials, based on the ICM framework developed by PEMSEA.

15. A Consultative Workshop for the Implementation of the SDS-SEA was held in Chonburi Province, Thailand, on 7–8 March 2006. The workshop was organized jointly by the Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment (DMCR-MONRE) and the PMO of the Chonburi National ICM Demonstration Project, with guidance and input from the RPO.

16. EAS CONGRESS 2006: Confirmed Sponsors, Conference Co-Convenors and Supporting Organizations

- Asia-Pacific Fishery Commission
- Asia Pacific Forum of Environmental Journalists
- Asian Fisheries Society
- Centre for Marine Environmental Research and Innovative Technology, City University of Hong Kong
- China Institute of Marine Affairs
- Coastal Management Center
- Department of Sustainability and Environment, Victoria, Australia
- East Asia Response Pte. Ltd.
- Foundation for Environmental Education
- Food and Agriculture Organization of the United Nations - Regional Office for Asia and the Pacific
- GEF Small Grants Programme
- GEF/UNDP/IMO Global Ballast Water Management Programme (GloBallast)
- Global Forum on Oceans, Coasts and Islands
- Global Environment Facility

- Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) Coordination Office, UNEP
- International Maritime Organization
- International Marine Project Activities Centre
- International Ocean Institute
- International Petroleum Industry Environmental Conservation Association
- Korea Environment Institute, RO Korea
- Korea Maritime Institute, RO Korea
- Korea Ocean Research and Development Institute, RO Korea
- Marine Aquarium Council
- Marine Environmental Emergency Preparedness and Response Regional Activity Centre of the Northwest Pacific Action Plan (NOWPAP/MERRAC)
- Marine Stewardship Council
- Ministry of Maritime Affairs and Fisheries, Indonesia
- Ministry of Maritime Affairs and Fisheries, RO Korea
- Network of Aquaculture Centres in Asia-Pacific
- Nippon Foundation
- Ocean Policy Research Foundation
- Plymouth Marine Laboratory
- IAEA/ Regional Co-operative Agreement Regional Office
- Southeast Asian Fisheries Development Center (SEAFDEC)
- State Oceanic Administration, China
- Thailand Environment Institute
- United Nations Development Programme
- UNEP/East Asian Seas Regional Coordinating Unit
- UNDP/GEF Project on Reducing Environmental Stress in the Yellow Sea Large Marine Ecosystem (Yellow Sea Project)
- Victorian Coastal Council, Australia
- Wetlands International
- The World Bank

ANNEX 10

Leveraging Collaboration and Support

Leveraging Collaboration and Support

PEMSEA promotes people-to-people as well as sector-to-sector interactions through its ICM and subregional sea areas/pollution hotspots management activities. Each program provides a management framework featuring:

a. institutional arrangements (organizational arrangements, policies and legislation);
b. coastal strategies/environmental management strategic plans (long-term strategies) and issue and area-specific action programs (short-term actions) to address priority issues affecting sustainable development;
c. capacity building (development of local human resources);
d. stakeholders participation (private sector, NGOs, POs, academe, etc.);
e. scientific support (methodologies, approaches, expertise);
f. environmental investment (financing environmental management facilities and services); and
g. monitoring, evaluation and reporting (environmental and programme monitoring).

This management framework provides opportunities for various local stakeholders to work in partnership to address issues of mutual concern. The framework also enables various concerned stakeholders, such as donors, IFIs, UN agencies and international organizations to work with national and sub-national stakeholders collectively to provide solutions to priority problems and capacity needs.

There are a number of examples available which illustrate how the integrated management strategy and approach has facilitated collaboration by third parties at sites/projects where the Programme had helped prepare the foundation. In each case, new investments and/or new opportunities were either provided directly to local stakeholders, or in a collaborative effort with PEMSEA, to enhance the capacity of individuals, communities or sectors. Some of these are highlighted below.

Replication of ICM. The Batangas Bay Strategic Environmental Management Plan was formulated and adopted by the Provincial Government of Batangas and five coastal municipalities in 1996. In 2000, after five years of managing and implementing the ICM program, the Provincial Government began to realize the benefits and impact of the integrated management approach, and determined that ICM replication was needed. An MOA was signed between the Provincial Government, the World Wide Fund for Nature-Philippines, and the 11 coastal municipalities of Balayan Bay to replicate the ICM framework and process, as applied in Batangas Bay. This paved the way for the formulation of an ICM plan for Balayan Bay in 2003, which was later adopted and endorsed by the Provincial Development Council in 2004.

In 2005, the Strategic Environmental Management Plan for the Province of Batangas was prepared, with assistance from PEMSEA. The revised plan now covers the entire coast of the Province, providing a 25-year roadmap for sustainable development of coastal and upland areas, and extending ICM programs to all coastal municipalities.

Water Quality Monitoring. Four specialized laboratories of Shell Batangas, AG & P, United Coconut Chem. Inc. and Sakamoto Chemical Inc. joined with the Batangas City Water District, Philippine Coast Guard and PBM Institute of Technology to undertake water quality monitoring of the Batangas Bay area. The laboratory at the Provincial Government Environment and Natural Resources Office (PG-ENRO) coordinates the analysis of the water

samples. It is also responsible for ensuring standardization of methodologies and verification of results. This arrangement permits the utilization of best available analytical facilities in each laboratory in the Bay area. The partnership arrangement results in cost efficiency by avoiding duplication of effort, while promoting quality outputs and better sharing of information among the partners.

