

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

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

TERMINAL EVALUATION REPORT

20 February to 20 April 2006

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**PEMSEA is a GEF Project
Implemented by UNDP and Executed by IMO**

Table of Contents

LIST OF ACRONYMS	i
PEMSEA MISSION STATEMENT.....	iii iii
EXECUTIVE SUMMARY	iv iv
1. Project Concept and Design Summary.....	1
2. Project Results.....	3 13
3. Project Management.....	33 133
4. Findings and Conclusions.....	44 144
5. Recommendations	47 147
6. Lessons Learned.....	49 149
ANNEXES	

LIST OF ACRONYMS

BCCF	Bataan Coastal Care Foundation
BCRMF	Batangas Coastal Resources Management Foundation
BOT	build-operate-transfer
CD	compact disc
COBSEA	Coordinating Body on the Seas of East Asia
CRM	Coastal Resource Management
DANIDA	Danish International Development Agency
DENR	Department of Environment and Natural Resources, Philippines
DPRK	Democratic People's Republic of Korea
EAS	East Asian Seas
GEF	Global Environment Facility
GIS	Geographic Information Systems
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 Organization
IRA	Initial Risk Assessment
LGU	local government unit
LME	Large Marine Ecosystems
LUAS	Lembaga Urus Air Selangor (Selangor Water Resources 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 Natural Resource 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
PSHE-MS	Port Safety, Health and Environmental Management System
PTP	Port of Tanjung Pelepas
QAR	Quarterly Accomplishment Report
RA/RM	Risk Assessment and 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	The 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

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 programmes on self-reliant basis. Specifically, PEMSEA will carry out the following:

- build national and regional capacity to implement integrated coastal management programmes;
- 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 decision making;
- 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 twelve 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 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
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EXECUTIVE SUMMARY

1. 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 issues of coastal habitat degradation, unsustainable rates of coastal and marine resource use and resource use conflicts, coastal and marine hazards and the conditions of poverty that both contribute to and are caused by resource degradation and depletion.
2. PEMSEA is at the end of its 6th year of phase 2. This evaluation was commissioned to assess PEMSEA's effectiveness in implementing the Programme and to make a recommendation about the future of the programme. 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.
3. 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 (February 17-March 18, 2006), members of the team reviewed additional material 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 (China) and national officials in China and Japan. Meetings with UNDP Manila, Hanoi, Bangkok and Phnom Penh and teleconferences with GEF-UNDP International Waters Project and IMO Headquarters were likewise undertaken. (Annex 2)
4. 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.
5. 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

6. 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.

7. 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.
8. Other general findings, organized by PEMSEA objectives, are noted below.
9. *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 inter-agency 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 socio-economic conditions.
10. *Risk Assessment.* In addition to the ICM sites, PEMSEA is addressing trans-boundary 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/risk management (RA/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.
11. *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 to lay the intellectual, technical and political foundations for the eventual ICM coverage of 20 percent of the region's coastlines by 2015.
12. *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 decision making 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 needs of management via these networks.

13. *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. In spite of 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.
14. *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.
15. *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 integrated information management systems (IIMS). An IIMS has been developed at each ICM site and 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.
16. *Collaboration with NGOs and Others.* 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.
17. *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. They have sought and are succeeding in creating integrative mechanisms at the regional, national and local level. The SDS-SEA, the Regional Network of Local Governments (RNLG), the Manila Bay, Bohai Sea and Gulf of Thailand projects, and the Project Coordinating Committees (PCC) 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 to 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 to make Agenda 21 a reality in the East Asian Seas.

18. *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.
19. *Overall Assessment.* Judged by the resources PEMSEA has attracted and the way it has used them we view PEMSEA as a success worthy of close analysis and possible replication. PEMSEA's success is built on several key components that deserve special mention:
20. Clearly articulated programme logic. PEMSEA's ICM work in particular is based on explicit assumptions about the key ingredient 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. The logic is applied flexibly and reflectively in ways that allow staff to identify issues and to adapt the "logic" as needed.
21. Stakeholder participation. PEMSEA relies on consultation to identify environmental and socio-economic issues, evaluate options, incorporate better technical analysis and build understanding and commitment to individual projects.
22. A sophisticated approach to capacity-building. Skill 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.
23. Collaboration among disciplines, sectors, agencies, and levels of government. PEMSEA has encouraged collaboration among agencies and others by providing incentives to participate. 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.
24. 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.

