



**United Nations Development Programme**

GLOBAL ENVIRONMENT FACILITY (GEF)

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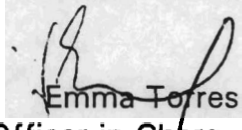
Dear Mr. El-Ashry,

Subject: **RAS/98/G33/A/1G/99 – Building Partnerships for Environmental Protection and Management of the East Asian Seas**

I am pleased to enclose the revised project document entitled "Building Partnerships for Environmental Protection and Management of the East Asian Seas". The project was submitted for circulation to Council Members on 26 April 1999. This revised version addresses the comments made by Mr. Andrea Merla which is attached.

Thank you in advance for expediting the review and approval of this project.

Yours sincerely,

  
Emma Torres

Officer-in-Charge and  
Deputy Executive Coordinator  
Global Environment Facility/SEED/BDP

Mr. Mohamed El-Ashry  
Chief Executive Officer  
Global Environment Facility  
Room G6005  
1776 G Street  
Washington, D.C. 20433  
PM

bn

2000



Subject

Environmental Protection Agency

Environmental Protection Agency

to and from

on 2/28/00

under

April 1999. The project  
Methods which is attached.



EA

Director in Charge and  
Executive Director  
and Facility

Mohamed El Ashry  
Executive Director  
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**Response to Comments from GEFSEC (Andrea Merla) concerning  
RAS/98/G33/A/1G/99 - Building Partnerships for Environmental Protection and  
Management of the East Asian Seas**

**Comments:**

**Response:**

i) Front Page, Summary of Costs:

Page contains several errors and the total does not coincide with the figure approved in the Project Brief, and with the one contained in the Incremental Cost Annex (pg. 174 of PD).

The figure presented for "Government Inputs" should read '\$3.313 million', not '\$3.133 million'. The summary has been revised accordingly, and is now consistent with Annex XI, Baseline and Incremental Costs, of the Project Document, as well as with the Project Brief.

ii) Section E: 1. GEF Inputs

The breakdown is not per component and activity, and this prevents any estimation of cost per activity. The list refers exclusively to GEF input.

Section E: has been modified. The revised section contains three components, namely:

1. GEF Inputs by Budget Line (pg. 82)
2. Immediate Objective/Activity Financing (pg. 86)
3. Third Party Inputs (pg. 86)

Differences are noted between the budget presented in the Project Brief (e.g., international consultants >\$573K, local consultants >\$170K).

As the Project Document was being prepared, two factors became clear, namely: a) the gap between the services required of international consultants versus services available from local consultants was small; b) by hiring and training local people to undertake local project activities, the potential for sustainability would be enhanced. Using this rationale, the distinction between international and local consultants, as indicated the Project Brief, was significantly reduced in the Project Document, with the freed-up budget reallocated to National Professionals and Training/Fellowships Budget Lines.

iii) Batangas and Xiamen Demo Sites

Among the subcontracts, B.L. 21.05, pg 82, \$600K is allocated to Strengthening of Batangas and Xiamen Demo Sites. No mention of such activities/costs seems to be contained in the Project Brief.

Batangas and Xiamen will both serve as: a) ICM training centres for national and regional personnel; b) the focus of case studies on lessons to be learned from ICM application; c) sources of expertise and experience for technical support and advice to new ICM sites; and d) working models for initiation of the 'second cycle' of ICM refinement and application. The Project Brief did refer to the 'working models', as well as to the use of the pilot phase experience in the follow-on project. The Project Document explains how that experience will be

**Comments:**

**Response:**

tapped and employed to the advantage of new ICM sites throughout the region (pg. 36-38).

A justification should be provided in the Project document, together with a detailed description of activities/costs, and a demonstration of the incrementality of such activities/costs.

Outputs 16, 17 and 18 of Objective 1 have been modified to emphasize the incrementality of proposed activities and costs in Batangas and Xiamen (pg. 36-38).

iv) Co-financing

The Document contains only a brief reference to co-financing (pg 85) and no breakdown of how it will be used to cover part of the incremental costs. It is essential to understand how co-financing interacts with the GEF funded activities (pg 85), including:

Section E 3: Third Party Inputs has been expanded to clarify how the co-financing interacts with the GEF funded activities (pg. 86-88).

IMO support (\$720K) and description in the text might be applied to associated financing, not to cash co-financing.

IMO has recently signed an MOA with Singapore Maritime and Port Authority (MPA) to jointly implement a series of training activities (e.g. OPRC; Port State Control; CLC/FUND; Port Management) in the region, and has plans for project initiatives as well (e.g., Chemical Spills Prevention and Response in Port Areas). These activities will be co-ordinated by the Regional Programme, implemented at project sites that are part of the Regional Programme, and cost-shared between IMO, Singapore MPA and the Regional Programme (pg. 87).

NOAA support (in-kind \$260K) should describe what exactly the experts will do.

NOAA experts will be working in the Gulf of Thailand sub-regional sea 'hot spot' project. Details of their work have now been included in the Third Party Inputs section (pg. 88).

Private sector support (\$300K) does not qualify as cash co-financing; no mention is made of this activity in the PD.

The private sector input in Batangas Bay is directly related to Objective 5, Output 5, of the Project Document. At the close of the GEF pilot phase in June 1999, the public-private partnership (PPP) process will only be partially implemented. The formation of the mixed ownership operating company, the development of the company business plan, the implementation of

**Comments:**

**Response:**

UNDP, Sida, Government  
Inputs very generic  
descriptions provided on pg  
85.

In summary, the Document  
raises serious doubts on the  
actual total amount of co-  
financing both in-kind and  
cash.

user pay schemes, etc. are activities that will be implemented jointly by the Local Government Units and the Private Partner from New Zealand. There are many lessons yet to be learned, documented and transferred to other sites and environmental investments in the region (pg. 88).

UNDP inputs will be extended in several areas of activity, but in particular ICM parallel site development. Similarly, Sida support will be provided to parallel ICM development, as well as in other areas of activity. Government support, either in-kind or co-funding, occurs in all activities. Further details have now been included in the subject section (pg. 87).

The co-financing identified in the Project Document has been the subject of discussion and negotiation for the past 12 to 18 months. Negotiations will continue into the project start-up phase, particularly with respect to national/local inputs at each of the demonstration sites. Overall, however, the figures (pg. 86) as presented are believed to be conservative. Specifically:

1. Sida has recently launched a large coastal initiative programme, including South East Asia. Project proposals are being prepared for the Philippines and Vietnam and are under discussion with the respective Swedish embassies.
2. UNDP headquarters and national field offices in the region have confirmed financial support for various components of the project (June 1998).
3. IMO has confirmed financial support for capacity building initiatives (January 1999).
4. NOAA has confirmed in-kind support for the Gulf of Thailand project (July 1998).
5. Waste Management New Zealand Ltd. has submitted a proposal regarding co-funding of the Batangas PPP (March 1999). The proposal was accepted by the Provincial Gov't of Batangas and other local stakeholders.
6. Gov't of China has indicated 2-to-1 co-financing for the Bohai Sea project (June 1998).
7. Gov't of the Philippines has indicated counterpart financing for ICM parallel sites, and willingness to host the project office (March 1999).

**Recommendations:**

**Response:**

1. The PD could contain a detailed budget, organized per output/activity and detailing both GEF and co-financing allocations. It has to be noted that in this particular project both GEF and co-financing are necessary to cover the total incremental costs.  
**Section E 2: Immediate Objective/Activity Financing** has been added to the Project Document (pg. 86).
2. All activities related to Batangas/Xiamen pilot phase sites should be justified and described in details. Their incrementality should be convincingly demonstrated.  
**Objective 1, Outputs 16, 17 and 18** have been modified to strengthen the justification/incrementality of the proposed activities (pg. 36-38).
3. The Document should demonstrate firm commitments, and relationship to project's activities.  
**Section E 3: Third Party Inputs** has been strengthened (pg. 86-88).

### I. Comments by STAP

ISSUE	RESPONSE: REFERENCE IN PROJECT DOCUMENT
STAP Reviewer Comments on <i>Project Brief</i>	Reflected as appropriate in Project Brief prior to GEF Bilateral and GEF Council approval of the project brief

### II. Comments by UNEP

ISSUE	RESPONSE: REFERENCE IN PROJECT DOCUMENT
UNEP Comments on <i>Project Brief</i>	Reflected as appropriate in Project Brief prior to GEF Bilateral and GEF Council approval of the project brief

### III. Comments by GEF Secretariat

ISSUE	RESPONSE: REFERENCE IN PROJECT DOCUMENT
GEF Secretariat Comments on Project Brief	Reflected as appropriate in Project Brief prior to GEF Bilateral and GEF Council approval of the project brief

### IV. Comments by UNDP

ISSUE	RESPONSE: REFERENCE IN PROJECT DOCUMENT
UNDP Comments on Project Brief/Project Document	Issues raised in Local and Headquarters Project Appraisal Committees have been reflected as appropriate in the finalized Project Document

## V. Comments by GEF Council Members

ISSUE AND RESPONSE	RESPONSE: REFERENCE IN PROJECT DOCUMENT
<b>A. Comments from Australia, New Zealand and Republic of Korea</b>	
<b>General Comments</b>	
<p>(i) Relationship of the Project with COBSEA and its regional programme of action developed under Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities.</p> <p><b>Response</b></p> <p>COBSEA has been represented at each of the five Programme Steering Committee (PSC) meetings of the GEF pilot phase project. Activities and outputs of the GEF pilot phase are recognized as being highly relevant to COBSEA, and vice versa. For example, the establishment of the two national ICM demonstration sites during the pilot phase is a direct benefit to the regional programme of action (RPA), specifically in that working models for implementation of the Global Programme of Action (GPA) have been demonstrated. The follow-on phase will reinforce and extend the ICM capacity building activities and resulting benefits throughout the region, in a close working relationship with COBSEA.</p>	<p>Section D. Immediate Objective 10</p>
<p>(ii) Provide details on each component, the implementation of the related budget and the planning of further project formulation.</p> <p><b>Response</b></p> <p>The Project Document details activities within each component of the project. Budget allocations have also been identified in accordance with the project activities, thereby confirming estimates provided in the Project Document.</p>	<p>Sections D, K and L</p>
<p>(iii) Clarification regarding the project formulation stage.</p> <p><b>Response</b></p> <p>The project formulation stage was initiated following preparation and dissemination of the Project Brief. Follow-up consultations have been held with participating governments, collectively at two PSC meetings, and individually via country missions. Consultations/workshops have also been conducted with international bodies, senior scientists of the region, private sector/NGOs, etc., in developing and finalizing the Project Document. The final product, namely the Project Document, contains a comprehensive project design, focusing on the prevention and management of priority environmental concerns of the region.</p>	<p>The Project Document as a whole</p>



## (V. Comments by GEF Council Members continued)

<b>Build Capacity</b>	
<p>(iv) The new ICM sites should work together with other concerned projects</p> <p><b>Response</b></p> <p>The ICM sites will be new sites, addressing a host of priority environmental management problems in the region. By expanding the use of the ICM framework to a variety of applications, the greater its value becomes to a wider body of users. In addition, various forums and activities have been identified in the Project Document to facilitate working together, and the sharing and integration of experience among experts and practitioners in the region.</p> <p>(v) <b>Fast-track ICM may be risky and must move at the best pace of the participants</b></p> <p><b>Response</b></p> <p>From case histories, it is apparent that it takes 8 to 15 years to establish an operating ICM site. The GEF pilot phase project was able to achieve the ICM operational goal at two sites in a 4 to 5 year time span. By further streamlining the information gathering phase, one may be able to reduce this timeframe to <u>3 to 4</u> years, without sacrificing the quality of the final product. While the capacity and general requirements of governments are of paramount importance, it is also important to recognize that ICM is a cyclical process. As government capacity and needs evolve over time, refinement and enhancement of an existing ICM framework can and should occur.</p>	<p>Section D: Immediate Objectives 1, 6 (Output 1), and 10 (Output 3)</p> <p>Section D: Immediate Objective 1 (Figure 3)</p>
<b>Increase Environmental Investment</b>	
<p>(vi) Integrate the involvement of private sector into other components rather than putting it as a separate focus</p> <p><b>Response</b></p> <p>Private sector investment is imperative to the sustainability of environmental programs, at the local, national and regional levels. The strategy for achieving Immediate Objective 5 is based on the working model developed and tested during the GEF pilot phase project. Although environmental investment appears as a separate objective, operationally the investment component is integrated into several project components, including the regional mechanism. The investment component is designed to provide stakeholders from the public and private sectors with technical, analytical and policy support and a process through which bankable projects may be established. It will also provide linkages to an international network of financiers, operating companies and interested donors.</p>	<p>Section D: Immediate Objective 5, especially Output 6</p>

(V. Comments by GEF Council Members continued)

<b>Advance Scientific Inputs</b>	
<p>(vii) Provide details on the subjects of the scientific inputs, their origin, selection, operation and adaptation to national and regional demands.</p> <p><b>Response</b></p> <p>The process by which the priority scientific issues will be addressed is outlined in the Programme Document. These priority issues were identified following region-wide consultations with senior scientists, including two regional workshops (Subic Bay, 1997 and Tagaytay, 1998). The goal is to apply the results of the scientific assessments during the life of the project, thereby facilitating the adoption of scientific inputs into regional coastal and marine decision-making processes.</p>	<p>Section D: Immediate Objective 6</p>
<b>National Policy and Action Plans</b>	
<p>(viii) Need greater emphasis on successful strategies for developing and implementing policies and action strategies.</p> <p><b>Response</b></p> <p>A programme has been formulated recognizing country sensitivities with respect to national policy development. The strategy is to provide countries with guidance, models and capacity building opportunities (e.g., workshops) for enhancing current strategies and policies. Options will be identified, using successful experiences elsewhere, as well as other appropriate, innovative approaches, and these options can then be analyzed and applied within the context of national and regional requirements and priorities.</p>	<p>Section D: Immediate Objective 9</p>
<b>Sustainable Regional Mechanism</b>	
<p>(ix) Suggest to collaborate with existing regional mechanisms such as COBSEA before the project implementation including implementation of the GPA and RPA.</p> <p><b>Response</b></p> <p>Collaboration is and has been an ongoing activity with COBSEA, as well as other regional bodies. For example, the Regional Programme Manager of the GEF pilot phase project regularly participated in COBSEA meetings, and was a contributor to the recent COBSEA workshop on diagnostic analysis. The Project Document confirms collaboration with existing regional organizations, and identifies an innovative mechanism by which these groups will establish closer working relationships.</p>	<p>Section D: Immediate Objective 10, especially Output 3</p>

## (V. Comments by GEF Council Members continued)

Explain why Japan and Singapore is absent from the project; what might be achieved by the regional mechanism; and how the mechanism would be developed.