Development of an Innovative Decision-Support System. A simulation model developed in Canada and designed to create awareness among policymakers and stakeholders about future development scenarios, was refined and tested at the National ICM Demonstration Site in Bali, Indonesia. The QUEST™ Integrated Coastal Management (ICM) simulation model was co-financed by CIDA Inc., Canada, and tested in Bali, taking advantage of the existing ICM operational framework, and the information and analysis from the IIMS.

Oil Spill Response. EARL and the International Tanker Owners Pollution Federation (ITOPF) conducted training on Oil Preparedness, Response and Cooperation (OPRC) in the Gulf of Thailand and Bohai Sea, in support of the respective efforts to improve management of these subregional sea areas. The training was specially intended for response to oil spills in large bays and subregional seas where cross boundary limitations often affect the smooth mobilization of interagency support. The training courses brought together concerned line agencies, oil spill response companies and technical experts to increase their awareness, knowledge and cooperation in responding to oil spills.

Port Safety Audit. PEMSEA's efforts in port safety audits are focused on the safe handling and transport of dangerous cargoes in ports, including the organization and coordination of chemical spill prevention and emergency response with local communities. The assessment audit is designed to provide the port authorities and operators with the capacity for self-evaluation of port policies, regulations and operations, relative to local, national and international regulations, codes and guidelines, and for the completion of an action plan designed to assist port managers and their partners to rectify any gaps or weaknesses in the system. PEMSEA developed, tested and published a *Port Safety Audit Manual* in December 2001. In 2005, GTZ initiated a training project in seven ports in the region on applicable international instruments and an initial Port Safety Auditor training, including: Muara (Brunei Darusalam); Sihanoukville (Cambodia); Jakarta (Indonesia); Bintulu (Malaysia); Iloilo (Philippines); Laem Chabang (Thailand); and Saigon Port (Vietnam). PEMSEA's Port Safety Audit Manual is the main resource document being used in the GTZ-sponsored training program. In addition, it is understood that the German Government is sponsoring similar training programs in Africa and South America using the PEMSEA Audit Manual.

Port Safety, Health and Environmental Management System (PSHEMS). The PSHEMS is a relatively new initiative of PEMSEA, with co-financing provided by IMO. A PSHEM Code has been developed as a voluntary standard, against which a port authority or operating company can measure the performance of its operation with regard to safety and the protection of health and the environment. A PSHEMS Manual and training program has been developed and tested at two ports in the region (i.e., Bangkok Port and Port of Tanjung Pelepas), and a PSHEMS Recognition/Certification procedure is currently being implemented at these two ports. A German non-profit institute for applied environment protection and safety/security in shipping, (*gemeinnuetzige Gesellschaft fuer Angewandten Umweltschutz und Sicherheit im Seeverkehr (GAUSS) mbH*) has already requested approval from PEMSEA to conduct PSHEMS training in the ASEAN region, as well as other regions of the world, using the PEMSEA resource materials.

Modeling the Behavior of Algal Blooms. The International Atomic Energy Agency (IAEA) and the Philippines Nuclear Research Institute (PNRI) implemented two research projects focused in Manila Bay, in collaboration with

PEMSEA, namely: i) sedimentation studies to gain information on natural histories of sediments to correlate with red tide occurrences; and ii) development of descriptive models of the behavior of algal blooms as affected by the interactions between the causative organism and environmental parameters in the water column and sediment. Research on the linkage between red tide occurrences and environmental conditions in the bay was employed in the environmental risk assessment component of PEMSEA's Manila Bay project.

Marine Electronic Highway. The Marine Electronic Highway (MEH) is an innovative marine information and infrastructure system that integrates environmental management and protection systems and maritime safety technologies for enhanced maritime services, higher navigational safety standards, integrated marine environment protection and sustainable development of coastal and marine resources. The concept paper and first proposal for the MEH was prepared by PEMSEA and the three countries bordering the Straits of Malacca (Indonesia, Malaysia and Singapore), as a component of the Malacca Straits project. The proposal was adopted by IMO, endorsed to GEF and World Bank and accepted. IMO took over the development of the project, and in December 2005 the full project for the development and demonstration of the MEH for the Straits of Malacca was approved. The project documents are now being negotiated with Indonesia and Malaysia for final signature and project start-up.

GEF/World Bank Partnership Investment Fund for Pollution Reduction in the LMEs of East Asia. The SDS-SEA was adopted by the 12 participating countries of PEMSEA as a framework for cooperation and collaboration in developing and managing coastal resources of the region. In response to this strategy, the World Bank (WB) and the Global Environment Facility (GEF) embarked on the development of a *Partnership Investment Fund* to reduce land-based marine pollution in the LMEs of East Asia (the WB/GEF Partnership Investment Fund or PIF), with technical support from PEMSEA. The Partnership Investment Fund, which was developed as the financing arm of the SDS-SEA, was endorsed to the GEF Council in August 2005 by the 11th PSC Meeting of PEMSEA. In December 2005, the GEF Council approved the US$80 million project. The project will be managed by World Bank, and implemented over a 10-year period. Four projects have already been approved and are in the process of being implemented under the PIF, namely: a) GEF/WB Manila Bay Third Sewerage Project; b) Ningbo (PR China) sewage, water and institutional development project; c) Investments in wastewater treatment and pollution control in five coastal urban centers in Vietnam; and d) Development of a regional revolving fund for pollution reduction. The objective of the PIF is to facilitate a 10:1 leverage on GEF funds by enhancing public and private sector investments in pollution reduction.

Special Skills Training. A number of co-operative activities have been undertaken between PEMSEA, the Coastal Management Center (CMC), and the Swedish International Development Cooperation Agency (Sida) to enhance the skills of local scientists and technical staff. In particular, training courses on Integrated Environmental Impact Assessment, Formulation and Management of Coastal and Marine Development Projects and ICM were co-developed and co-organized over the past six years. Participants to the training courses were sponsored by CMC/Sida.