25. A diverse approach to the problems of the region. The PEMSEA management approach includes conservation measures for protecting biodiversity, research, education, community outreach, partnerships and the other elements of a conventional environmental management strategy. However, it also recognizes that development of the 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.
26. 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 in our visits to sites and in our own observations.
27. 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 Summary¹

- 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 rate 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. Coastal and ocean management, or ocean governance, has not been a priority of the governments. Sustainable use and development of coasts and seas is far from being achieved. Large parts of dominating coastal ecosystems, important for the functioning of the zone, are being destroyed. Other natural resources are being overexploited, especially fish stocks. The 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 United Nations Convention on Environment and Development (UNCED) 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 A description of PEMSEA and its development context is given in Annex 1.

- 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 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 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, 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 Results²

Immediate Objective 1: Integrated Coastal Management (ICM)

2.1. ICM is a key component of the PEMSEA.

2.1.1. ICM is one of ten components of PEMSEA. Implementation of ICM programmes at the sites has been nurtured by most of the supporting components including training, environmental investments, technical analysis, integrated information management systems, and civil society. The 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 sub-regional 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 on-going, 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
- Multi-sectoral and inter-agency 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 A summary showing PEMSEA's Project Document compliance to Project Document requirements is given in Annexes 3.

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). 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 Quang Nam (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 below summarizes the key tasks and their status at each of the six sites development under the 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 environmental programme monitoring/labs 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 programme 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 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 programme mechanism in place.	Completed for all sites

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

- 2.4.1. The PEMSEA ICM approach emphasizes identification of key local counterparts, intensive capacity building in ICM and others skills, establishing mechanisms for inter-agency 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, eighteen 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 clean up 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 decision-making. 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 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, Vietnam, which represent 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. They often set forth very specific height and bulk parameters. They 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 the 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 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 tools of management 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’ve 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 (Dept of Science and Technology

of Danang Municipality), Port Klang PMO (Selangor Water Resources Management Authority: 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 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% 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 are willing to pay about 16% more on average for improved solid waste management. The contingent valuation method 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 insuring that at least 20 percent of 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 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. That 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, risk assessments, action plans and other strategies necessary for the effective functioning of local ICM projects. The training manuals, technical reports, environmental risk assessments, 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, the training, the publications all provide a solid intellectual foundation for replication and scaling up.

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

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 mega-cities 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, agriculture and aquaculture waste and industrial discharge threatens public health and the integrity of coastal ecosystems. In a few instances, the sustainability of the 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 square kilometers, but about forty rivers flow into it from a drainage basin that covers 1.4 million square kilometers and is inhabited by 445 million people. Manila Bay covers an area of about 1,800 square kilometers. The basin that drains into Manila Bay includes an area of about 17,000 square kilometers inhabited by about ten million people. The Gulf of Thailand is bordered by Thailand, Cambodia, Malaysia and Vietnam. It has a coastline of 6,935 kilometers. 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 risk assessment and risk management a critical component of the planning for water bodies exhibiting transboundary environmental problems (e.g. Gulf of Thailand) and pollution “hot spots” (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 risk assessment 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. Risk assessment 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, risk assessment 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 risk assessment 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 sub-regional plans.*

2.11.1. The PEMSEA risk assessment approach distinguishes among retrospective risk assessment, prospective risk assessment, risk management and risk communication. Retrospective risk assessment focuses on changes in habitats, resource hazards or other coastal conditions, and the likely causes associated with such changes in conditions. Prospective risk assessment 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 risk assessment 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 risk assessment and solicit data useful in developing the risk assessment document. The risk assessment plan is thus applied learning—an end in itself and an important part of staff capacity building. Participants are taught key concepts about risk assessment and methods of assessment and use them immediately in the development of a risk assessment for their area. They thus learn the importance of risk assessment, how to develop such an assessment, and they begin to assess the availability and usefulness for risk assessment purposes of data in their area.

2.12.2. The process of preparing risk assessments 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 risk assessment 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 risk assessment has enhanced information-sharing and collaboration among local technical specialists. It also facilitated the participation of the 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 risk assessment 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 Manila 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: skill 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 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 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 programmes constitute efforts to encourage institutional reform.

2.16. PEMSEA is successfully implementing a strategy of capacity building strategy 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, non-government organizations 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 obvious.