**Response**

Japan and Singapore are not eligible to endorse the Project Brief. Japan has been represented at all PSC meetings of the GEF Pilot phase project, and has expressed interest in the second phase, particularly in oil spill response and maritime related issues. Singapore was a participating country in the pilot phase, and co-financed a number of project activities. Singapore has indicated overall support and interest in the second phase of the regional initiative, including co-sponsorship of regional training activities.

Section D: Immediate Objectives 3 (Output 2) and 10

- (x) Explain the effectiveness of risk management approach in addressing transboundary issues.

**Response**

Risk management is part of the overall management strategy for the project. By building technical and institutional capacities within participating countries, while forging interagency, intersectoral and intergovernmental partnerships, the risks associated with political, economic, institutional and technical constraints are greatly reduced. This approach was successfully implemented during the pilot phase, although on a limited scope and scale. Sustainable financing of the regional mechanism will entail the development and demonstration of various economic instruments during the project, including an investment unit.

Section D: Immediate Objective 2, Section F and Figure 7

- (xi) Give direction to stakeholder participation.

**Response**

Donors have been very much involved in the GEF pilot phase project, and even more so in the second phase on "building partnerships". For example, in 1996, an international conference on ICM in tropical developing countries was organized to bring together practitioners in coastal management to share their experiences, etc. The conference was co-sponsored by several donors and NGOs working in the region. A major product of this activity was the ICM Good Practices guide, which was published in nine languages.

Section D: Immed Objectives 1, 2, 3, 5 and 10

## (V. Comments by GEF Council Members continued)

<p>(xii) Explain "project implementation phase" and "start up" phase.</p> <p><b>Response</b></p> <p>The project formulation phase was initiated upon completion and approval of the Project Brief, including consultation with national agencies, international bodies, donors, scientific and technical institutions and the private sector. Comments from UNDP, IMO, GEF and GEF Council have been considered and included in the Project Document. The start-up phase of the project will include finalization of ICM and hot spot demonstration sites, development of detailed work plans and refinement of the project budget, as required.</p>	Section L
<b>Objectives and Key Performance Indicators</b>	
<p>(xiii) Include the word "developed" or "implemented" before "A suite of proven approaches," and the word "completed" after "Groundwork."</p> <p><b>Response</b></p> <p>Suggested changes have been made to the relevant sections of the Project Document.</p>	Annex I: Logframe Matrix I

ISSUE AND RESPONSE	RESPONSE: REFERENCE IN PROJECT DOCUMENT
<b>B. Comments from France</b>	
<b>Background Information</b>	
<p>(i) Explain transboundary pollution threats, major outputs and achievements of pilot sites in China and Philippines, and other donors programme in the region</p> <p><b>Response</b></p> <p>The Project Document provides much more detail on the environmental issues in the East Asian Seas, as well as other donor activities. Outputs and achievements of the pilot sites in China and Philippines have been reported and discussed in a number of forums within the region, and outside of the region. An international conference, scheduled for Manila in March 1999, will serve as a venue for the wrap-up of the pilot phase project, including the dissemination of published final reports on the two ICM sites.</p>	Section A, B and C

(V. Comments by GEF Council Members continued)

<b>Regional Capacity Building and Regional Cooperation</b>	
(ii) Specify actions, outputs and linkages of the two objectives	
<b>Response</b>	
The Project Document presents the inter-relationships among objectives of the project. As presented, the project's strategy is to deal with recognized environmental issues in a holistic manner. The priority issues, and measures/capacities required to address such issues, were identified during the pilot phase activity. The work schedule has now been laid out in the Project Document.	Figure 7 and Section L.

<b>ISSUE AND RESPONSE</b>	<b>RESPONSE: REFERENCE IN PROJECT DOCUMENT</b>
<i>C. Comments from U.S.A</i>	
<b>Collaboration with other Regional Initiatives</b>	
(i) Need to build on ongoing bilateral and multilateral efforts and existing mechanisms in the region, rather than establishing new mechanisms,	
<b>Response</b>	
The project is designed to demonstrate how ongoing bilateral and multilateral efforts can more effectively achieve their individual and overall environmental objectives in the East Asian Seas region. The strategy is to ensure that the regional mechanism is established on a strong technical and financially sustainable foundation. Such a foundation does not exist at the present time. Existing regional programs and activities will contribute to the development of a regional mechanism. As a result, existing regional programs will be strengthened. The regional mechanism may be an integration of these various programs...or an entirely new program may be warranted. Such requirements will be determined by, and based on the needs of, the participating governments.	Section A, B and D: Immediate Objective 10

and Regional Cooperation  
and impact of the two objectives

Regional Cooperation  
Specific actions

The project document presents the interrelationships among  
objectives of the project. As presented, the project strategy is to deal  
with organized environmental issues in a holistic manner. The priority  
issues and interrelationships among the objectives are  
shown in the project

PROJECT DOCUMENT

AND REGION

Comments from U.S.

Collaboration with other regional initiatives  
Need to build on existing bilateral and multilateral efforts and  
existing mechanisms in the region rather than establishing  
new ones

The project is designed to demonstrate how ongoing bilateral and  
multilateral efforts can more effectively achieve their individual and  
overall environmental objectives in the East Asian Seas region. The

strategy is to ensure that the regional mechanism is designed to  
strong technical and financial assistance functions. Such  
functions does not exist at the present time. Existing regional  
programs and activities will continue to contribute to a  
strong regional program. As a result, existing  
programs and activities will be integrated into the  
regional program.

will be selected  
Government

18 May 1999

## UNDP-GEF PROJECT DOCUMENT

**Title:** Building Partnerships for Environmental Protection and Management of the East Asian Seas

**Number:** RAS/98/G33

**Duration:** Five years (1999-2004)

**Project Site:** East Asian Seas

**ACC/UNDP Sector:** 20 Environment

**Subsectors:** 10 Environment Policies Planning and Legislation  
20 Environmental Assessment and Monitoring  
30 Environment Enhancement and Management

**Government Implementing Agency:** Various

**Executing Agency:** International Maritime Organization

**Estimated Starting Date:** 1 July 1999

**Government Inputs:** \ USD 3.313 million  
in kind - USD 0.670 million

**Third Party Inputs:** \ USD 3.148 million - UNDP;  
\ USD 0.720 million - International Maritime Organization;  
/ USD 3.910 million - Swedish International Development Agency (Sida);  
\ USD 0.300 million - Private Sources;  
\ USD 0.260 million - in-kind from National Oceanic and Atmospheric Administration (NOAA)

**GEF Inputs:** USD 16.224 million

### **Brief Description:**

The East Asian Seas region faces serious transboundary environmental challenges to the sustainable development of its coastal and marine areas. Existing national management approaches are still sectoral and actions tend to focus on problems that are visible, of immediate concern, and are geared to respond to environmental crises. Regional action

plans have yet to be effectively implemented. This project aims to reduce or remove the critical barriers to effective environmental management, such as inadequate policy, limited investment or disparate institutional capacity. The project design is based on two management frameworks tested in the GEF pilot phase, namely: a) integrated coastal management, which addresses land-water interactions and the negative impacts of human activity; and b) risk assessment/risk management which focuses on human activities and their impact in subregional seas. The project integrates these two management frameworks, thereby providing comprehensive coverage of the marine and coastal environment, and the related land and sea-based environmental issues. These activities, reinforced with appropriate coastal marine policy and environmental investment options, will enable the deployment of a programmatic and strategic approach to address multi-focal environmental concerns through a sustainable regional mechanism, especially transboundary environmental issues arising from population pressure and national economic development. This project is part of a GEF programmatic approach to the East Asian Seas Region where multiple international waters projects are being targeted to reverse transboundary environmental degradation of the shared waters.

**More specifically, the project intends to:**

1. build national and regional capacity to implement integrated coastal management programmes that will focus not only on marine pollution, but also biodiversity, fisheries, aquaculture, sea-level rise, tourism, mangrove conservation etc. Multi-focal training programmes and emphasis on participatory processes and direct local government involvement will be key elements;
2. promote multi-country initiatives in addressing priority transboundary environmental issues in subregional seas and pollution 'hot spots', through application of risk assessment and risk management frameworks;
3. reinforce and establish a range of functional networks designed to link and provide support to researchers, public policy and decision makers, legal practitioners, non-government and community-based organizations, environmental journalists and related media representatives, technical experts etc., supplemented by a Regional Task Force that will respond to critical and timely issues;
4. identify environmental investment opportunities, promote mechanisms such as public-private sector partnerships, and package environmental projects for financing and other forms of developmental assistance;
5. advance scientific and technical inputs to support decision making in coastal and marine management, through the creation of sustainable expert groups to guide and advise on key facets of the programme and beyond;
6. develop integrated information management systems linking selected project sites into a regional network for data-sharing and technical support;



7. establish an enabling environment to reinforce the delivery capabilities and advance the concerns of non-government and community-based organizations, environmental journalists, religious groups and other stakeholders;
8. strengthen national capabilities for developing integrated coastal and marine policies as part of the State policies for sustainable socio-economic development; and
9. promote regional commitment for implementing international conventions and strengthen regional and subregional cooperation and collaboration using a sustainable regional mechanism.

The global environmental benefits to be derived from the project are the cumulative environmental improvements at the local, national and regional levels, which will be achieved mainly through intergovernmental, interagency and intersectoral partnerships.

ADVANCE  
SESSIONS

By an enabling programme to reinforce the delivery capability  
concerns of non-government and community-based  
environmental journalists, religious groups and other stakeholders.

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## List of Acronyms

ADB	Asian Development Bank
APOC	Asian-Pacific Ocean Cooperation Programme
ASEAN	Association of South East Asian Nations
ASEM	Asia Europe Meeting
ASOEN	ASEAN Senior Officers on Environment
AUSAID	Australian Agency for International Development
BCRMF	Batangas Bay Coastal Resources Management Foundation
BOT	Build operate and transfer
CBOs	Community-based organizations
CIDA	Canadian International Development Agency
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLC	Civil Liability Convention for Oil Pollution Damage
COBSEA	Co-ordinating Body on the Seas of East Asia
IEIA	Integrated environmental impact assessment
ESCAP	Economic and Social Commission for Asia and the Pacific
PMO	Project Management Office
FUND	Establishment of an International Fund for Compensation for Oil Pollution Damage
GDP	Gross domestic product
GEF	Global Environment Facility
GIS	Geographic information systems
GIWA	Global International Water Assessment
GNP	Gross national product
ICLARM	International Center for Living Aquatic Resource Management
ICM	Integrated coastal management
IDRC	International Development Research Centre
IEIA	Integrated environmental impact assessment
IFC	International Finance Corporation
IIMS	Integrated information management systems
IMO	International Maritime Organization
IOC/WESTPAC	Intergovernmental Oceanographic Commission/Sub-commission for the Western Pacific
ISO	International Organization for Standardization
LMEs	Large marine ecosystems
MARPOL	International Convention for the Prevention of Pollution from Ships
MEH	Marine electronic highway
NGOs	Non-government organizations
NOAA	National Oceanic and Atmospheric Administration
NPCC	National Project Coordinating Committee
OECF	Overseas Economic Cooperation Fund
OPRC	Oil Pollution Preparedness, Response and Cooperation
PCC	Project Coordinating Committee
PDF	Project development fund
POs	People's organizations
PPP	Public-private partnerships
RBAP	Regional Bureau for Asia and the Pacific (UNDP)
SEAFDEC	South East Asia Fisheries Development Centre
Sida	Swedish International Development Agency
SMEs	Small and medium-size enterprises
TTEG	Tripartite Technical Expert Groups
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

## A. Context

### 1. Description of subsector

In September of 1997, a pall of noxious smoke from forest fires in Indonesia descended on many parts of Southeast Asia. Children and senior citizens afflicted with bronchial and respiratory disorders crowded into hospitals and clinics across the region. Many living close to the 'hot spots', died. One month later, two ships collided in the Straits of Singapore, which resulted in the spillage of 25,000 tons of heavy fuel that industry sources claim will cost US\$10 million in emergency response and clean-up. The lingering haze, the most serious over the past few years, was a stark reminder to governments of the importance of providing a framework to address transboundary environmental issues that have far reaching health, economic, social and political consequences. What is more important however, is that approaches and methodologies to address environmental problems be integrated, holistic and cast in a *management* framework. Institutional and human capacity, policies and legislation devoted to environmental concerns need to emphasize the interrelation between land, sea and air much more than in the past.

The East Asian Seas region (refer to Figure 1) has over the past decade, been a centre of considerable economic growth. The semi-enclosed areas of East Asia are bordered by the coastlines of Brunei Darussalam, Cambodia, China, DPR Korea, Indonesia, Japan, Malaysia, Philippines, the Republic of Korea, Singapore, Thailand and Vietnam. The region has the world's largest population of over 1.8 billion; almost 60% of which is concentrated in coastal areas. Eight of the 21 world megacities (those with metropolitan populations exceeding 10 million) are located in the region, six of which are in coastal areas. Between 250 and 300 million people are living in coastal urban centres.

The region embraces five large marine ecosystems (LME) or subregional seas (the Yellow Sea, South China Sea, East China Sea, Sulu-Celebes Sea, and the Indonesian Seas), and subsystems, including the Gulf of Tonkin, the Gulf of Thailand, Brunei Bay and Korea Bay, and important international waterways (e.g., the Strait of Malacca, the Strait of Singapore, and the Lombok-Makassar Straits). It includes two archipelagic countries (Indonesia and the Philippines) and contains the greatest number of islands of all regions in the world.