ANNEX 11

Resources for the Pursuit of SDS-SEA Implementation

Resources for the Pursuit of SDS-SEA Implementation

SDS-SEA Country Programmes.

COUNTRIES	Programme	SUSTAIN	PRESERVE	PROTECT	DEVELOP	IMPLEMENT	COMMUNICATE	TOTAL
Cambodia		11.506	20.864	7.496	67.171		67.447	174.484
China		17.270		1,160.160	22.509	3.450	206.170	1,409.559
DPR Korea		1.074		0.502	0.500		0.200	2.276
Indonesia		10.600	17.070	49.578	170.212	0.569	12.719	260.748
Lao PDR		0.220			23.924	2.101		26.245
Malaysia					0.500		2.780	3.280
Philippines			8.016	86.720	74.330	9.540	56.220	234.826
Thailand	4.416	167.909		14.780	211.230	5.058	2.632	406.025
Timor-Leste		0.706		0.550	1.000		2.000	4.256
Vietnam	0.926	2.300	5.573	380.700	731.868		25.579	1,146.946
SUBTOTAL	**5.342**	**211.585**	**51.523**	**1,700.486**	**1,303.244**	**20.718**	**375.747**	**3,668.645**
Brunei								
Japan		49.970	1.437	23.656	188.467	6.093	422.308	691.931
RO Korea					26.840			26.840
Singapore								
SUBTOTAL		**49.970**	**1.437**	**23.656**	**215.307**	**6.093**	**422.308**	**718.771**
Regional/ global		41.165	10.233	16.423	117.367		13.440	198.628
TOTAL	**5.342**	**302.720**	**63.193**	**1,740.565**	**1,635.918**	**26.811**	**811.495**	**4,586.044**

* in million US dollars.

ANNEX 12

Selected Indicators of Benefits and Costs Associated with ICM in Xiamen

Selected Indicators of Benefits and Costs Associated with ICM in Xiamen.

	Indicator	Monetary Value
INPUTS		
ICM program cost	✔	✔
Instrumental Outcomes		
Improved coastal governance		
• Legislation and enforcement mechanism	✔	x
• Coastal and sea-use zoning plan	✔	x
• Users fee and permit system	✔	x
• Inter-agency and intersectoral coordinating mechanism	✔	x
• Integrated environmental monitoring system	✔	x
Investment in environmental infrastructure (costs)		
• Wastewater and solid waste management system	✔	✔
• Redesign of causeways	✔	x
• Coastal roads (construction, design, and modifications)	✔	x
Investment in preservation zones (costs)	✔	✔
OUTPUTS AND OUTCOMES		
Management Outcomes		
Enhancement of institutional capacity	✔	x
Institutional and procedural improvements		
• Coordinated decisionmaking	✔	x
• Stakeholder/community participation	✔	x
• Rational spatial planning	✔	x
• Filing and resolution of cases	✔	x
• Reduced multiple-use conflicts	✔	x
Increase in level of public awareness	✔	x
Change in attitudes, behavior and perception	✔	✔
Reduction in externality costs		
• Reduced delays in port and shipping operations	✔	
• Treatment of eroded areas (beach and cliff areas)	✔	✔
• Dredging of silted areas	✔	✔
• Reduced losses of fisheries due to decreasing oil spill incidents and other pollution accidents	✔	x
Environmental services (benefits)		
• Improvement in air quality	✔	x
• Improvement in water quality	✔	✔/1
• Improvement in health	x	✔/1
Direct nature services (benefits)		
• Increase in nature-based recreational sites	✔	✔/1
• Preservation zones for endangered species	✔	✔/1
Increased output and revenue of economic sectors (benefits)		
• Port and shipping	✔	✔
• Marine fisheries and aquaculture	✔	✔
• Tourism	✔	✔
• Real Estate/Property	✔	✔
• Other sectors	x	x
Effects on employment	x	x
Increase in per capita income	/2	/2

Note: *✔ – data available; x – no data; /1 – valued using WTP estimates; /2 – available data on GDP per capita are in nominal terms.*

Source: A Perspective on the Environmental and Socioeconomic Benefits and Costs of ICM: The Case of Xiamen, 2006.

ANNEX 13

Quantified Benefits and Costs

Table A: Environmental and Socioeconomic Benefits of ICM (1995–2001).

	Present Value (in million RMB)
Economic Sectors (adjusted net revenues)	26,292.71
Direct nature and environmental services	2,974.48
Less: Externality costs	129.46
Less: Cost of environmental infrastructure	1,711.69
Less: Investment in preservation zones	8.16
Less: ICM Program cost	52.32
Total net benefits	**27,365.56**

Table B: Quantified Benefits and Costs.