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

PROGRAMME	# of PROGRAMMES	# 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 Volunteer	1	1
Study Tour	8	185
Fellowships	2	2
Total for 2 nd 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:

- ICM;
- Use of Geographic Information Systems (GIS);
- Marine pollution water quality monitoring;
- Oil pollution preparedness, response and cooperation;
- Integrated environmental impact assessment;
- 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 programmes; and
- Integrated Management System (IMS) 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 programmes within their respective countries. The participants from trainings held between 1995-98 indicated that the ICM training did further participant understanding of the ICM system and its application and developed participant confidence in establishing an ICM programme.

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 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% indicated that they felt better prepared to meet the demands of coastal management. Finally, nearly all (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, we can examine the quality of coastal management initiatives undertaken as part of the regional approach and speculate on the degree to which capacity building efforts contributed to that success.

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 programmes 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 programmes 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	.03
Cambodia	6	3
Peoples Republic of China	11	8
DPR Korea	6	5
Indonesia	13	9
Malaysia	8	15
Philippines	21	20
RO Korea	3	5
Singapore	3	.18
Thailand	11	20
Vietnam	8	11
Others	5	4

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

2.21.1. The internship programme provides an opportunity for young professionals to work in the RPO. The programme 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 programme, 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 programme 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 inter-agency coordinating committee at each of the ICM sites. These PCCs, 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 inter-agency 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 decision-making 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 constraints about the roles and responsibilities of agencies 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 inter-agency 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 decision making. 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 programmes 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 newsletter, "Tropical Coasts." Much of this material is accessible on their website.

2.24.2. The material makes 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, risk assessment, 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 re-design of management programmes, in developing individual plans, strategies or decision making 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 programmes should be constructed, the careful consumer—one familiar with PEMSEA's strategic view—can view the individual site 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 the 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 programmes 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—and the capacities of staff. Learning occurs and lessons 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 projects 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 near-shore squatter settlements? Most importantly, what's the strategy for learning from this experience? It's 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 weakness 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 Local Government Network, and the legal experts' network with the Regional Task Force. 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 programmes. They have also assisted in the preparation of coastal strategies, development of coastal use zoning schemes, and for obtaining experts for training and analyzing specific problems. An IIMS has been developed and associated networking 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 web-site. This has interfaced with media through a media resource centre and with youth through a youth centre. This generated a surge in hits, from about 6000 in mid-2002 to over 235,000 in February 2004 (ref. Tropical Coasts 11.1, p. 65). The PEMSEA website thus clearly fills a need and is an active and valuable source of information for a variety of stakeholders, including policy makers, resource managers, the private sector, civil society, and academes. This situation stimulates the partnerships even further. The ICM sites have their own websites, linked to an e-community network called Coastalinks. The

aim of this 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 web sites 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 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 members of the RTF and other networks were also prepared. The RTF members are mainly young professionals from the Regional Programme and its partner organizations who are normally associated with the work at the ICM sites. When required, they can go to the sites to assist the local staff and others in conducting the ICM project activities. Participating countries can ask for such help. The development of the Sihanoukville Coastal Strategy and ICM program is one example in which RTF members were helpful.

2.27.2. The RTF has been providing assistance through generating guidelines on the analyses of critical local issues. An example is the tourism survey in Sihanoukville, Cambodia, including the industry and its national and international customers. On the basis of this, the RTF specified guiding principles for sustainable coastal tourism development using the ICM practices. Similar inputs have been provided in other cases, for instance Sukabumi, Indonesia. Assistance has been provided with respect to development of 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 learnt. 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 programmes. 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, Philippines, and Chonburi Province, Thailand. 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 galvanize and enhance 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 socio-economic and environmental benefits, as well as identified problems and lessons learnt. 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 unit (LGU), 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 life-span, 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 in Pampanga province, a proposed solid waste management facility had reached the stage of actual identification of the private sector partner before the elections led to 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 a 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 insured that scientific inputs are used to support decision-making 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 decision-making and management. The scientific communities at the local level have been incorporated as partners in the ICM activities, and have helped to analyze key coastal concerns. Site visits confirmed that the success of the ICM implementation depends upon the 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 centre in Xiamen. The environmental monitoring and assessment programmes 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 links between universities and ICM projects have 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; 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 decision making, 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 the PEMSEA activities. An effective knowledge management system needs to be 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 Expert Group 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 socio-economic 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 Group, 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 socio-economic and ecological information and bringing the new information into the adaptive management cycle has also been demonstrated and stressed by the Group. 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 Group has recognized the significance of PEMSEA initiatives in this respect, in particular on ecosystem carrying capacity; transboundary impacts of national economic activities; and trade-offs between economic development and ecological benefits. The Group has supported the development of science-based water quality criteria; biological indicators and use of biological effects monitoring; as well as the need to further develop techniques appropriate for use in the Region. It has also helped with risk assessment and risk management and integrated information management, but has not entered into considering the usefulness of these tools for insurance and financial mechanisms. The Group has stressed the need to ensure that these tools for 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 (see references); through 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-sea use zoning); establishing proper institutional arrangements, adoption of coastal policies and integration and legal regimes; and decentralization of decision making. 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 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. Socio-economic concerns have been included and the linkages to environmental conditions brought out (e.g., the Case Study of 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, and decision and policy making (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 the 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 insures 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 insure effective system maintenance and use.