About 30% of the world's coral reefs, one-third of the world's mangroves, as well as many other important critical habitats (e.g., seagrass beds; soft bottoms; mud flats; estuaries; and lagoons) and spawning and nursery grounds are found in the seas of East Asia. The region comprises the world's richest marine biodiversity and produces about 41% of the total fish catch in the world, or about 45 million metric tons of fish per year. Nine of the world's 25 major fish producing countries are located in this region.

The East Asian Seas region is also considered a major hub of maritime trade, with a significant number of international and domestic seaports situated along the coastline, including the busiest seaport and nine of the world's 20 largest container ports. East Asian ports not only provide sea links between neighboring countries of the region; they

management efforts have yet to be fully effective. Most government programmes dealing with the coastal and marine environment have been only recently initiated. Programmes and policies are generally fragmented and do not pay enough attention to multiple coastal use conflicts and management issues that are critical to sustainable economic development. Moreover, there are constraints and impediments to successful protection and management of the coastal and marine environment that require a reformulation of approaches. The need to promote interagency coordination, stakeholder participation and public involvement, as outlined in the GEF Operational Program No 9, is critical to the improvement of quality, effectiveness and sustainability of environmental management initiatives.

The GEF Pilot Phase project highlighted the need to integrate land-use with sea-use planning at the national and local levels. This has been identified as within the scope of GEF Operational Programs No. 8 and No. 9. Traditional land-based approaches for managing coastal areas are giving way to more integrated and holistic approaches that recognize the significant interactions that take place across the land-water boundary. These interactions would cover salt marshes, coral reefs and other habitats, as well as the land forms such as sand dunes, beaches, mangroves and other forests, fringing reefs and headlands.

There are complex, multiple resource use conflicts that need to be systematically addressed. As natural resources become heavily exploited and in some areas, overexploited, these resource use conflicts become intensified, and lead to issues concerning jurisdiction, vested economic and political interests, and resulting lack of applied sustainable management principles. A semi-enclosed bay area, for example, could possibly be host to fishing grounds, ports, navigational waterway, submarine cables and pipelines, offshore oil and gas exploration and processing facilities, and public recreational sites. Moreover, there would be projected increases in energy consumption in the area due to economic development trends, while residents are likely to adopt modern lifestyles and consumption use patterns. As many countries consider the ocean resources to be part of the public domain, management of these resources has to be based on a conservationist ethic and resolution of multiple-use conflicts on fairness and equity. In practice, this is challenging, and requires a systematic, analytical framework within which governments and other stakeholders can formulate appropriate strategies and actions.

It is well documented that marine pollution, particularly from point and diffuse land-based sources (organic, inorganic and persistent organic pollutants), have significant negative impacts on coastal ecosystems, contributing to loss and degradation of species and habitats, as well as posing health hazards to human populations. Carefully prepared and integrated environmental impact assessments for any proposed development project should assist in setting priorities and shaping the design and implementation of the project. In this connection, over and above the human factor, the biological diversity of rare and fragile ecosystems and endangered and threatened species should be protected.



Approaches, methodologies and tools need to extend beyond the realm of marine pollution, and bring within their ambit, concerns such as biodiversity, climate change, particularly sea level rise, fisheries, aquaculture, port and harbour development and tourism, among others. A 'multiple focal areas' approach, as advocated under the GEF Operational Program No. 9, would apply holistic and integrated perspectives. Because coastal and marine management takes place in a continuous and dynamic environment, action programmes must be flexible and adaptive - that is, responsive to changing conditions and new information. This requires a well conceived monitoring system to obtain information on variables that affect the choice of actions. Such monitored variables would include changes in sea level, climate and weather patterns, biodiversity, land use, types and amounts of contaminants, and other effects of human activities. Reliable scientific and technical data will improve significantly the information base, and enable the development of decision support systems, as indicated in the GEF Operational Program No. 10.

Capacity-building is required to develop skills, and instill a management ethic and approach in the implementation of programmes and policies for protection of the coastal and marine environment. The lack of technical or qualified experts and an appropriate institutional framework are impediments to successful coastal and marine environmental management in most East Asian nations. There needs to be more participation and consensus-building at the community and non-government level to bring into the process, non-traditional stakeholders, as recommended by the GEF Operational Program No. 9. In this sense, there has been a general deficiency in terms of national overall policy on conservation and management of coastal resources and the environment. Inadequate public awareness on the urgency to protect the marine environment contributes to this problem. Efforts of international organizations are not coordinated and integrated, resulting in duplication and ineffectiveness. Moreover, these efforts have proven to be less sustainable due to poor or uneven commitment for follow up by respective national agencies.

Approaches to transboundary issues must be formulated within a management framework, with appropriate tools and methods developed and applied to each context. Activities well inland of the coast, both within the coastal nation's jurisdiction and in adjacent or neighboring jurisdictions, can significantly affect coastal resources. Where transboundary problems occur, cooperative efforts within and among the concerned nations will be required to address them effectively, efficiently and equitably. There will be a need to find ways to identify, understand, assess and manage environmental and societal risks of transboundary actions, but also taking into consideration political and economic realities in the development of suitable interventions.

A mechanism needs to be created to facilitate and encourage implementation of international conventions relevant to coastal and marine environmental management. This mechanism should provide a programmatic and strategic management framework. Many countries in the East Asian region have not implemented fully, the relevant international conventions that they have ratified. Local government units are usually not in a position, or do not have the capacity to implement the required provisions of international conventions. Countries need to develop ways of sharing experiences and

information, and translating scientific facts and findings into policy, management and legal interventions.

Essential in this process is the need to develop interagency and intersectoral coordination mechanisms. Single institutional entities rarely possess the authority and resources to carry out programmes alone. More typically, coastal areas are affected by the actions of a number of governmental agencies, communities, and other stakeholders as well as the private sector. Governmental mechanisms should be able to balance and coordinate these interests effectively. Coordinating mechanisms should have, among other things, recognized legal and legislative authority.

The project described below responds to an area of critical concern to the global community – the protection of international waters. This involves reduction of environmental stresses on coastal and offshore waters shared by two or more countries. The project has been designed to correspond directly with the objectives of the Global Environment Facility (GEF) Operational Program No. 9 on Integrated Land and Water; and also has relevance to GEF Operational Programs No. 8 and 10. It seeks to leverage long term commitment on the part of governments, implementing agencies, and donors to address intended sectoral changes – the root causes – of complex environmental problems.

The project combines multiple stakeholder participatory processes and multiple focal area components within the context of complex transboundary land and water interactions, to promote interagency cooperation, public participation, sound scientific and technological interventions, development or strengthening of multi-country institutional arrangements, financial sustainability of arrangements, and establish monitoring and evaluation indicators to build upon, scale up and carry through on the momentum and results achieved during the Pilot Project. A key emphasis of the GEF is the demonstration of innovative, cost efficient and effective approaches to solving the most significant global environmental problems. It is hoped that the demonstration of effective management of the coastal and marine environment will reduce existing barriers and constraints, and leverage significant corresponding and complementary actions and funding, so that the strategic approaches can actually be replicated on a wider area basis.

## 2. Country Strategies

As part of the Pilot Project, a Programme Steering Committee (PSC) was formed to provide direction and guidance. The PSC consists of representatives of the member governments of each participating country responsible for coastal and marine affairs. During the course of the development of this new and subsequent phase, the PSC has provided comments and input at various levels, including the GEF Project Brief and the Project Document information contained herein. Their approval and endorsement confirms the alignment of the project scope and activities with their respective national strategies and priorities.

All countries in the region have initiated efforts to develop coastal and marine environmental management programmes, supported by some type of legal and regulatory framework to control or prevent pollution. Moreover, most countries have formulated a response to the Agenda 21 recommendations (particularly Chapter 17) that emerged from the United Nations Conference on Environment and Development (UNCED), or "Earth Summit" in 1992. Their responses, in the form of National Agendas for action, by and large, follow the spirit of the Agenda 21, and are tailored to the priorities and context of each nation. Each of these responses address issues and concerns in coastal and marine environment in varying degrees (Annex VIII provides more detailed information on the coastal and marine environmental strategies of countries in the region). Six years following the Earth Summit, countries have a better understanding of sustainable development in general, but have yet to develop a full appreciation of the specific problems in the context of coastal and marine tropical ecosystems and how to implement appropriate interventions. This expressed need has led to the formulation of this project.

### 3. Prior or ongoing assistance

There exists a wide ranging set of initiatives related to coastal and marine environmental management at the international and national levels. At the international level, the major funding sources include the United Nations System, the World Bank, the Asian Development Bank (ADB), and bilateral donors, among which Japan, the United States of America (USA), Sweden, Australia and Canada have a significant presence in East Asia. Annex IX contains a more detailed breakdown of efforts by institution and country, based on best available information.

Efforts of international and bilateral agencies, and national governments in the area of coastal and marine management have been fundamental to the increased awareness of marine pollution problems in the region, and the establishment of various working groups, networks and institutional arrangements. These initiatives, for the most part, have focused on delineation of the problems, data gathering, research and training which, although critical to development of coastal and marine management, have not been designed to implement and test innovative management development techniques. With increasing pressure from population growth and accelerated economic development, there is a critical need to move to a newer generation of approaches to address coastal and marine environmental management. Moreover, many such programmes described in Annex IX, have different entry points within each national or regional framework, different terms of reference, and different time frames and mixed perceptions with respect to achievable outputs and impact. What this requires is a regional framework within which these programmes can be designed and implemented in a coherent and systematic way that facilitates the resolution of transboundary environmental problems. The discussion on the institutional framework for subsector narrows this focus.

#### 4. Institutional framework for subsector

Annex X provides information on the main institutions and their functions as they relate to the subsectors on environmental enhancement and management, policies, planning and legislation, with emphasis on coastal and marine areas. The table is not exhaustive, but indicative of the types of national institutional structures in each of the East Asian countries within this project. Consideration should also be given to provincial and municipal counterparts of these institutions, as well as a range of other actors. These would include international, regional and UN technical agencies such as the International Centre for Living Aquatic Resource Management (ICLARM), the Food and Agriculture Organization (FAO), the UNDP, the UNEP, the ESCAP, the IMO, the UNESCO, the IOC, the United Nations University, the UNCLOS Office of Ocean Affairs, COBSEA and the South East Asia Programme on Ocean Law, Policy and Management. (SEAPOL). Some of these institutions have been mentioned in Section A3 (Annex IX).

A cursory assessment of the member country strategies, ongoing and prior assistance and institutional frameworks for these subsectors of the East Asian Seas, gives rise to the following salient points:

1. Countries have developed, in varying degree and extent, policy and programme initiatives in response to the Agenda 21 recommendations, and have taken active participation and/or experimented in many related areas, such as use of market-based and other instruments. At the local, national and regional level, there are difficulties with the implementation of these initiatives, as well as insufficient financial resources to carry them through. Most of them have been developed through various forms of external assistance, often by international consultants not responsible for implementation. Environmental management as a whole is not always the top priority, and there are other distractions and constraints, such as the current financial crisis, that move attention away from these issues;
2. The impact of human activities on ecosystems cannot be managed within a single jurisdictional or administrative area. Moreover, programmes and activities cannot be executed by a single government agency or social sector. While most countries have dedicated departments and agencies in this field, there are no effective instruments for coordination, with management responsibilities diffuse over a range of sectorally-based policies and programmes. On a regional scale, there is a need for intergovernmental, interagency and intersectoral partnership mechanisms to galvanize efforts in this area;
3. The prevalent patterns of entrenched 'sectoral' approaches need to be re-assessed vis à vis an integrated, managed approach. While there are new trends in most nations to set up lead agencies and institutions; programmes, policies and legislative frameworks must be holistic in taking into account the systemic and interrelated nature of coastal and marine problems, and include marine pollution, biological diversity, climate change, including sea-level rise, port and harbour development, fisheries, aquaculture etc. as multifocal components;

4. There are environmental and resource issues affecting both present and future generations that necessitate reshaping or redesigning of current economic investments, and increased environmental investments in the future. Public and private sectors require a freshness of approach and new types of mechanisms with which to structure investment relationships and opportunities;
5. There are interactions between various natural processes and human activities, the consequences of which can be most effectively understood through multidisciplinary efforts and multiple focal area initiatives;
6. The decision-making process is hampered by a serious lack of scientific, technical and economic information. Information and communications technologies should serve as an enabling platform to: a) facilitate the rapid exchange and sharing of technical and comparative analytical data among and between policy and decision making communities, as well as relevant stakeholders; and b) increase public awareness and advocacy in the area of coastal and marine environmental management;
7. As countries gain a common understanding of issues and commitments, public participation in decision-making processes is becoming indispensable. Stakeholder involvement, including non-governmental organizations and communities, increases the probability that solutions to problems will be better designed;
8. Many current baseline efforts have a marginal impact and limited sustainability. To strengthen current regional efforts, there must be a strong political will, legislative frameworks and a regional collaborative mechanism to develop and apply innovative approaches to relevant issues.

Since the proposed project has a strong orientation towards the establishment of a legislative and management framework for the protection and management of the East Asian Seas, it would be instructive to review the performance of the participating countries in areas concerning obligations and commitments to international conventions that have a bearing on this subsector. The two figures presented in Annex XIV provide information on the ratification status of each country with respect to the range of conventions that are outlined. What emerges with clarity is that there is increasing awareness of the benefits of these global instruments. Within a span of three years, the number of ratified conventions in the region has almost doubled. In 1994 there were 34 ratifications by the eleven participating countries in the Pilot Project. At present, the number of ratifications has expanded to 64, with Malaysia and the Republic of Korea leading the way with a combined total of 12 accessions. The Pilot Project made significant progress through workshop activities, a legal information database, and the regional network of legal practitioners. These efforts must continue.