BENEFITS								
Increase in revenue of economic sectors • Port and shipping • Marine fisheries • Tourism • Real Estate/ Property	**YEAR**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
	Adjusted Total Net Revenue (million RMB)	1,295.60	1,959.50	2,886.96	3,584.51	4,716.41	5,932.78	5,916.95
	NPV (4.5% discount rate): RMB **26,292.71 million**							
Reduction of externality costs • Reduced delays in port and shipping operations • Treatment of eroded areas (beach and cliff areas) • Dredging of silted areas	Total Externality Costs (million RMB)	27.86	27.02	27.08	17.5	17.2	17.2	17.2
	NPV (4.5% discount rate): RMB **129.46 million**							
Direct nature services • Protection of endangered species and coastal habitats • Increase in nature-based recreational sites	WTP (1998): 47 RMB/ person/year	NPV (1998-2000, 4.5% discount rate): RMB **2.865 billion**						
	WTP (1998): 77 RMB/ person/year							
Environmental services • Improvement of water quality (WTP for sewage treatment)	WTP (1998): 101 RMB/ person/year	NPV (1998-2001, 4.5% discount rate): RMB **2.865 billion**						

COSTS								
ICM Program management costs • GEF/UNDP/ IMO • Local government	**YEAR**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
	(million RMB)	6.22	8.49	15.26	12.00	12.12	3.00	4.25
	NPV (4.5% discount rate): RMB **52.32 million**							
Investment in environmental infrastructure • Waste management	(million RMB)	236.66	220.89	324.73	366.55	178.49	713.36	
	NPV (4.5% discount rate): RMB **1,711.69 million**							
Investment in preservation zones	(million RMB)	1.8	0.8	2.2	1.2	1.2	1.2	1.2
	NPV (4.5% discount rate): RMB **8.16 million**							

Note: *1.00 RMB = 0.123785 USD.*
Source: A Perspective on the Environmental and Socioeconomic Benefits and Costs of ICM: The Case of Xiamen, 2006.

ANNEX 14

Documented Benefits from ICM: Xiamen Demonstration Site

Table A. Investments in Environmental Services (Million RMB).

Year	Government Investment		Private Investment		Total
	Sewage Treatment	Treatment of Solid Waste	Sewage Treatment	Treatment of Solid Waste	
1992	10.91	12.29	10.85	0.3	**34.35**
1993	22.84	5.7	24.5	0.24	**53.28**
1994	18.17	3.4	11.3	0.39	**33.26**
1995	24.64	21.7	27.93	0.39	**74.66**
1996	198.43	21.89	16.34	0	**236.66**
1997	147.17	19.93	28.29	25.5	**220.89**
1998	218.35	81.05	25.18	0.15	**324.73**
1999	281.92	28.22	56.01	0.4	**366.55**
2000	123.56	23.01	31.41	0.51	**178.49**
2001	499.26	26.73	165.57	21.8	**713.36**

Table B. Government Investment in Preservation Zones (Million RMB).

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	1.2	0.3	0.3	1.8	0.8	2.2	1.2	1.2	1.2	1.2

Table C. Number and Area of Natural Reserves of Xiamen.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number	**1**	**1**	**1**	**1**	**2**	**2**	**3**	**3**	**3**	**3**	**3**
Area (Ha)	**1,818**	**1,818**	**1,818**	**1,818**	**2,034**	**2,034**	**7,588**	**7,588**	**7,588**	**7,588**	**7,588**
Name of Reserves Established	Lancelet Nature Reserves				Egret		Chinese White Dolphin				

Table D. Earnings of the Port and Sea Transportation (in million RMB).

Year	Sea Transportation				Port Service				Combined Revenue	Combined Cost	Combined EBT
	Revenue (million RMB)	PRT (%)	Cost (million RMB)	EBT (million RMB)	Revenue (million RMB)	PRT (%)	Cost (million RMB)	EBT (million RMB)	(million RMB)	(million RMB)	(million RMB)
	(1)	(2)	(3)	(4)=(1)*(2)	(5)	(6)	(7)	(8)=(5)*(6)	(9)= (1)+(5)	(10)=(3)+(7)	(11)=(4)+(8)
1992	146.43	14.00	125.93	20.50	114.50	44.20	63.89	50.61	260.93	189.82	71.11
1993	255.04	14.00	219.33	35.71	186.75	32.80	125.50	61.25	441.79	344.83	96.96
1994	408.21	14.00	351.06	57.15	280.74	35.82	180.18	100.56	688.95	531.24	157.71
1995	562.70	9.61	508.62	54.08	400.21	26.29	294.99	105.22	962.91	803.62	159.29
1996	784.52	3.71	755.41	29.11	410.25	26.20	302.76	107.49	1,194.77	1,058.18	136.59
1997	977.95	7.38	905.78	72.17	464.62	28.35	332.90	131.72	1,442.57	1,238.68	203.89
1998	1,025.58	10.85	914.30	111.28	555.73	22.06	433.14	122.59	1,581.31	1,347.44	233.87
1999	2,249.91	6.80	2,096.92	152.99	721.22	20.59	572.72	148.50	2,971.13	2,669.64	301.49
2000	4,524.88	12.69	3,950.67	574.21	922.25	20.29	735.13	187.12	5,447.13	4,685.80	761.33
2001	6,289.46	11.44	5,569.95	719.51	1,096.0	19.12	886.49	209.56	7,385.51	6,456.43	929.08

Source of basic data: Xiamen Environmental Quality Report, 1991-1995; 1996-2000; Xiamen Environmental Situation Report, 2001; Xiamen Environmental Protection Bureau.

Table E. Status of Real Estate Market of Xiamen.

Year/Item	1996	1997	1998	1999	2000	2001
Investment (Capital Costs) in Real Estate (billion RMB)	6.43	6.78	7.62	6.94	6.21	5.66
Construction Area of Commercial Estates (million m^2)	7.76	8.51	11.27	12.84	11.21	10.30
Completed Area of Commercial Estates (million m^2)	0.90	2.13	1.63	2.32	2.97	2.82
Volume of Sales of Commercial Estates (million m^2)	0.66	1.24	1.38	1.73	2.50	2.57
Gross Sales of Commercial Estates (billion RMB)	1.66	3.30	4.33	5.36	7.37	7.31
Volume of Sales of Dwelling House Estates (million m^2)	0.55	1.06	1.20	1.42	2.13	2.15
Gross Sales of Dwelling House Estates (billion RMB)				4.10	6.31	6.46

Source of basic data: Real Estate Trade Center of Xiamen.