2.35.3. To a remarkable extent, PEMSEA is facilitating the creation of individual integrated information management systems 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 programmes: basic training on information management using IIMS and 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 eleven sites. Capacity remains a concern, however. 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 coding 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 programme, 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 insure 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 and IIMS maintenance manual; and c) train key personnel at each site. All eleven sites established local databases, but the level of use varies. Chonburi, Sihanoukville, Nampho, Batangas, Bataan and Cavite have databases only. 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 and Programmer's Guide*—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. PEMSEA's 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 decision makers. Most sites are using IIMS for data storage. A few have used the data for specific applications such as risk assessment, coastal strategy 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 now can 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, the 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 (people's organizations), 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 (SEA) 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' commitments of funds, projects or personnel (e.g. for coastal clean-up or mangrove reforestation activities), or through pooled support via an organized foundation, like the Batangas Coastal Resources Management Foundation (BCRMF),

and the Bataan Coastal Care Foundation (BCCF), both in the Philippines). The challenge is to sustain support from the private firms (e.g. active membership in the Cavite for a Sustainable Environment Inc. began with 16 member firms but active membership has reportedly dwindled down to four active firm members) 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 the PEMSEA project. 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 region wide. 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 Bali, 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 effective teamwork, coordination and integration of efforts at the planning and working levels have 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 Natural Resource Office (PG-ENRO) and its effective coordination of the Batangas coastal management programme 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 programme.

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 a National Law on Sea Use Management. Indonesia and the Republic of Korea have seen it fit to establish a separate and integrated ministry dedicated to ocean and marine resources. 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 successfully completed the development of the SDS-SEA in collaboration with 16 national, regional and international organizations 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 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 issues. 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 demonstrates the political willingness and the perceived values inherent in the strategy for synergies and collaboration amongst 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, 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 programme 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 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 Minister's 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 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 of 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 reliable sources of funding. A legal instrument to formalize a regional mechanism may not be a pre-requisite 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, PRD Lao 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. Whilst 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. PEMSEA was able to secure a stronger commitment of the Governments of China, Japan and ROK to commit financial resources to support the proposed PRF, and that of 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 speaks 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. *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 5% 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 programmes. Promoting ICM as planning and management framework for biodiversity, fisheries, ports, and eco-tourism 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 a EAS Partnership Council will enable stronger and longer term commitments amongst 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, South Korea and Philippines 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 US \$3 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 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 programmes 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 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 learnt 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 programme 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 of 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 the Programme 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 programmes are locally and regionally driven. The confidence of the IMO in the decision making processes at the RPO has been a very important positive step to make this possible.

3.1.1.10. The following constraints in the 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 socio-economic 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 policy makers at the national level, with a view to strengthening ICM scaling up programmes and supporting initiatives across participating countries.