Experience during the Pilot Project suggests that the following factors are constraints to ratification of international conventions:

1. Due to the cultural heterogeneity across the region, there are difficulties in working with one common language;
2. There is a lack of understanding or a misconception on the rights and duties, or benefits and commitments under a given convention and its working mechanisms;
3. There are differing levels of development and capacity with respect to the legal profession in each country; and in some cases disparities between metropolitan and rural contexts. Cambodia and Brunei have very few legal professionals experienced in this field, while in countries that have a well developed legal profession, the trend is to focus on commercial law. During the past five years, however, a growing number of lawyers have focussed on coastal and marine environmental law, a trend which will hopefully continue;
4. The basis for law differs in each country. For example, Brunei, Malaysia and Singapore are influenced by British jurisprudence (the first two also having strong links with Islamic law), Vietnam by French and Russian models, Thailand by Buddhist philosophy, China by traditional and modern influences, and the Philippines by a blend of Spanish and American law;
5. There is an equal divergence in the political structures within which law is drafted and executed. Countries in the region range from constitutional monarchies, to sultanate, to centrally planned and those in transition from centrally planned to market economies, pluralistic democracies etc.;
6. Since there are a battery of conventions that span across many sectors, there is often confusion as to administering agencies and departments, focal points, jurisdiction and treatment, which results in differential application across countries;
7. Given the complexities, legal and institutional, and implications of each provision of each convention, countries understandably can only place emphasis on a few of critical importance. While there may be an understanding of the implications, many countries do not know how to implement certain provisions. In this connection, more attention is often paid to the rhetorical and visible aspects of international conventions, while getting down to addressing provisions substantively, is hard work;
8. As the legislative agenda varies across countries in the region, and each country guided by geopolitical and economic considerations, there may be a reluctance to ratify certain conventions. Is there a forum within which these conventions and/or their implementation can be facilitated?

The above argues for continued pursuit of a sustainable regional collaborative mechanism.

In accordance with GEF procedures for Incremental Cost Assessments, most of the proposed activities can be considered complementary. The project does not replace or

substitute baseline activities. It is focussed on removing or lowering policy, investment, capacity and other environmental management barriers which otherwise might impede the application of innovative and pragmatic management interventions. Countries of the region have made substantial investment to address marine pollution and other environmental problems, including combating pollution, habitat rehabilitation, cleaning of rivers, pollution monitoring, resource management etc. With support of donors they continue to undertake projects and programs to address these issues. Baseline costs that are relevant to this project are estimated to be in the range of USD 440 million between 1999 and 2003 (most of which are described in Annex IX and XI). This estimate, which is based on approved projects and programmes submitted by governments as well as information provided by donors, is by no means absolute, but reflects the levels of effort and commitment of the participating countries, and multilateral and bilateral donors. Incremental and baseline costs are presented in Annex XI.

## **B. Project Justification**

### **1. Problem to be addressed: the present situation**

The East Asian Seas Region faces serious national and transboundary environmental challenges to the sustainable development of its coastal areas. Globalization of the economy and changes in production and consumption patterns not only have had a profound impact on the growth of the region, but also have emphasized the interdependency of countries of the region on the welfare and health of the people and their environment, as evidenced by the recent haze emergency and currency crisis in Southeast Asia. As coastal areas in the region are characterized by high concentrations of human populations and economic activities, the development of sound coastal and marine policies is of benefit both nationally and internationally. Section A provides a view of the backdrop for this project.

Unfortunately, coastal and marine environmental problems are yet to be listed on the priority agenda of most countries. Management approaches by various resource governing and environment management agencies are still sectoral, as indicated in Section A2, and mostly limited to regulatory control. Government actions tend to focus on problems that are visible and of immediate concern, and are thus geared towards responding to environmental crises. Regional action plans have yet to be effectively implemented. As a result, pollution loading in the East Asian Seas, especially the coastal waters, is in fact increasing instead of decreasing. Consequently, the existing national and regional efforts are not adequate or effective in arresting the continued deterioration of the marine environment.

The lack of environmental and ecosystem management capacity, especially at the local level, is an impediment to the effective resolution of multiple use conflicts, resource overexploitation and other environmental threats related to biodiversity, sea level rise and marine pollution. Most national policies are not keeping pace with the fast-developing coastal and maritime economy. For example, conventional, resource-dependent, economic development planning stops at high water mark (high tide), and thus is ineffective in addressing many marine and coastal development problems.

Municipal planners use the high water mark as the boundary for land use planning. This project re-emphasizes the need to integrate land and water use planning. In addition, most countries lack the financial resources and technical know-how to mitigate and manage the adverse impacts of coastal development. Although many countries are parties to a number of important environment-related international conventions, difficulties in effectively meeting the stipulated obligations are a common problem.

The Pilot Project was designed to address some of the above-mentioned inadequacies. It focused on developing and proving a number of innovative approaches for preventing and managing pollution in marine and coastal areas, including the application of integrated coastal management (ICM) at pilot sites in Batangas Bay (Philippines) and Xiamen (China). It adopted a pollution risk assessment/risk management strategy and a management framework for dealing with marine pollution arising from both land and sea-based sources (including transboundary issues) in the Straits of Malacca. It integrated environmental monitoring into the local management framework, harmonized legislative conflicts, explored sustainable financing mechanisms and involved stakeholders, especially the private sector and the local communities, in the development and execution of site-specific or issue-related action plans. Through networking of environmental legal personnel, the Pilot Project was able to create better awareness of the benefits, rights and obligations of international conventions.

Among the multilateral and bilateral donors, as mentioned, there is very little substantive coordination or collaboration. The region is characterized by a general inability of donors to work collectively within an effective framework. In a period of declining resources for international development assistance, this is becoming imperative. There is a need for an operational strategy and regional framework so that they can work together on a systematic basis.

The major environmental issues/problems, proximate causes, root causes, baseline and alternative courses of action common to the region are provided Matrix 3, Annex XI. The proposed UNDP-GEF intervention implies a longer-term, strategic, programmatic approach to environmental management in the region in recognition of the geographic coverage and the magnitude and complexity of environmental problems in such a diverse socio-economic, cultural and political setting. The approach involves removing or reducing management barriers, facilitating policy improvement and encouraging investment so that the environmental issues confronting each country, and the region as a whole, can be systematically addressed over time. Because of the semi-enclosed nature of the East Asian Seas, the project focus on subregional seas, such as the Gulf of Thailand and Bohai Sea, will provide valuable insight into the management of transboundary issues in larger bodies of water (e.g., the five LMEs). Significant, measurable, regional and global environmental benefits will only be achieved over the longer term, when the basic requirements and management modalities are effectively in place.

Matrix 4, presented in Annex XII, provides the rationale and logic for the design of this project. It outlines the main Pilot Project activities, the achievements, the perceived limitations, and proposed actions in the follow-on project. These proposed actions are



iterated in Section D. Viewed together, Matrix 3 and 4, provide a justification for the project.

## 2. Expected End of Project Situation

The UNDP-GEF intervention is expected to lead to a major paradigm shift in the concept, approach and methodologies for addressing environmental and sustainable development problems of the coastal and marine areas, thus removing or lowering critical policy, investment, capacity and other related barriers to environmental management. There will be a major build-up of environmental management capacity in the region, an increase in national efforts to undertake a more holistic and integrated approach to addressing environment/resource management problems, an increase in investment opportunities and more effective use of scientific resources and information technology for addressing management "bottlenecks" and transboundary issues.

There will be stronger national and regional commitments to the implementation of international conventions, which will be enhanced, with the development of national coastal and marine policies. In summary, the role of this new UNDP-GEF initiative is to consolidate many ongoing activities in the region, providing an intersectoral and holistic management approach to marine and coastal resource management that is currently lacking in existing baseline initiatives. The principal *modus operandi* will be the building of partnerships. Part of the vision in 'building partnerships' will be to ensure that the project achieves sustainability from a financial standpoint, so that role of the GEF and UNDP will be transformed. Government capacities will be enhanced to carry on the results of the project.

The project presents a series of linked undertakings designed to pave the way, or cement the building blocks that lead to the establishment of a sustainable regional collaborative mechanism. More specifically, national ICM demonstration sites will be developed in six countries of the region. To the extent possible, there will be parallel demonstration sites in other locations developed on the impetus and with core funding of governments and co-financing from other donor agencies and organizations. The Batangas Bay and Xiamen facilities established during the Pilot Project will be used for regional training purposes. It is envisioned that all demonstration sites, including Batangas Bay and Xiamen, will eventually evolve into a subregional network each specializing in a sub-area related to its particular context and comparative research and training capacity. Linked to the above will be the application of working models for integrated management of marine pollution, fisheries, aquaculture, biodiversity, ports and harbours, and eco-tourism. Capacity-building activities will enable maritime affairs, marine science and related institutions to evolve into "centres of excellence".

Environmental risk assessment and risk management frameworks will be implemented on both a local and subregional/LME scale, featuring the creation of new institutional arrangements, regional training programmes, sharing of technical information and cross exchange of personnel, as well as environmental monitoring programmes and increased public awareness and participation. The project will break new ground in

implementation of the risk assessment/risk management (RA/RM) framework to address complex transboundary issues in larger bodies of water.

Specific investment opportunities will emerge from each site. Their technical and economic feasibility will be assessed, and appropriate mechanisms to catalyze, promote and advance these investments will be identified and developed. In conjunction with stakeholders and partners, these opportunities will be packaged into discernible, bankable, investment projects, such as oil spill response centers, shore reception facilities, centralized waste treatment facilities, GIS and modelling systems, training and information management, and eco-tourism among others. These packaged technologies and services will be presented to various investment partners, such as bilateral donor and technical assistance agencies, international financing institutions, commercial lending institutions, venture capital organizations and private sector developers. The project is expected to have a significant leveraging and multiplier effect in each country of the region, and take steps towards the development of sustainable financing mechanisms. In this connection, it is important to note that the project intends to provide an exit strategy for the UNDP-GEF as donors. An important corollary to this set of outputs will be a synthesis of policy and regulatory issues in an effort to create a climate conducive to environmental investments.

The project will give rise to issue-oriented, multidisciplinary monitoring capabilities and networks, which will support ongoing or planned management programmes in marine and coastal areas. This will include the network of ICM demonstration sites, the pollution 'hot spots', a legal practitioners network, a network of maritime affairs institutions, a network of local government institutions, a Regional Task Force to respond to specific and critical coastal and marine issues, and a Multidisciplinary Expert Group on the management of coastal and marine environment.

This monitoring and networking will be facilitated, enhanced and supported by an integrated information management systems network. The software product developed in the project will consist of a database of technical and non-technical information available to a range of users. Each ICM demonstration site and pollution 'hot spots' will generate local information content, and will be useful for research/technical purposes (for example to conduct an EIA), management and regulation (for example as a decision support tool), and will be linked to a network hub. The information system will also be 'web-enabled', allowing for Internet access and additional connectivity.

An enabling framework will be provided for non-government organizations, grass-roots organizations, religious groups and environmental journalists to carry out more effectively their programmes to clients and beneficiaries. These groups will benefit from training and awareness of ICM, RA/RM approaches, Integrated Environmental Impact Assessment (IEIA), natural resource damage assessment, social impact analysis, as well as multi media reference and educational materials generated. They will serve as key actors in **increasing public awareness, understanding and advocacy in the management of the coastal and marine environment.**

A policy framework will be created for implementation of coastal and marine environmental management programmes under the various conditions in the region. This includes the integration of sea-use with land-use planning, as well as allocation and use of marine resources. National and local authorities will benefit from the guidance on the inclusion of essential components into policy-making processes, and action programmes for enhancing the management of coastal and marine areas.

The project will culminate in a draft framework for the establishment of a sustainable regional collaborative mechanism that will embody the most efficient, cost-effective and politically acceptable options for implementation of international conventions. This will be supplemented by: an Intergovernmental Forum with administrative unit to service the protocol, agreement or convention; a Foundation that will manage a trust fund, a revolving fund, and a marine environment resource facility that will provide a set of technical support services for the countries that are 'part' of the region. Within this context, there will be working models, instruments and networks strengthened and created for advancing regional capacity to protect and manage the coastal and marine environment of the East Asian Seas.

### 3. Target beneficiaries

National and local governments will have a better policy and legal framework within which to develop and implement programmes to reduce the barriers to management of the coastal and marine environment. Policy-makers will have better decision support systems on which to base their actions.

Non-governmental and community-based organizations, religious groups and environmental journalists will be able to build an improved understanding of coastal and marine environmental management approaches into their programmes for intended clients and beneficiaries; as well as contribute to an increased public awareness, understanding and advocacy of coastal and marine environmental issues.

Scientific and technical research and training institutions will have improved knowledge, up to date techniques and information on ICM, RA/RM approaches, economic valuation techniques, natural resource damage assessment, estimation of carrying capacity etc. They will benefit from better linkages, networks and platforms for the application of this knowledge, and participate in the support network for demonstration sites.

Public and private sector enterprises, small, medium and large will have better infrastructure, partnership arrangements, project opportunities, information, technologies and services, as well as incentives to conduct eco-efficient business practices and investments.

Fisherfolk, farmers and other occupational groups, women and youth in coastal communities will have opportunities to participate in ICM demonstration and parallel sites and pollution 'hot spot' projects, as well as a range of other activities. The acquisition of skills and knowledge will provide them with confidence and ability to

play an active role in the development of their local government programmes and policies.

International financial institutions, bilateral donor organizations and governments will have entry points and exit strategies to make their programmes more effective. They will also have a new generation of projects and deals flowing through their respective pipelines.

The legal community, both national and international, will be able to have common regional and subregional fora within which to establish a dialogue towards implementation of relevant international conventions.

#### 4. Project strategy and implementation arrangements

##### Project Strategy

The project strategy, as outlined in this document, has been developed through extensive consultations at the level of the Programme Steering Committee, among professional and administrative staff at the Project Development and Management Office (PDMO) in Manila, with project-based staff and senior officers in recipient institutions and partners at the various demonstration and activity sites, with officers within the UNDP representative offices in Manila and other parts of the region, with UNDP Headquarters in New York, as well as the GEF Secretariat. More significantly, it has also benefited from a range of design inputs from stakeholder groups, including ocean-related UN agencies, private sector companies, international financing institutions and bilateral donor agencies, national and local governments. Finally, there have been external peer reviews conducted by experts from many disciplines, including the physical and social sciences.