Table F. Estimated Net Benefits of the Economic Sectors (million RMB).

Year	Net Revenue of Port	Net Revenue of Sea Transportation	Net Revenue of Marine Fishery	Net Revenue of Tourism	Net Revenue of Property	Total Net Revenues	Annual Growth of Net Revenues	GDP Growth Rate	Growth Rate Attributable to ICM		Total Net Revenues Attributable to ICM
	a	b	c	d	e	f=a+b+c+d+e	$g_t=f_t-f_{t-1}$	h_t	$i_t= 1-h_t$	$j_t=g_t *i_t$	$k_t=k_{t-1}+j_t$
1994	100.56	57.15	146.90	956.00	—	1,260.61		0.27			1,260.61
1995	105.22	54.08	150.48	1072.00	—	1,381.77	121.16	0.23	0.77	93.29	1,353.90
1996	107.49	29.11	84.17	976.50	1,109.12	2,306.38	924.61	0.15	0.85	785.92	2,139.82
1997	131.72	72.17	103.50	1,099.50	2,307.64	3,714.53	1,408.15	0.18	0.82	1,154.68	3,294.50
1998	122.59	111.28	104.40	1,132.50	3,396.80	4,867.57	1,153.04	0.15	0.85	980.09	4,274.59
1999	148.50	152.99	87.02	1,936.50	4,428.34	6,753.35	1,885.78	0.15	0.85	1,602.91	5,877.50
2000	187.12	574.21	92.29	2,096.50	5,987.96	8,928.08	2,174.73	0.15	0.85	1,848.52	7,726.03
2001	209.56	719.51	100.50	2,371.50	5,897.60	9,298.68	370.60	0.12	0.88	326.13	8,052.15

ANNEX 15

Overview of Results in Relation to GEF Adopted Indicators
(Monitoring and Evaluation Working Paper 10, November 2002)

Overview of Results in Relation to GEF Adopted Indicators
(Monitoring and Evaluation Working Paper 10, November 2002)

PROCESS INDICATORS	
NATIONAL	**REGIONAL OR SUBREGIONAL**
Coastal Strategies for nine (9) sites	Risk assessments for subregional sites
Risk assessments for several sites	Network of Local Governments
Ratification of international conventions from 51 to 93 (1994 to 2004)	Regional Task Force of Experts
Data management and information exchange systems (IIMS) at 9 sites	Regional Training Center, Xiamen
Economic valuations	Policy framework-strategies for multistakeholders, Bohai Sea, Manila Bay and Gulf of Thailand
Resource damage assessments	SDS-SEA with Partnership Council. PRF; Ministerial Forum, EAS Congress and Operating Arrangements
Training center for ICM (DPRK, Philippines)	
National policy and institutional reforms in China, ROK and 5 other countries	

STRESS REDUCTION INDICATORS
ICM Practices established in eight (8) demonstration sites and initiated in 18 parallel sites.
Marine Zoning Schemes implemented in some sites.
Land-use zoning introduced in some sites (e.g. Xiamen).
Lagoon cleanups
Mangrove replanting; coral reef recovery; reef fish recovery
Coastal water front improved, with road and beach improvements and restoration.
Integrated watershed managements initiated.
Land-based pollution reduction, waste water and sewage treatments increased and improved in some sites (40 to 60 to 70%).
Water quality improved (Xiamen, Batangas, Bataan, Sriracha, Danang)
Habitats improved, restored (mangroves, coral reefs)
Fisheries improved as seen in CPU, e.g., Batangas, Sriracha
Multiple-use conflicts reduced, at nine (9) sites and subregional Bohai Sea and Manila Bay
Socioeconomic benefits (alternative livelihoods, employment, improved environment, improved health and food security)
Biodiversity restored, threatened species protected (egret, white dolphin, marine turtles)

ENVIRONMENTAL STATUS INDICATORS
ICM sites implemented (2+6+18 as of February 2006)
Zoning schemes implemented (land and sea uses)
Cleanups (lagoon, beaches and water fronts, coastal islands)
Waterfront improvements, erosion protections
Greater awareness (increased number of ICM projects, national coastal and ocean policy development initiatives, enhanced interagency, intersectoral cooperation)
Multistakeholders involvements in partnerships
Public-Private Partnerships established in sustainable way (Bataan, waste management, port conditions, tourism and recreation)
Decreased land-based pollution, improved water quality
Improvement of habitats, ecosystems (coral reef coverage and conditions, fish production, threatened species)
Socioeconomic benefits
Community participation, and community concerns addressed (drinking water, food quality, health, livelihoods, environmental conditions)

ANNEX 16

The Need and Merit of a Third Phase of GEF/UNDP Support for the Seas of East Asia

The Global Environment Facility has so far provided two phases of support for the management of the coastal and marine resources of East Asia:

- Marine Pollution Prevention and Management in the East Asian Seas Region (MPP-EAS), covering the period 1994–1999 and involving 11 countries in the region, with a total funding support of $8 million; and

- Building Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), covering the period 1999–2004, involving 12 countries, with a funding support of $16.2 million

An important question that naturally arises is whether a new phase of continued funding support to the initiatives being undertaken and those planned to be further undertaken would be appropriate. Based on its objective review and evaluation of the situation and the achievements made under the above, the Evaluation Team believes that a third phase of GEF funding support is both needed and warranted, even essential, on the following grounds:

1. East Asia's critical role in the world economy and the global environment;

2. PEMSEA as an efficient and effective investment of GEF resources;

3. Length of time required to establish and solidify effective partnerships;

4. Unevenness of capabilities within the Region that makes continued external support essential; and

5. Cost and wastefulness of interrupting the strong momentum attained through PEMSEA.

We discuss each of these points in turn below.