3.1.2.2. Through strong partnership developments, networking, institutional linkages, and proactive communication, the policy- and decision-makers 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 implementing ICM. 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 mail outs 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. The 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; enhanced public awareness of the socioeconomic benefits, 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. In the first phase, PEMSEA 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, Quang Nam 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 programme involving 9 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 programme 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 Regional Task Force. PEMSEA capacity building and related network of education and research institutions have developed an extensive skill resource in the region. The dissemination of lessons learnt, 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 US\$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 & 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 December 2003 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 US\$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 programme in Xiamen, China, 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 the 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, while the Petron Corporation, which has an oil refinery in the province, has contributed PHP1 million. The contributions have been pooled through the Bataan Coastal Care Foundation, and administered by Programme Coordinating Council (PCC) of the Bataan ICM Programme through the PMO and utilized for projects such as coastal clean-up, mangrove reforestation, alternative livelihoods for fisher folk, 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 US\$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 of PEMSEA's own programme.
- 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 US\$4.6 billion (see 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 US\$8 million for the first phase (1994-1999), and US\$16.2 million for the second phase (1999-2006), or US\$24.2 million over the last 12 years. This is equivalent to an average of US\$2 million a year, a relatively modest amount considering what has been achieved within each member country and region-wide. 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 USD 17.7 million, slightly larger than the GEF/UNDP provision for the whole programme. For the sub-regional activities, Bohai Sea and Manila Bay in particular, an amount of USD 6.3 million has been leveraged. The other programme components have received counterpart support of about USD1.5 million in total, of which about half came from donors (SIDA/CMC), IMO and UNEP-GPA, 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 USD 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 region-wide cannot be done with any degree of precision, but attempts to quantify costs and benefits in specific areas, notably Xiamen, China (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, or about USD3.6 billion, in the period 1995-2001. Against total costs of RMB 1.9 billion or USD235 million, the net benefits amount to about USD3.4 billion, or a benefit-cost ratio of about 15:3. (Annexes 14a-14f provide relevant data on costs and benefits associated with the ICM programme 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 was dependant 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 gave 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, programmes impacts. The reviews presented state of implementation for each immediate objectives 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 an 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 Regional Network of Local Governments Implementing ICM.
- 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 decision makers (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; endorsement of coastal strategies with stakeholders commitment (c) establishment of more parallel sites such as Sukabumi, Indonesia (d) a 1.2 billion USD leveraged private sector investment in Shihwa and Bohai Sea; (e) Investors Roundtable Conference for Manila Bay projects; and (f) 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) awareness campaigns and networking efforts must be strengthened; (c) refinement of the IIMS taking more time than expected, 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:

- The importance of ownership by local governments for ICM implementation and sustainability;
- The co-financing and cost-sharing approach of PEMSEA allowing local ownership to be developed.
- The government inputs to PEMSEA totaled USD 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; 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 the 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 level. 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 the 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 the 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 the 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 PEMSEA 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 decision making. 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 USD, or about 60% of the expected, listed contribution. On the other hand the overhead received by IMO has been slightly less than 1 million USD. The IMO has been represented at PSC meetings. At the 11th PSC meeting, 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, to aim at a consolidated regional implementation of WSSD commitments, and Agenda 21, also supporting UNCLOS.
- 3.2.3. The UNDP Office in Manila, the 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 in time, 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 a consistent long-term efforts and commitments on the part of the governments, other stakeholders and donor agencies. However, the Team noted substantial progress have been achieved during the current phase in building partnerships for advancing policies, implementing strategic management frameworks and action programmes 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, sub-regional 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 programmes at increased sites, the socio-economic 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 are 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 amongst 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% of the population of China, producing some 40% of its sea food, and handling about 25% 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 sub-regional 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 sub-regional cooperation. This has generated considerable developments as regards capacity and preparedness in all three countries. A noticeable sub-set of the Gulf of Thailand programme is the Port Safety, Health and Environmental Management System (PSHE-MS) 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 programmes 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 policy makers, 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%.
- 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 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 role.
- 4.2.3. The sub-regional activities in Bohai Sea, Manila Bay and Gulf of Thailand have progressed further. The Government of China has committed about USD 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 the 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 2 or 3 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, 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 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 meeting 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 Project 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 6 years, as part of a 10-year regional programme. The proposed ten year project time frame is broken down as follows. The first 3 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 3-year transformation period wherein the region is largely “weaned” from external funding support as a sustainable self-financing mechanism is phased in. The final 4 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 Republic of 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 decision making 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 and maintained and not lost or put to waste. The continued monitoring of the progress at the local, national, sub-regional 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, 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, or of 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 through its inclusive approach to partnership. The composition of the Project Coordination Councils (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 decision makers 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 programme, and its technical secretariat within his staff. Furthermore, site visits by municipality 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 5 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.