*What are the elements of the project strategy?* Presented briefly below are the main elements:

1. The project will be a logical extension of the Pilot Project, building upon, scaling up, and transferring the models, approaches and lessons learned. The four main objectives and the six supporting objectives are inextricably linked, and in their implementation, will advance towards and support the establishment of a sustainable regional mechanism;
2. The project will build partnerships with governments (central and local), communities, non-government and people's organizations, the media, scientific communities, international organizations, multilateral and bilateral donors, and the private sector. Partnership building (depicted in Figure 2) is seen as the best way to achieve the project immediate objectives, catalyzing and enabling human resources and institutions to develop their own solutions to problems, and confer a sense of ownership and dignity to target beneficiaries;

3. The project will provide a framework for partners, especially governments, to consolidate, establish, leverage and multiply their own baseline actions. In this sense it will also provide multiple entry points and exit strategies for various multilateral and bilateral donors and other development institutions;
4. The project will apply tested models and proven techniques for identifying, understanding, and solving problems at the local level;
5. The project in its design has integrated, to the extent possible, factors that will contribute to sustainable development and global environmental benefits.

This project strategy and approach, as stated, develops and supports an enabling framework for intergovernmental, interagency, and intersectoral actions, whether joint, cooperative or parallel in nature, in addressing the problems of marine and environmental pollution in the East Asian Seas.

ICM has evolved as a multidisciplinary and an interdisciplinary science. While actions to address, coastal management have historically been uncoordinated, and often resulting in conflicting resource use and policies, "integrated" coastal management ensures more rational utilization of resources and takes steps to promote environmental sustainability.

ICM is not a new occurrence or discipline. It has been investigated, developed and promoted by a range of scientific and technical research institutions, government departments, coastal authorities, marine organizations, as well as international donor agencies for many years. Recognizing this, the Pilot Project made a special effort to consolidate a workable framework for ICM in consultation with some of the leading experts in this field. An international workshop convened in May 1996<sup>1</sup> culminated in a series of "Good Practices in the Formulation, Design, and Implementation of Integrated Coastal Management Initiatives". These 'good practices' are elements that are built into the current approach, endorsed by an international community of experts, and distinguish this project as one of the leading proponents of ICM in the region. These distinguishing features form the basis of ICM programming and training, and are elaborated in Annex III.

The project strategy also incorporates leading edge work in the area of risk assessment and risk management, based on the Pilot Project experience in the Malacca Straits. This experience made inroads into the development of risk assessment and management working models at the subregional seas level. ICM tools and methods are useful in addressing site-specific questions, but as one moves to larger bodies of water, the questions have a broader significance in terms of transboundary and cross national issues. The Malacca Straits model is exemplary in this sense, as it provides a framework for three countries, Singapore, Malaysia and Indonesia, to work together.

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<sup>1</sup> Refer to proceedings; Chua Thia-Eng (ed.). Lessons Learned from Successes and Failures of Integrated Coastal Management Initiatives. (Quezon City: 1996, GEF/UNDP/IMO Regional Programme) ISBN 971-9014-02-4.

The risk assessment approach implies that it is possible to use scientific techniques to specify likely consequences for targets of human influence. Usually the quality of the environment is considered. As a further step, risk/benefit approaches also alluded to in the context of societal risk assessment, recognize that environmental protection measures, while bringing benefits to the environment, can bring costs to the economy. The development of 'risk pathways' make it clear that deterioration in environmental conditions can have important impacts on fisheries, exploitation of other ecological resources such as mangroves and tourism. Even more generally, the risks to human health from contaminants can lead to a deterioration in quality of life, loss of economic output and increasing pressures on the health care and welfare systems.

These models serve as instruments for defining and selecting management options. Risk assessment can be used to indicate roughly the priorities and scale of management action. Prioritization of actions can be done using cost/benefit analyses that can involve quantitative valuation of both commercial returns from an activity, and the environmental costs resulting from loss of habitat or species. The ultimate decision on which options will be used, though informed by these procedures, is likely to be guided by socio-political considerations. Management options, for example, selection of appropriate regulatory instruments, should follow up with monitoring programmes, which might suggest adjustments or a judicious mix of actions.

The new project intends to extend this framework to other situations where transboundary and other types of issues are evident, in an effort to see if the experience can be replicated, adapted, scaled up and/or transferred. Each of these proposed 'hot spot' locations are unique. The focus will be to provide a framework for respective governments to identify and define management options to reduce or remove the barriers to addressing the particular problems identified in each case.

*How does this project represent a 'paradigm shift' in concept, approach and methodology for management of the coastal and marine environment?* Conventional systems are sectorally based with a range of disparate institutions responsible for various elements of the system without having an overall framework or strategy. They have marine pollution management as the responsibility of the public sector, but which will not likely generate income for the government. Central governments address pollution problems through national agencies, programmes and capacity building, with little or no recognition of the potential of 'waste' as a resource. Waste removal is a routine service, while management of the coastal environment is responsive, usually to crisis situations. Regulatory regimes usually rely on legislative controls, including EIA, while management instruments are usually applied in isolation and in loose coordination.

Under the new paradigm, marine pollution is but one element in an environmental management system. Coastal and marine environmental management, is the responsibility of both public and private sectors. It is integrated, coordinated and holistic, and can create investment opportunities. Local governments are provided with the framework, tools and skills for addressing environmental problems at the local level. Waste becomes a valuable resource. A total management approach applies ICM and RA/RM frameworks and processes. A preventive and management framework is

installed at the local and subregional levels. The methodology blends various institutional, legal, monitoring, scientific, communications and enforcement tools to maximize efficiency, effectiveness and incremental benefits.

While the ICM framework addresses land-water interactions and the negative impacts of human activity in relatively distinct coastal areas, the RA/RM framework focuses on **human activities and their impact in larger bodies of water and subregional seas. Under the new paradigm, these two management frameworks are integrated, thereby providing comprehensive coverage of the marine and coastal environment and the land and sea-based environmental issues.**

*How does the project envision the 'building of partnerships'?* As indicated throughout this document, the project aims to develop intergovernmental, interagency and intersectoral partnerships in providing a framework for the management and protection of the coastal and marine areas of the East Asian Seas. These partnerships will take many forms and will be facilitated by a range of instruments. Figure 2 provides an indication of which constituencies will be partners within the project. Table 1 depicts the types of partnership, and provides some indication of the nature or characteristics of these partnerships.

Intergovernmental and interagency partnerships would be 'horizontal' in nature, for example across national government departments. They would be 'vertical', for example, from local or municipal government agencies or departments to respective provincial and central departments or agencies. Similarly, intergovernmental and interagency partnerships would span across international organizations, UN and donor agencies and other types of institutions. Intersectoral partnerships would consist of interaction between disciplines, across networks, and imply sharing of financial and technical resources under a range of instruments such as voluntary agreements, joint ventures or public-private partnerships. In the implementation of activities or projects, there may be many different methods. Joint implementation would imply co-mingling of funds or activities; Parallel implementation would imply that each party would manage a component of an activity independently, but towards the same goal. Sequential implementation implies that one party will complete an activity or component of an activity, and a second party would take over the implementation and carry out the objective.

Each partnership would also involve a different level of commitment, which would be guided by a range of instruments from informal devolution of responsibilities to local governments, to formal Memoranda of Understanding outlining rights and obligations of parties. Intersectoral partnerships may be characterized by public-private partnerships, different types of technology transfer mechanisms (e.g., joint ventures, licensing, subcontracting etc), corporatization or privatization of public institutions. As the project unfolds, it is expected that partnerships will take some or many of these types and characteristics.

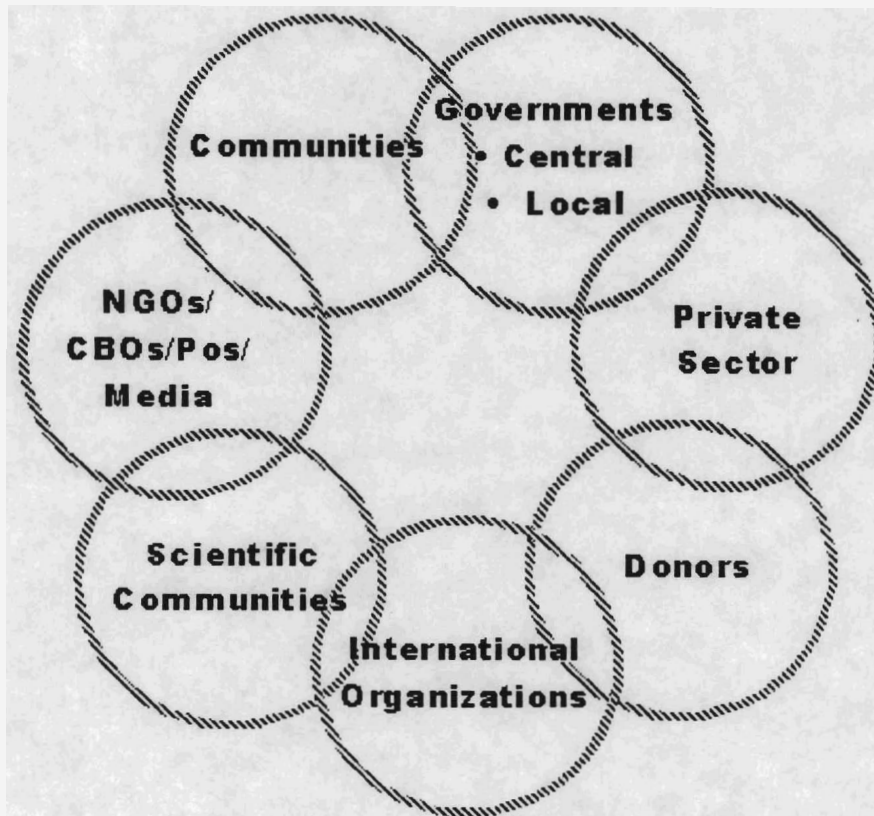
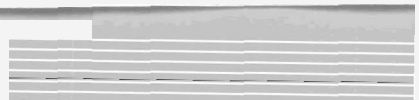
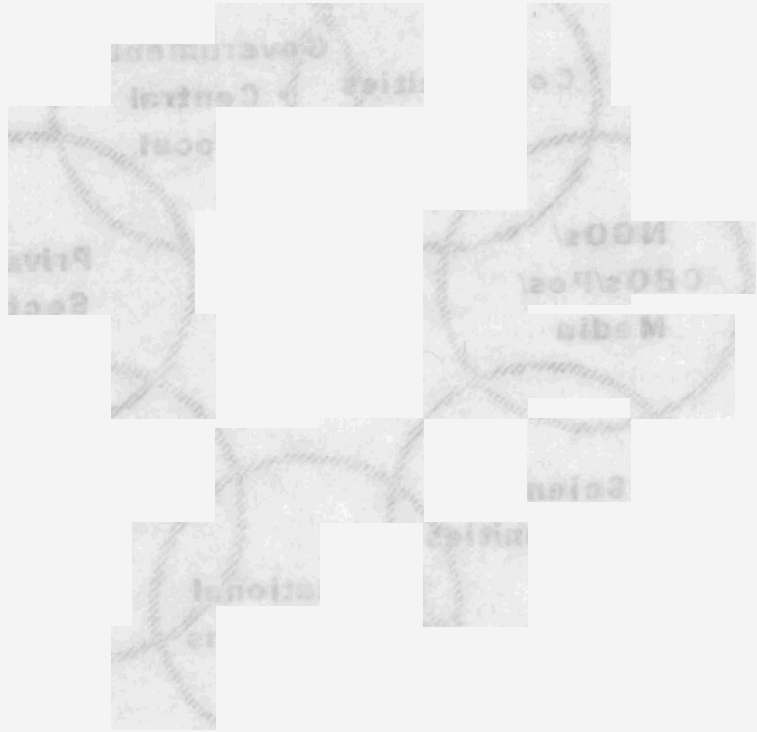


Figure 2: Partnership





**Table 1: Types and Nature of Partnerships**

<b>Partner ship Types</b>	<b>Charact eristics</b>	<b>Financial</b>	<b>Technical</b>	<b>Implementation</b>	<b>Instruments</b>
<b>INTER- GOVERNMENTAL and/or INTER-AGENCY</b> (Government and International)		Shared resources (finance, materials, facilities);  Shared responsibility (there would be a gradation)	shared information;  shared responsibility (there would be a gradation)	Joint  Parallel  Sequential	Devolution of responsibility, monitoring, voluntary agreements, Memoranda of understanding, Agreements, International conventions
<b>INTER-SECTORAL</b>		Shared Resources;  shared responsibility;	shared information;  shared responsibility;	Shared responsibility;  Joint;  Parallel;  Sequential;	Public-private Partnerships, Corporatization, Privatization, Technology transfer mechanisms, Networks, Voluntary agreements,

Implementation Arrangements

As a continuation of the Pilot Project, and building on the established sets of relationships, the Executing Agency for this project will be the International Maritime Organization (IMO). The IMO is the only specialized agency in the UN system wholly dedicated to maritime affairs, and is responsible for regulating and promoting the safety of maritime transport and the prevention, reduction and control of degradation of the marine environment from sea-based activities, including the disposal of waste at sea. The IMO also has a mandate to deal with emergency preparedness and response issues related to marine pollution from whatever source and has given increasing attention to safety and environmental aspects of port operation.

The UNCLOS 82 contains provisions related to international rules and national legislation to prevent, reduce and control pollution of the marine environment by land based sources (Art. 207), dumping (Art.210) and vessel sources (Art. 211). It also provides for the use of living resources (Part V and Section 2 of Part VII), marine scientific research (Part XIII), development and transfer of marine technology (Part XIV) etc. Wherever applicable, States are required to act through the "competent

international organization" or general diplomatic conference, to develop global and regional rules for the environmental protection and resource conservation in question. The UNCLOS 82 recognized respective competencies of concerned bodies in related fields, including the FAO, the UNEP, the IOC and the IMO. The IMO has played a critical role in developing many of the marine related international conventions, which most countries of the region have ratified. The 'regulatory function' in marine environment is regarded as an essential factor in the execution of this project - a function that does not exist within many other ocean-related bodies.

Through the PDMO, which was established in the Pilot Project, the IMO has strengthened technical competence and capacity to execute large projects, especially in areas related to land-based sources of pollution, integrated coastal management, coordination with the private sector, donors and other UN technical agencies.

A fundamental objective of the IMO strategy for the protection of the marine environment is to strengthen national and regional capacities to prevent and mitigate marine pollution and to promote technical cooperation. The IMO is committed to cooperation and the assurance of a coordinated approach to addressing marine environmental issues. IMO's commitment to safer shipping and cleaner seas is also delivered through a technical cooperation framework. The objective of its technical cooperation work is to assist developing countries by contributing to the enhancement of their capacity to comply with international rules and standards, giving priority to technical assistance programmes which focus on human resources development and institutional capacity building.