The East Asian region is too critical in the world economy, and its coasts and seas far too vital to the global environment, for it not to be able to access an appropriate share of GEF funding support at this time.

There are strong socioeconomic and security motivations for having a unified regional approach and strategy towards managing the coastal and marine resources of the East Asian region, as now embodied in the PEMSEA-initiated Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). Since the turn of the millennium, the region has been widely acknowledged to be the emerging new focal point for the world economy in the 21st century, having shifted from Western Europe and North America in the past century. Meanwhile, its environment, particularly its coastal and marine resources, assumes even greater importance in the global dimension. The close interconnection among the economic, environmental and social dimensions of the region's welfare cannot be overemphasized, indicating clear need for continued strong GEF support for the region's coasts and seas:

- A rapid pace of coastal urbanization, with a growing number of coastal megacities;

- A rapidly growing maritime trade going to and through the region, that has increasingly become dominant in the global dimension;

- A rich but threatened marine biodiversity in the region with migratory and shared fish stocks (such as tuna, mackerel, sardines), which are extremely important sources of income and animal protein for the poor population);

- Continued severe degradation of the marine environment, resources, coasts and habitats even in the face of numerous localized successes in arresting these;

- Severe natural hazards common throughout the region, including tropical cyclones, tsunamis, earthquakes, sandstorms, and harmful algal blooms, which may also be triggered by pollution and climate change;

- Critical significance of the region's coastal and marine resources in the lives of about 1.2 billion people who live within 100 kilometers of the coastlines, which are both economic power centres as well as poverty and vulnerability hot-spots; and

- Additional environmental pressures coming from the large numbers of visitors from the rest of the world, with the region now capturing about 20 percent of the world tourism market, and still rapidly growing.

The region is marked by strong interconnectivity amid diversity of a social, cultural, political, economic, demographic and environmental nature. In particular, the environmental and ecological interconnectivity is driven by the ocean and atmospheric circulation and interactions, including major ocean currents and the Asian monsoon. Under these conditions, environmental challenges become transboundary in nature, thereby requiring a regional response.

The impacts of coastal and marine resource management in East Asia also permeate well beyond the region itself. The region exports a substantial amount of fisheries and other marine products to the rest of the world. Maritime trade that originates in, is destined for, or passes through the region accounts for a large percentage of total global commerce. Effects of environmental disasters within the region are felt well beyond its confines (e.g., Mt. Pinatubo eruption in 1991, Indonesian haze). The global implications of sound management of the East Asian seas and coasts should not be undervalued.

GEF support for PEMSEA has been relatively modest, yet has been extremely productive, making it arguably one of the most efficient and effective uses of GEF resources.

As discussed in the main Terminal Evaluation Report, the PEMSEA programme has been an efficient and effective use for GEF funding resources. The program has operated on core funding amounting to $24.2 million over the last 12 years, or an average of just $2 million a year, a relatively modest amount in the face of what has been achieved within each member country and regionwide.

This $2 million average annual investment has bought for the region benefits far more than its face value, in the form of:

- increased returns to existing enterprises and livelihoods;

- generation of alternative enterprises and livelihoods;

- improved environmental conditions and natural resource stocks; and

- enhanced efficiency in natural resource use, including through wider adoption of coastal zoning schemes, legal and policy reforms and overall governance improvements.

Through its various initiatives within and across countries of the region, the Programme has demonstrated that environmental degradation can be arrested and reversed without foregoing economic development. In particular, ICM has been firmly installed in the region, with adequate inter-sectoral and interagency mechanisms institutionalized, including reliable local counterparts to national and international partners, with partnership agreements and public-private enterprises.

The overall achievements of PEMSEA can be best summarized in the five components of the Strategic Action Statement of the SDS-SEA, namely: Preserve, Protect, Develop, Implement, and Communicate.

Preserve: The results of PEMSEA have created enhanced understanding for the international instruments in the form of Conventions and Agreements, and strengthened commitment to their implementation. Political and financial barriers have been reduced through the proven return of the investments made in environmental management at the demonstration sites. A core base of practical experiences of ICM has been developed. The Xiamen case study shows that investments can be recovered over medium time scales, that required infrastructure development investments can be attracted, economic development promoted and continued urbanization planned well. There is clear evidence of improved governance, including strengthened international cooperation and solidarity.

Protect: Demonstration sites have successfully pursued rehabilitation and been able to reverse environmental degradation while pursuing socioeconomic development. In Xiamen a wide range of infrastructure investments have been successfully obtained and carried through. These include waste and sewage treatment, improvements of road networks and shorelines, resources and habitat protection. The time scale to achieve this is decadal, spanning 10–20 years. The social and economic returns and benefits are well-documented.

Develop: The Putrajaya Declaration and the SDS-SEA which embodies specific agreed targets is the culmination of a logical sequence of developments, starting from the Regional Programme on Marine Pollution Prevention and Management in the East Asian Seas (1994–1998), with results and lessons learned presented in *Sharing Lessons and Experiences in Marine Pollution Management* (1999), through the PEMSEA Programme. It also represents an important response of the region to WSSD 2002 and the Johannesburg Plan of Action. The sequence mirrors in many ways the step-wise approach seen at global level efforts, from the Stockholm Conference (1972), to UNCLOS (1982), to UNCED (1992), to WSSD 2002, and puts the political expressions into real policy.