With regard to land-based sources of pollution, the IMO is one of the core agencies co-operating in a global programme of action for the protection of the marine environment from land-based activities. The Global Waste Survey project produced an extensive inventory and database, an in-depth assessment of the capacity of 17 countries to manage hazardous and industrial waste, and case studies on the development of various aspects of national programmes for waste management. The survey developed a strategic action plan for technical co-operation under the London Convention 1972.

International conventions relating to **safety and marine environment** are initiated and monitored by the IMO, although enforcement depends on the Contracting Parties to such conventions. The majority of conventions adopted under the auspices of the IMO, or for which the IMO is otherwise responsible, fall into three main categories: maritime safety, marine pollution, and liability and compensation. IMO is responsible for the Secretariat duties of the Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter, also known as the London Convention 1972. The Convention controls and regulates on a global level, the disposal of waste (e.g., dredged material, industrial waste, radioactive waste, and sewage sludge) and other material (including ships and platforms). Other articles of the Convention are designed to promote regional cooperation, particularly in the fields of monitoring and scientific research.

The IMO also provides the administration secretariat for the United Nations Group of Experts on the Scientific Aspects of Marine Protection (GESAMP).

The IMO has been an active participating agency in the development of all the UNEP Regional Seas Programmes, including the Integrated Technical Cooperation Programme for the East Asian Seas, and has established memoranda of understanding and co-operative arrangements with a range of relevant international and regional organizations. This collaboration will continue in the context of the new project.

During the Pilot Project the IMO was represented on the Programme Steering Committee. As Executing Agency, the IMO has established experience in the administrative, financial, reporting and monitoring aspects of programme management. The relationship between IMO Headquarters and the Project Development and Management Office (PDMO), established and operational in Manila will continue as part of the overall management framework for the project.

#### 5. Reasons for assistance from UNDP-GEF

A number of socio-economic and environmental factors favoring UNDP-GEF intervention will contribute to the successful implementation of the proposed activities and the attainment of the project goals. First, the economy of the region is closely linked with the sea. Secondly, the economic conditions of many countries have improved, thus enabling them to mobilize national resources, though still limited, for addressing environmental issues. Thirdly, there are increased public pressures for a cleaner environment and safer seas as a result of an improved standard of living and increased understanding that protecting the marine environment is in their own long term economic interest.

The timely UNDP-GEF intervention will help arrest the continued decline of environmental quality, followed by steady progress towards recovery, at least in areas where management interventions are in place. The pollution monitoring results of Xiamen demonstration site under the Pilot Project (see 1997 Pilot Project annual report) have proven that this is possible. The proposed sustainable regional mechanism will set in place the necessary institutional arrangements and regional commitment to the replication and expansion of effective management models and initiatives, through institutional networking and intergovernmental collaborative programmes. The incremental but cumulative, exponential environmental benefits will contribute substantially to the global improvement of the marine environment.

The project will be complementing rather than substituting baseline activities and other existing regional or international GEF projects. In fact, the project supports the Washington declaration on land-based pollution by demonstrating comprehensive, integrated coastal management working models for marine pollution prevention and management. It also complements the recently approved GEF/GIWA project, as demonstrated through the work of the Pilot Project.

The project puts emphasis on the demonstration of actual management actions on the ground, the success of which will strengthen government confidence and increase the commitment and investment in addressing environmental problems. It provides an opportunity for the exchange of staff among participating countries to learn from each other. In this connection, the project will also participate in, complement or even strengthen the proposed activities under the UNDP-GEF International Waters (IW) Learn Project through information exchange and lessons learned with other GEF projects.

The Pilot Project set in motion, actions to reinforce the GEF programmatic approach for resolving cross-country environmental problems. This new project seeks to consolidate and build on these experiences, scale up the activities to provide balanced coverage across the region, and support a comprehensive, systematic region-wide action programme that will lay the foundation for creating a sustainable future for the East Asian Seas. It could well serve as a model for other regions of the world.

#### 6. Special Considerations

The project goes beyond the Pilot Project in these key areas:

- a) emphasis on seeking management solutions for transboundary environmental problems;
- b) increasing collaboration with non-governmental organizations, community-based and people's organizations, environmental journalists and religious groups;
- c) stronger emphasis on environmental investments, policy, management and legal frameworks;
- d) integrating social impact analysis, with attention to gender and youth; and
- e) taking steps towards the creation of substantive and sustainable regional mechanisms.

#### 7. Coordination Arrangements

There are many programmes, current and planned, that address similar development questions. This project is unique in its scope, approach and area coverage. Discussions have been initiated with other donors and programme proponents to ensure alignment, complementarity, and collaboration, where possible. Most donor programmes in the area of environmental management of marine and coastal areas, deal only with subsets of the issues to be covered in this project (for example, watershed management, fisheries or industrial pollution management). They also tend to be national or subregional in scope, without the same level of coverage as proposed in this project. In its design and execution, this project intends to provide entry points for donor collaboration. One such entry point will be the Working Group on Regional GEF International Waters projects. Project leaders will be invited to participate in a sharing and cross learning experience (See Immediate Objective 10). A second entry point will be Round Table discussions with various donors on specific activities or issues (Immediate Objectives 1,2,5 and 8). A third entry point will be actual collaboration in the project areas of mutual interest.

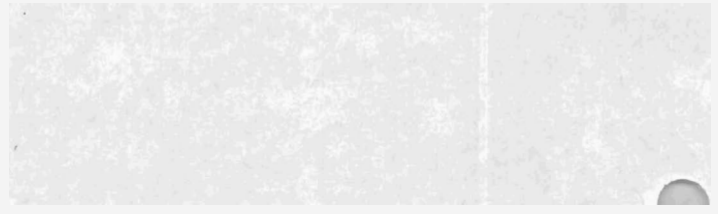
8. Counterpart Support Capacity

The project will be implemented with just recognition of the current technical, scientific and financial resource capacity of participating countries. Efforts will be aimed at building upon existing national activities and institutional strengths. The milestones and performance indicators will be evaluated each year by the PSC.

The project has been designed in full recognition of both financial and temporal limitations. However, as part of the work assignment, there will be an evaluation of self-sustaining financing options for ongoing coastal and marine environmental management activities, beyond the period of UNDP-GEF support. Given the high level of exposure by key personnel throughout East Asia to the ICM demonstration and pollution 'hot spot' activities, investment opportunities, workshops and training programmes, the benefits of the project will be transferred to many government departments and institutions, as well as private sector and non-government and community-based organizations. This is expected to mobilize baseline financing and will contribute to effective coastal and marine environmental management over the longer term.

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## C. Development Objective

*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 improved quality of life in the East Asian Seas region.*

The activities, outputs and immediate objectives described in Section D below are designed to advance policies, management frameworks and, action programmes of each participating country towards this longer term development objective. Annex II, the Logframe Matrix provides a detailed explanation and overview of how the project will measure its achievements through key performance indicators and monitoring and supervision mechanisms. There are different types of performance indicators identified and elaborated in the section on Project Review, Reporting and Evaluation. Moreover, these indicators will be developed, refined and tested within the scope of this project, as well as other related initiatives.

## D. Immediate objectives, outputs and activities

### IMMEDIATE OBJECTIVE 1

**To establish six national demonstration sites covering the application of integrated coastal management (ICM) for systematic and effective management of land and water resource uses, and to develop these sites for long term "in-house" training and capacity-building.**

Six national demonstration sites are proposed, one each in Cambodia, Malaysia, Indonesia, Vietnam, DPR Korea and Thailand. Outlined below is a provisional list of potential sites, which will be subject to review and assessment prior to finalization and approval by the Programme Steering Committee. In this connection Annex VI contains a document on "Site Selection Criteria" as well as "Field Guide for the Selection of ICM Sites", that will serve as guiding principles for this work. The aim will be to build capacity to apply the integrated coastal management framework to address environmental and sustainable development issues. By generating participatory processes and establishing these sites, it is expected that local government capacity to apply the various techniques will be enhanced. The national demonstration sites will essentially serve as tools to build ICM capacity. The Batangas and Xiamen sites will serve as regional demonstration sites for ICM training.

The ICM framework will have a range of applications, including marine pollution prevention, sea level rise, fisheries, resource management, habitat conservation, tourism and multiple use conflicts. Each site, however will have a distinct set of priorities and special emphasis, for example:

- a. Sihanoukville (Cambodia): port development and biodiversity conservation;
- b. Nampo (DPR Korea): marine pollution monitoring and reducing impacts of sea-level rise;



- c. Bali or East Java (Indonesia): tourism development and reducing impacts of sea-level rise;
- d. Klang Area (Malaysia): port/industrial development and preservation/conservation of mangrove ecosystems;
- e. Chonburi (Thailand): multiple use conflicts;
- f. Danang City or Khanh Hoa (Vietnam ): fisheries and habitat protection;

The local capacity and potential to implement the ICM framework will likely be disparate across sites. As such the timing, sequence and strategies may vary by location. The general approach will be consistent at all the sites. Each site will prepare and implement their ICM programs based on the generic framework and processes depicted in Figure 3 (ICM Program Development and Implementation cycle). As a consequence of the experience of the GEF Pilot Phase, the ICM planning and data gathering process can be shortened to about 18 to 24 months, instead of the conventional cycle of 5 to 8 years. This fast track ICM approach will be refined and validated at each site during the project, and then reapplied in follow-on replication activities.

## Output 1

### 1.1 Selection of six national demonstration sites.

#### Activities for Output 1

- 1.1.1 Assess potential sites as identified by local and national governments, based on Site Selection Criteria and Field Guide for the Selection of Demonstration Sites (see Annex VI).
- 1.1.2 Based on the assessments above, national ICM demonstration sites will be confirmed through stakeholder consultations.

Responsible parties: PDMO, local and national governments.

Success Criteria: Six sites confirmed.

## Output 2

- 1.2 **Project development and management mechanism, including workplan, scheduling, milestones, budget, outline of human resource requirements, project monitoring, and brochures/literature for public awareness.**

#### Activities for Output 2

- 1.2.1 Establish a National/Provincial Project Coordinating Committee (NPCC) that features stakeholder or interagency participation, and a Project Management Office (PMO) to administer and operationalize the project activities.

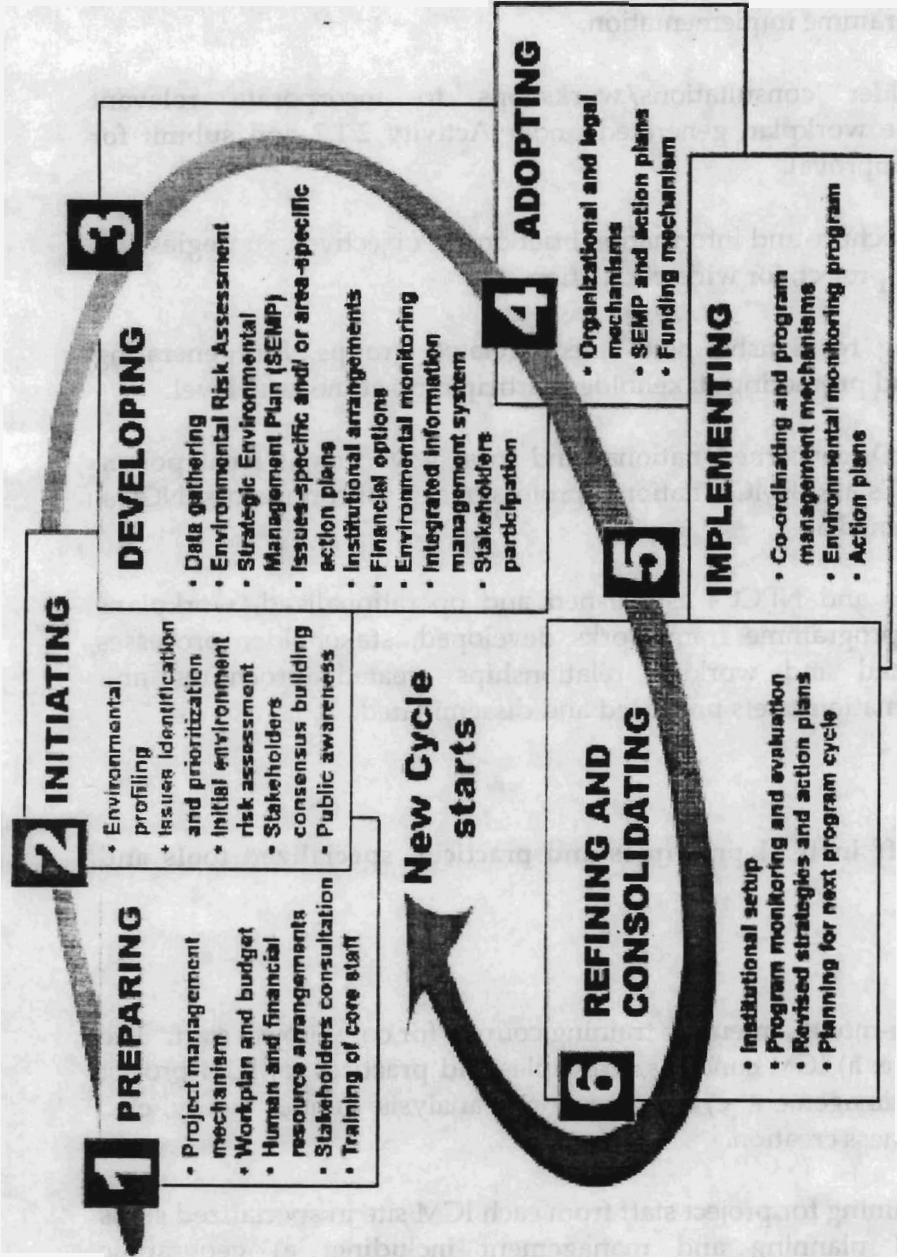


Figure 3: ICM Programme Development and Implementation Cycle

1.2.2 Convene planning meetings, and initiate discussions on project design and development, determine management boundaries, identify stakeholders, determine constraints and develop a draft workplan and budget, including objectives and expected outputs, tasks, milestones, success criteria, schedule of implementation, monitoring and evaluation, and human and financial resource arrangements. PMO identifies training requirements for ICM programme implementation.