Implement: The building blocks for a regional implementing mechanism are in place: the partnerships, the networks, the scientific and technical skills, providing enhanced sophisticated decision tools, the political will and commitments, the management and leaderships at the local sites level with local PMOs, and the services of the Regional Programme Office (RPO) in Manila. What is needed is the catalyzing effect of a continued regional PEMSEA type program, acting as a regional mechanism.

Communicate: Through the successful implementation of PEMSEA a unique regional mechanism has been created, with knowledge and experiences which now must be used to serve the region. Site visits and interviews confirmed that the stakeholders at the field level are fully aware of this. Schools, youth, community organizations, professional associations and the media are all actively involved as partners in the programme. The demonstration sites have helped convince provincial and national leaders though on-site direct communication and demonstrations.

In the face of all these achievements, the limited GEF funds supporting the Programme have been parlayed well into leveraging substantial additional resources through the deliberate cost-sharing and co-financing strategy of PEMSEA. This has raised more than the co-financing, counterpart provisions and in-kind support originally expected. PEMSEA has shown that when used catalytically, GEF resources can pave the way for much more resource commitments from a variety of partners in support of commonly-held goals for the environment.

Given the continuing need as described above, the mechanisms already put into place, and the emerging critical mass of local, national and transboundary initiatives that has become

evident, the Evaluation Team believes that renewed funding support from GEF will continue to be as efficient, effective and productive – and likely to be more so — in delivering the same kind of results that have been seen over the past 12 years of the Programme.

A considerable amount of time is required for effective partnerships for the environment to be established and take root, and more time is needed to consolidate the gains made and put pursuit of the goals of SDS-SEA on a self-sustaining path.

Partnerships have been the hallmark of PEMSEA's work. Partnerships strengthen and enhance the cooperation and coordination between the different sectors, local governments and other stakeholders. Partnerships have also been useful in facilitating ratification and promoting implementation of international conventions. The spirit of partnership that PEMSEA has promoted and achieved at the local, national and regional levels has created an atmosphere of cooperation, understanding and trust that is critical to the success and sustainability of the initiatives undertaken.

Through the partnership approach, national legal instruments have been initiated on the implementation of ICM practices, e.g., in China, Thailand, Vietnam and other countries. The partnership philosophy has been successfully pursued at high levels on a regional scale through the Senior Government Official's Meeting on the SDS-SEA, and the Ministerial Forum, well demonstrated at the Congress 2003, and in the follow-up to the Putrajaya Declaration of Regional Cooperation adopted there. This partnership as well as that of the Network of Local Governments has generated trust, facilitated wide recognition of PEMSEA, helped remove barriers to efforts in environmental management at regional and national levels, and generated the required multi-country initiatives to deal with transboundary issues. Meanwhile, cooperation, coordination and partnerships with other regional mechanisms have likewise been pursued.

Effective partnerships are difficult to form, requiring much time and effort especially on the part of the "matchmaker" or facilitator of such partnerships, which is the role the RPO has had to play. As is well-acknowledged, the major obstacle to achieving effective management of coastal and marine areas is human attitudes and behaviour itself. Changes in behaviour and attitudes are fundamental to any effort to improve the situation. Creation of public awareness particularly about the value and role of the environment in society is a necessity, a process that necessarily takes much time and determined effort. PEMSEA is pursuing this very prominently in all its ICM sites as well as in its other activities. As part of the integrated management PEMSEA includes human management and training in the application of basic principles. Several of these build on traditional knowledge.

Other obstacles include lack of financial resources, of case studies on sustainable development, of an effective management framework, and of a consistent approach to monitoring and reporting. PEMSEA has managed to address many of these shortcomings, e.g., with the Xiamen case study and other on-going case-studies of sustainable development, through development and application of an effective management framework in the adopted ICM approach, and via efforts to stimulate investments in support of ICM by demonstrating their economic returns.

The Evaluation Team sees the need to maintain PEMSEA as a cohesive regional mechanism over a transition period. Notwithstanding the substantial achievements made over the past 12 years, and in the face of the above obstacles, the partnerships facilitated under the Programme have only begun to take hold, and in certain instances, remain tenuous.

The adoption and promulgation of the SDS-SEA provides a unifying rallying point and guide to action for the countries of the region. The Evaluation Team believes that the challenge of implementing SDS-SEA would be best addressed through support for a new project that will (1) secure a critical mass of partnership arrangements that will involve the bulk of, if not the entire region, and (2) put the mechanisms, efforts and initiatives in pursuit of the SDS-SEA goals on a self-sustaining path. The Team strongly recommends the continuation of the GEF/UNDP-funded PEMSEA project over a transition period of three years, as part of a ten-year regional program.

The proposed ten-year project time frame is broken down as follows. The first three years (2007–2010), constitute a transition period which will build further momentum for the implementation of SDS-SEA through partnership projects, and will further consolidate PEMSEA results with the continued catalytic support of GEF/UNDP. This will be followed by a three- year transformation period wherein the region is largely "weaned" from external funding support as a sustainable self-financing mechanism is phased in. The final four years will constitute the period for achieving sustainable operation.

The Evaluation Team considers that the trust, confidence and hope generated through PEMSEA success will be best sustained and consolidated through this approach, firmly adhering to the strategy of PEMSEA and following the navigation route which has been laid. This includes ensuring regional ownership and implementation guided from regional/ national/local bodies and managed within the region. Continued monitoring of the progress at the local, national, subregional and regional levels established through the partnerships and networks will support the process. The proven and functioning partnership strategy with co-financing and cost-sharing requires solidarity and delivery of commitments.

The unevenness of capacities within the region makes continued external support essential, especially in the efforts toward leveling such capacities.