1.2.3 Organize stakeholder consultations/workshops to incorporate relevant suggestions into the workplan generated under Activity 2.1.2 and submit for NPCC and PDMO approval.

1.2.4 Prepare a project brochure and information brief on the objectives, strategies and activities of the new project, for wide circulation.

1.2.5 Establish a working relationship with media-related groups, for generating public awareness and promoting stakeholder participation at the local level.

Responsible parties: PDMO, concerned national and local government focal points, NPCCs and PMOs, national professionals, subcontractors, NGOs, local media.

Success Criteria: PMOs and NPCCs established and operationalized, workplans and programme frameworks developed, stakeholder processes initiated and working relationships created, brochures and information briefs produced and disseminated.

### Output 3

1.3 Trained project staff in ICM principles and practices, specialized tools and methods.

#### Activities for Output 3

1.3.1 PDMO conducts one-month, intensive training courses for core project staff. The training shall include: a) ICM concepts, principles and practices, b) ICM project development and management, c) socio-economic analysis, gender equity, etc., and d) public awareness creation.

1.3.2 PDMO organizes training for project staff from each ICM site in specialized skills pertaining to ICM planning and management including: a) geographic information systems (GIS); b) integrated information management systems (IIMS); c) risk assessment and risk management; d) environmental monitoring techniques; and e) design and conduct of contingent valuation surveys.

Where possible, the training will be incorporated into the regional training program described in Objective 3.

Responsible parties: PDMO, PMO, national professionals, international consultants, subcontractors.

Success Criteria: Training materials produced, applied, tested and refined. Opportunities for community participation in training activities.

#### Output 4

##### **1.4 Environmental profiles.**

The essential elements of the profile are baseline data on ecological, socio-economic, demographic, environmental stresses and current status of resource and environmental management interventions. The profile is used for identification of information gaps, management issues and initial assessment of risks to the ecosystem, public health and the society as a whole. The environmental profile of each demonstration site is based on secondary information.

##### Activities for Output 4

- 1.4.1 Prepare an environmental profile for each ICM demonstration site using the IIMS format and software developed during the GEF Pilot Phase.
- 1.4.2 Organize a technical working group to review the profile, the environment stress and management issues identified and obtain consensus on the strategies and possible actions in addressing them.

Responsible parties: National professionals, subcontractors, PMOs, PDMO.

Success Criteria: Environmental profiles developed. Environmental stress, management issues and actions identified, initial definition of status indicators packaged in a report format.

#### Output 5

##### **1.5 Analyses of public perceptions on sustainable use of marine resources, environmental stresses and their solution.**

##### Activities for Output 5

- 1.5.1 Conduct a contingent valuation survey at each demonstration site based on the tested survey technique and experience of the GEF Pilot Phase.
- 1.5.2 Analyze results obtained at each site and compare with those of other sites to assess the public perception in the region. The data will be used as a reference point to assess changes in public perceptions as the project progresses.

Responsible parties: PDMO, national professionals, PMO, local government, NPCCs, environmental journalists.

Success Criteria: Contingent valuation survey reports. Cross-site comparisons of level of public perceptions with respect to ICM issues prepared in report format.

## Output 6

### 1.6 Environmental risk assessment.

#### Activities for Output 6

- 1.6.1 Identify hazards, targets and environmental risk pathways for each site.
- 1.6.2 Assess the effects or significant adverse changes to the targets, possible causes of such changes and the consequences of such changes to the ecosystem, human welfare and society in general.
- 1.6.3 Complete a priority ranking of environmental concerns, including major hazards and assessment endpoints that are the most significant indicators of ecological, human health and societal risk, important interactions between land and sea-based activities and living and non-living resources, combined effects of multiple and diverse stresses, data gaps and uncertainties associated with the risk assessment and a plan of action for reducing identified uncertainties and gaps.

Responsible parties: National professionals, international consultants, subcontractors, PMO, local government, PDMO, environmental journalists.

Success Criteria: Identification of hazards, targets and pathways at each site, assessment of cause and effect undertaken. Priority ranking of environmental concerns developed.

## Output 7

### 1.7 Strategic environmental management plan (SEMP)

The strategic environmental management plan (SEMP) at each demonstration site is developed based on identified and prioritized environmental and management issues contained in the risk assessment activities. The SEMP will be prepared by a multidisciplinary expert team, through stakeholder consultations. The Regional Task Force (Immediate Objective 4) will be mobilized to provide technical support. The SEMP will include policies and strategies for sustainable resource uses, projects and programmes to address the environmental and management issues identified over a time frame of 10-15 years.

## Activities for Output 7

- 1.7.1 Appoint a multidisciplinary expert team to prepare the strategic environmental management plan (SEMP).
- 1.7.2 Review the draft SEMP, by PMO, NPCC, and PDMO.
- 1.7.3 **Consult stakeholders and interest groups through workshops/public hearings.**
- 1.7.4 Submit the SEMP for formal adoption by the concerned local government.

**Responsible parties:** NGOs, national professionals, local government, PMO, NPCC, PDMO, Regional Task Force, environmental journalists, religious groups.

**Success Criteria:** Draft SEMP prepared and reviewed by concerned parties, stakeholder consultations initiated, SEMP submitted to local government for review and adoption.

## Output 8

### **1.8 Action Plans to address priority environmental and management issues.**

Work related to the SEMP will flow into the creation of the action plans at each site. A sea-use plan integrated with land uses, together with specific issue-oriented or site-specific action plans will be developed.

## Activities for Output 8

- 1.8.1 Identify use conflicts and political, cultural and other social resistance to change.
- 1.8.2 Prepare a policy/information brief on the results of risk assessment/risk management, including recommendations or guidelines for policy and management interventions, and their subsequent dissemination for increasing public awareness and concerns.
- 1.8.3 Prepare sea-use plan, issue-oriented and/or site-specific action plans.
- 1.8.4 Submit the draft plans for review by PMO, NPCC, PDMO.
- 1.8.5 Consult stakeholders and interest groups through workshops/public hearings.
- 1.8.6 Submit the zoning scheme and action plans for adoption and implementation by the local government.

**Responsible parties:** PMO, NPCC, Regional Task Force, national professionals, international consultants, subcontractors, local government, environmental journalists.

**Success Criteria:** Use conflicts and other impediments identified. Policy/information briefs prepared and disseminated. Process and stress reduction indicators identified and defined. Action plans prepared in report format and submitted to local government for review and adoption.

## Output 9

**1.9 Institutional arrangements, both organizational and legal, at the local level to implement, manage, monitor, evaluate and replicate ICM initiatives.**

### Activities for Output 9

- 1.9.1 Assess the requirements for an interagency, multi-sectoral coordinating mechanism for increasing the efficiency and effectiveness of managing environmental impacts across legal/administrative boundaries.
- 1.9.2 Determine the appropriate organizational structure for environmental and natural resource management, including monitoring and evaluation of environmental conditions, implementation of the SEMP and the related Action Plans.
- 1.9.3 Explore the feasibility of transforming the NPCC/PMO into a permanent organizational structure.
- 1.9.4 Recommend operational modality including specific terms of reference, facilities, staff and budget.
- 1.9.5 Assess the adequacy of existing legislation and enforcement capacity within the context of multiple coastal use and sectoral conflicts, the legal responsibility of the local government in reviewing and approving major coastal development projects, and pre- and post-EIA review processes, taking into account harmonization with national legislation.
- 1.9.6 Prepare draft provisions, which will improve existing legislation, as required.

**Responsible parties:** PDMO, National Project Coordination Committee (NPCC), Project Management Office (PMO), legal network, national professionals, international consultants, subcontractors.

**Success Criteria:** Formalization of interagency coordinating mechanism at each site, with mandate to implement related ICM programmes, and

supported by an operations office. Review and amendment of existing legislation or enactment of new regulations, as necessary.

## Output 10

### **1.10 A monitoring programme to track environmental changes.**

#### Activities for Output 10

Establish an environmental monitoring programme with spatial and temporal information to track changes of water quality. Specific activities will: a) determine essential parameters in the water column, sediments and biota for monitoring; b) follow common methodology, standards pertaining to sampling and analytical techniques, QA/QC protocols, etc., used in the Pilot Project and other demonstration sites.

1.10.1 Use monitoring data for detecting and assessing changes in the level of environmental risks, to the extent possible.

1.10.2 Make monitoring results available to coastal managers and policymakers through regular consultations and dissemination mechanisms.

Responsible parties: PMO, NPCC, PDMO, national professionals, international consultants, subcontractors.

Success Criteria: Qualitative and quantitative environmental monitoring programme developed and implemented. Status and stress reduction indicators defined and where possible, measured. Linkage with IIMS established.

## Output 11

### **1.11 Integrated information management systems (IIMS) for sharing, storage and retrieval of scientific, technical and management data.**

The IIMS framework will be developed through work related to Immediate Objective 7. Data obtained for the demonstration sites will be fed into the system using a standardized format. It will also form part of the data base that provides connectivity to a regional information network related to Output 7.5 and the regional guidelines developed therein, as well as Output 10.5 relating to the marine environment resource facility.

#### Activities for Output

1.11.1 Input data gathered for the demonstration site into the IIMS.

1.11.2 Maintain and periodically upgrade database.



- 1.11.3 Establish connectivity with other demonstration sites using IIMS.
- 1.11.4 Develop guidelines for the use of IIMS for coastal and marine development planning, environmental impact assessment and management.
- 1.11.5 Explore options and mechanisms for ensuring the continuous operation of the IIMS on a self-sustaining basis.

**Responsible parties:** PMO, national professionals, international consultants, PDMO, NPCC, Regional Task Force.

**Success Criteria:** Database developed at each site, with connectivity established, where possible. Guidelines for use of IIMS prepared. IIMS operational.

## Output 12

### **1.12 Financing options and mechanisms to sustain environmental management operations and to facilitate investment in environmental improvement projects.**

This output is closely linked with Immediate Objective 5 in developing investment opportunities for environmental improvement and resource development projects/programmes. This output will provide opportunities for securing financial resources from both public and private sources for the implementation of the SEMP and action plans.

#### Activities for Output 12

- 1.12.1 Determine investment opportunities related to environmental improvement or coastal/marine resource development and management projects/programmes, and explore available financing options including public-private sector partnerships, privatization, joint ventures, BOO, BOT, etc.
- 1.12.2 Prepare investment opportunity briefs.
- 1.12.3 Assess the policy and financial climate at the site to determine factors, which enhance or constrain implementation of financial investment options.
- 1.12.4 Convene investors' meetings and present opportunity briefs/profiles.
- 1.12.5 Explore viability of financing mechanisms to augment/sustain local government efforts for implementation of the SEMP and action plans.

**Responsible parties:** International consultants, national professionals, PDMO, PMO, NPCC, local stakeholders, private sector partners.

**Success Criteria:** Investment opportunities identified and defined. Opportunity briefs/profiles prepared. Investors' identified and participate in meetings. Memoranda of understanding or letters of intent by contracting parties initiated. Feasibility studies initiated.

#### Output 13

**1.13.1 Adoption by local government of the strategic environmental management plan (SEMP), action plans, institutional arrangements and financing options.**

##### Activities for Output 13

1.13.1 Submit SEMP, action plans, sea-use zoning schemes, organizational arrangements, and legal provisions when completed, for review and adoption of the NPCC and local government.

1.13.2 Create public support for the adoption of the above through media, stakeholders consultations.

**Responsible parties:** National and local government, national professionals, PMO, NPCC, PDMO, environmental journalists, NGOs.

**Success Criteria:** SEMP, action plans, sea-use zoning schemes, organizational arrangements and legal provisions considered and adopted in whole, or in part, by local governments.

#### Output 14

**1.14 Strategic Environmental Management Plan (SEMP) and Action Plans implementation initiated.**

##### Activities for Output 14

1.14.1 Governments will develop coordinating and monitoring mechanisms to initiate and set into motion, elements of the SEMP and Action Plans. (It should be noted that some countries may take longer than others in initiating and implementing the SEMP and Action Plans.)

**Responsible parties:** local government, PMO, NPCC, PDMO, national professionals, international consultants.

**Success Criteria:** Implementation of SEMP and action plans initiated.

#### Output 15

**1.15 A project monitoring programme for evaluating outputs, attainment of objectives and feedback.**

## Activities for Output 15

- 1.15.1 Develop a general monitoring programme over the project cycle to address periodically and systematically, project outputs and activities, and to detect constraints to the attainment of project objectives.
- 1.15.2 Develop and implement periodic feedback mechanisms within PMO and NPCC for corrective measures.

Responsible parties: PMO, NPCC, local government, PDMO, subcontractors.

Success Criteria: Programme monitoring mechanism in place.

## Output 16

### **1.16 Documentation of lessons learned, refinement of action plans, and creation of a new ICM project/programme cycle in Batangas Bay (Philippines) and Xiamen (China).**

The ICM project would have evolved into a bona fide programme, characterized by a range of activities, stakeholder participation and consolidation of institutional arrangements and mechanisms. The main activities would be monitoring and evaluation of the project itself, based on the initial project development and management framework and objectives established for Output 1. The results would feed into discussions on the development of revised strategies and action plans based on the lessons learned. This will pave the way for the development of the next ICM project/programme cycle. Batangas and Xiamen Demonstration Sites will undergo evaluation early in the project, and revised SEMP and action plans will be formulated for local adoption and implementation.

## Activities for Output 16

- 1.16.1 Conduct review of project performance in Batangas Bay and Xiamen using agreed performance indicators (outlined in the section on Project Review, Reporting and Evaluation and developed through the previous set of activities) and conclude lessons learned with respect to the application of ICM approach.
- 1.16.2 Prepare case studies at each site, including the results of the project performance evaluation, lessons learned and the implementation of institutional and financing mechanisms for sustaining the ICM initiatives. Disseminate the case study reports to interested parties within each of the participating countries.
- 1.16.3 Review the SEMP and action plans that have been adopted at each site to determine areas for improvement. Assist local government units to revise and update SEMP and action plans.

1.16.4 Incorporate recommended improvements into the project planning process of local government units for the continuing ICM cycle.