The East Asian region is composed of countries and economies spanning the spectrum of the rich and industrialized along with the poor and underdeveloped. This disparity translates to wide variations in capability in the technical and financial sense. Without impartial external support, narrowing of such disparities would be extremely difficult to attain. Resources raised from within the region will naturally come dominantly from the best endowed among the member countries, and as such, are likely to be subject to allocation preferences that may not necessarily serve the interest of equity in the best manner.

On this basis, one may argue that continued external support via the GEF/UNDP funding mechanism would be crucial in addressing region-wide challenges and in promoting a holistic and equitable implementation of SDS-SEA. In particular, the support from GEF/UNDP and donors would allow for addressing the unequal economic development and capacities in the region. Greater equity will be a conscious goal, with the objective of turning the member countries into more equal partners in the subsequent periods of the project.

There has been clear positive momentum attained so far with the various PEMSEA initiatives, that an interruption through non-renewal of GEF support would be both costly and wasteful.

The concrete achievements of PEMSEA have been building up over the years, and have been achieving a clear momentum that is leading to attainment of a critical mass of individuals, communities, and networks working across sectors and geographic boundaries.

The value of the SDS-SEA and its effective implementation rests on the opportunity built up through the PEMSEA results and their impacts. The confidence, capacity, cohesiveness and cooperation generated through the results of PEMSEA are absolutely essential in a region with economies yet to fully recover from the adverse effects of the 1997–1998 economic crisis, apart from some growing political tensions, and with about one quarter of the population representing up to 700 million people living on less than $2 a day. The strongest achievement of the Programme has been its success in building working partnerships at the local, national and regional levels, as well as in strengthening regional capacities, skills and networks. The large amount of intellectual capital distributed throughout the region is widely recognized, and the functioning networks fostered by PEMSEA ensure that mutual responsibilities and commitments are maintained, information actively exchanged and resources pooled as required. Through all this, adaptive management procedures and experiences are in place.

The adoption of the Putrajaya Declaration by the Ministerial Forum on Sustainable Development of the Seas of East Asia in December 2003 and the subsequent follow-up work to put in place operational and institutional arrangements for implementation consolidate the achievements and outcomes of PEMSEA into a major impact. The implementation arrangements build on the institutional developments achieved through the Programme, and have been developed through an evolutionary process. This involved the preparation of a conceptual framework, leading to formulation of a blueprint for future work to sustain the momentum. The envisaged arrangements specifically include:

- The Partnership Agreement on Implementation of the SDS-SEA, with agreed Operating Arrangements
- An administrative and technical support center in form of a central maintained and transformed RPO; and
- A financial mechanism that is now being gradually put in place, including external sources of funding in the form of loans, donor contributions and catalyzing inputs from GEF/UNDP.

The SDS-SEA itself was the product of thorough preparations which involved a variety of consultations and scientific-technical and legal inputs that drew on the experiences of PEMSEA and its preceding project, as well as those of other related projects. As such, it is expected that its implementation will establish an effective coastal and ocean governance regime within the member countries and across the region.

In the face of this momentum of achievement, the continuing challenges and the strong interdependencies in the social, environmental, economic, and security dimensions will continue to threaten the gains already made. The public awareness and involvement gradually achieved through PEMSEA has clearly helped secure political commitment, but much work remains to be done in information, communication and education for such political commitment to take hold and become widespread.

Meanwhile, commitments for even stronger counterpart support have already been secured for a possible third phase of GEF/UNDP support to PEMSEA. The commitment from the Host Country to continue providing infrastructure for the RPO has been obtained, with additional office space already being offered. Commitments have been secured from China, Japan, and RO Korea to provide significant financial support. Further commitments from other Governments of the region are being

sought to permit continued support and active participation in the implementation of the SDS-SEA, and facilitate the interaction, coordination and cooperation between PEMSEA, COBSEA and other related programs in the region, including those driven by donor support. Results of site visits suggest that the Governments are positive in this regard. The proposed EAS Partnership Council with a Ministerial Forum, which has already been accepted by the Governments in principle, could provide the comprehensive regional coordination and decisionmaking mechanism that would also serve as venue for obtaining necessary government commitments. This mechanism could potentially evolve into a more comprehensive Regional Commission for Sustainable Development.

It could act as a facilitator, and could help in achieving the needed coordination and cooperation among related international projects. It could provide for an enabling mechanism to attract investments and raise financial resources. The viability of establishing this has been studied through the PEMSEA mechanism in the follow-up to the Putrajaya Declaration, including through national consultations slated for the first half of 2006. Resulting drafts will be presented for adoption at the EAS Congress 2006.

In light of all this, the Evaluation Team expresses concern over the potentially large cost and the wastefulness of interrupting the momentum of progress already built in the region through the PEMSEA initiatives. To PEMSEA's credit, site-specific initiatives in the various ICM sites and marine pollution hotspots now mostly manifest sustainability on their own, owing to the strong partnerships that have been firmly put in place and resource contributions and commitments that have been made by various partners on the ground. Nonetheless, a critical mass for the entire region, while emerging, has yet to be achieved, and external funding assistance will continue to be essential in firmly securing such critical mass that will provide a self-sustaining momentum to the effort.

It is incumbent upon the international organizations to also acknowledge that, through their support, a tool has been created which should be utilized, maintained and not lost. The continued monitoring of the progress at the local, national, subregional and regional levels established through the partnerships and networks will support the process. The proven and functioning partnership strategy with co-financing and cost-sharing requires solidarity and delivery of commitments. It is quite likely that seeing such a tool serving the SEA region well will encourage other regions to follow suit.