Responsible parties: National and local governments, NPCC, PMO, PDMO.

Success Criteria: Report on feedback and lessons learned. Continuing improvements and modifications to the project.

#### Output 17

**1.17 National and regional training courses or in-service training on the application of ICM.**

#### Activities for Output 17

1.17.1 Establish Batangas Bay and Xiamen as training centres for building human resource capacities in ICM at the local, national and regional levels of the East Asian Seas. Develop appropriate training materials, trainers and facilities and equipment at each site to ensure high quality and responsible training courses and training environment.

1.17.2 Organize training courses on ICM for local government officials from across the region who are interested in adopting ICM within their respective coastal areas.

1.17.3 Organize in-service training of national or regional officials on ICM program implementation.

Responsible parties: PMO, PDMO, NPCC, local government.

Success Criteria: Expanded participation in training programmes. National trainers increasingly assume leadership of training programmes.

#### Output 18

**18. Parallel implementation of ICM programmes in at least 10 selected sites in participating countries in the region.**

During the course of design, development and implementation of the national ICM demonstration sites, opportunities for the creation of parallel sites in other locations will be explored. Local government efforts to establish parallel sites will be encouraged. Efforts will be made by PDMO to explore possible financing or co-financing from donors, multilateral lending institutions and governments. A regional ICM network will be established linking closely with the Marine Environment Resource Facility described in Immediate Objective 10. Batangas Bay and Xiamen will serve as working models for other ICM sites in the region. Core staff from Batangas Bay and Xiamen sites will also provide technical advice to staff of local government units in the region, for the adoption and start-up of the ICM framework.

## Activities for Output 18

- 1.18.1 PDMO to provide technical assistance for site selection, project design, training of project staff, monitoring and evaluation and technical advice on ICM program development and implementation on cost recovery basis.
- 1.18.2 Establish information linkages and connectivity between parallel sites and national or regional demonstration sites (e.g., Batangas Bay and Xiamen) and link these ICM sites into a regional ICM network involving local governments and the Regional Task Force (Immediate Objective 4).
- 1.18.3 Formalize the creation of the regional ICM network of local governments (linked to Immediate Objective 4) with the Marine Environment Resource Facility (Immediate Objective 10) providing technical support and related services.
- 1.18.4 Employ the managers and staff of Batangas Bay and Xiamen as a core group in the Regional Task Force (Immediate Objective 4) for advising local governments on the start-up and operational aspects of ICM.

**Responsible Parties:** National and local governments, Regional Task Force, NPCC, PMO, PDMO/Marine Environment Resource Facility, UNDP field offices, international donors.

**Success Criteria:** Initiation of 10 parallel ICM sites with distinct ICM projects/programmes based on experience provided by initial demonstration sites. Eventual integration of these parallel sites into a regional network.

## **IMMEDIATE OBJECTIVE 2**

To apply the environmental risk assessment and risk management process to address transboundary environmental issues in subregional sea areas under stress.

Based on the working model developed in the Malacca Straits during the Pilot Project, environmental risk assessment/risk management (RA/RM) will be conducted in one sub-area (i.e., Gulf of Thailand) of a subregional sea/LME (i.e., South China Sea) and two national, cross-boundary pollution 'hot-spots' (e.g., Bohai Sea and Manila Bay). Appropriate management programmes will be developed. The approach will enable the concerned States and the various administrative units bordering the semi-enclosed sea areas to collectively develop and implement environmental risk management measures. Examples of such collective measures include assessment of pollution loads, implementing joint oil spill contingency plans, developing water quality improvement programmes, improving navigational safety, protecting sensitive sea areas and sharing pollution monitoring databases. The Straits of Malacca sub-area will be further developed and strengthened as a RA/RM working model. Linkages between ICM and RA/RM will result in an holistic environmental management action programme, with comprehensive coverage of human activities both on land and in the sea.

The aforementioned three sites have been selected provisionally on the basis of the following characteristics and aims:

1. Transboundary issues are evident;
2. **They are among the most seriously affected areas** of the region in terms of pollution loads and stress, thereby called 'hot spots';
3. They represent land/sea interactions where the management of life support systems and water quality improvement and monitoring is critical;
4. They represent larger bodies of water, in an effort to 'scale up' the experience and approaches developed in the Straits of Malacca.

Figure 4 represents a Risk Assessment/Risk Management Framework developed during the Malacca Straits demonstration project of the GEF Pilot Phase. It shows the steps and processes involved in hazard identification, risk analysis and risk evaluation; and the interrelation between risk assessment and risk management. Risk management involves the identification and evaluation of management options, selection of the most appropriate options, and implementation and enforcement. Risk assessment is usually preceded by the development of 'environmental profiles', consisting of data collection, analysis and characterization of the area under study. The project will apply a rapid assessment technique using GIS to create the profiles. More importantly, it will seek to extend the application of the GIS to meet the requirements of specific users. For example, the GIS may be linked with electronic navigational chart databases to create a 'marine electronic information highway', with pollutant fate and forecasting models, and oil spill trajectory and natural resource damage appraisal (NRDA) models.

As with the demonstration sites that will be developed to address Immediate Objective 1, there is a fundamentally generic framework for risk assessment and risk management that will be put in place for the three pollution 'hot spots'. In view of the contextual differences for each of the three locations, there will also be customized and site-specific elements incorporated in the approach. Some site-specific background information on these 'hot spots' is presented in Annex VII.

## Output 1

### **2.1 Project development and management mechanism.**

#### Activities for Output 1

**2.1.1** Prepare a draft strategy, work plan and budget for each subregional sea area/environmental 'hot spot', including management boundaries, human and financial resource requirements for each site.

**2.1.2** Conduct scientific meetings, to include key scientific and technical institutions, agencies and experts with experience/ongoing related projects in the area, to build consensus on the technical and scientific aspects of each project, and to identify the available technical and scientific knowledge base.

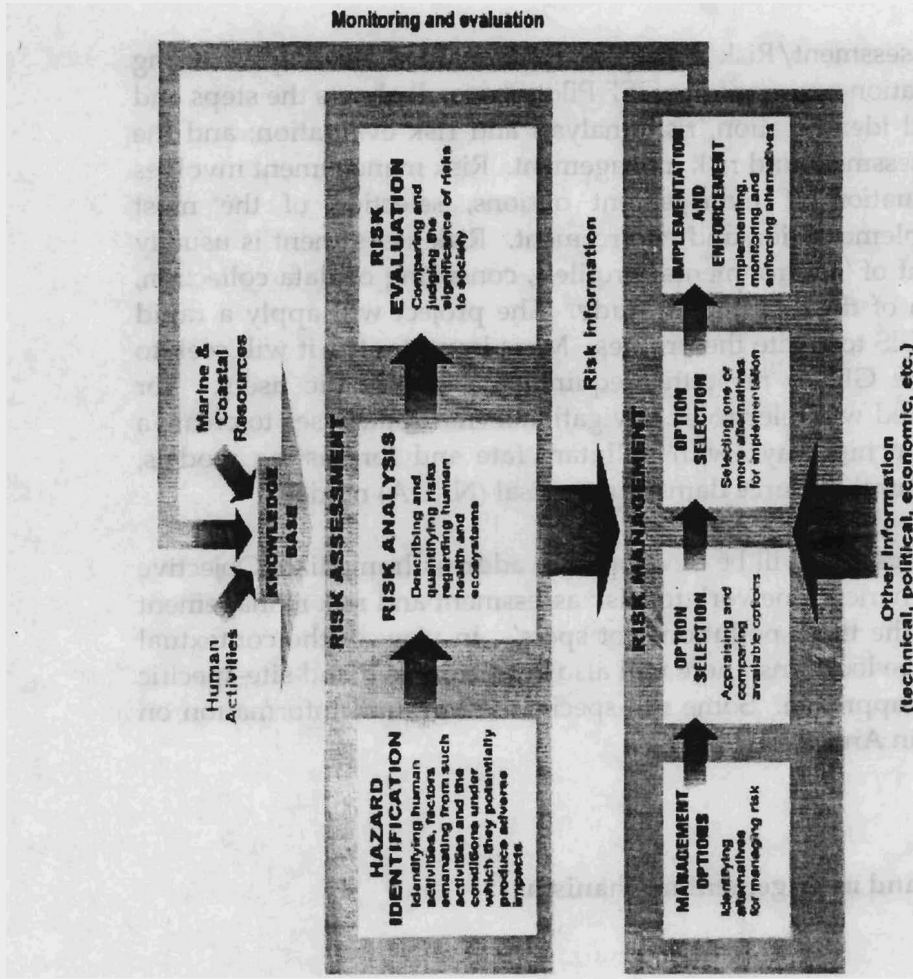


Figure 4. Risk Assessment and Risk Management

- 2.1.3 Identify principal scientific and technical institutions, agencies and experts to serve as the local scientific/technical core group for each project.
- 2.1.4 Conduct stakeholder consultations at each site with central and local government agencies and authorities, NGOs, private sector, academe, policy institutions, etc., to review institutional and policy aspects of the project areas, identify existing management/institutional arrangements, transboundary issues and policy considerations, and build consensus on the project management arrangements, collaboration among projects/program activities, work plans and human and financial resource requirements.
- 2.1.5 Finalize strategy, work plan and budget based upon consultations, including formation of National or Project Coordination Committees (N/PCC) and scientific/technical support groups.
- 2.1.6 Organize the first meeting of the National/Project Coordination Committee at each site, and develop terms of reference, a work schedule and budget.
- 2.1.7 Organize the first meeting of the scientific/technical support group at each site, and develop terms of reference, work schedule and budget.
- 2.1.8 Identify and establish a lead agency/focal point.
- 2.1.9 Monitor and evaluate the progress and results of each project.

Responsible parties: PDMO, N/PCC, local institutions and government, national professionals.

Success Criteria: Stakeholder consultations initiated. N/PCCs and scientific/technical support group established and operational. Lead agency /focal point established. Workplans and programme framework developed.

#### Output 2

**2.2 Scientific and technical personnel from each site trained in basic and specialised tools for risk assessment.**

#### Activities for Output 2

2.2.1 Conduct training of local scientific/technical project personnel, to include project management, risk assessment/risk management, natural resource damage appraisal, use of the media to build public awareness (e.g. videos; brochures) and consensus building among stakeholders (e.g. preparation and dissemination of information to targeted audiences).



2.2.2 Conduct specialized training of selected individuals from institutions at each site, to include GIS/IIMS, remote sensing, hydrodynamic modelling, oil spill trajectory modelling, pollutant transport and fate modelling, cost-benefit analysis and economic modelling.

**Responsible parties:** PDMO, lead agency/focal point, N/PCC, national professionals, international consultants, subcontractors.

**Success Criteria:** Project staff trained in respective skill area.

### Output 3

**2.3 Initial risk assessment: Screening of ecological, human health and societal concerns in subregional sea areas/environmental 'hot spots'.**

#### Activities for Output 3

2.3.1 Develop an environmental profile of each subregional sea area/environmental hotspot, using GIS and consolidating available temporal and spatial data on the main economic and human activities and marine and coastal resources in each area, including coastal development, shipping, offshore oil and gas exploration and development, fishing, tourism, resource use and needs of coastal communities and related services.

2.3.2 Conduct an initial risk assessment at each site, systematically identifying the different categories of targets in the area (e.g. humans, habitats; species), any significant adverse changes to those targets, possible causes of such changes and the consequences of such changes to the ecosystem, human welfare and society in general. Estimate the likelihood of further adverse effects on those targets as a result of environmental conditions that exist, or might exist in the future within each project area.

2.3.3 On the basis of the initial risk assessment, complete a priority ranking of environmental concerns, including major hazards (both incremental and catastrophic), assessment endpoints that are the most significant indicators of ecological, human health and societal risk, important interactions between land- and sea-based activities and living and non-living resources, combined effects of multiple and diverse stresses, data gaps and uncertainties associated with the risk assessment and a plan of action for reducing identified uncertainties and information gaps.

2.3.4 Prepare a video on each subregional sea area/pollution hot spot to focus public awareness on the identified environmental concerns; develop and disseminate information/newsletters to target groups in the public and private sectors emphasizing the various uses/activities being undertaken or proposed in the marine and coastal areas and the environmental consequences of such uses.

**Responsible parties:** PDMO, N/PCC, lead agency/focal point, national professionals, international consultants, subcontractors.

**Success Criteria:** Environmental risk assessment profiles and GIS database completed. Video presentations developed and disseminated. Initial risk assessment identifying priority risk factors. Process, status and stress reduction indicators better defined and understood.

#### Output 4

### **2.4 Refined environmental risk assessment/Natural resource damage appraisal (NRDA).**

#### Activities for Output 4

- 2.4.1 As required, refine the initial environmental risk assessment, focusing on identified priority environmental concerns, including projected environmental damages in the subject areas, by linking the established GIS and database system to predictive models, including: pollutant transport and fate; oil spill trajectory and fate; and natural resource damage appraisal.
- 2.4.2 Confirm the estimates of environmental risk, the principal sources of hazard, the expected ecological damages to the life support systems in the project areas and the levels of uncertainty, using outputs derived from predictive models and statistical analyses of the generated data.
- 2.4.3 Evaluate the ultimate costs to society as a result of unsustainable economic development and human activities in each of the subregional sea areas/pollution hot spots, including priority transboundary issues and the total social and economic impact of transboundary environmental concerns.
- 2.4.4 Package an automated, multimedia, interactive environmental atlas covering each project area, to build environmental awareness and consensus for action among the public and private sectors.
- 2.4.5 Develop and implement an awareness and consensus building campaign through a collaborative effort with local NGOs, academia, private interest groups, media, religious organizations, etc.
- 2.4.6 Identify data gaps and uncertainties in the risk assessment and natural resource damage appraisal efforts, and develop a plan of action for overcoming constraints to more effective application of these instruments at each site.

**Responsible parties:** PDMO, N/PCC, lead agency/focal point, national professionals, international consultants, subcontractors, local and national government, subcontractors, environmental journalists, NGOs.

**Success Criteria:** Revised environmental risk assessment profiles, supplemented by quantitative and qualitative analysis and economic estimates of resource damage. Development and application of a multimedia environmental atlas and action plan in report format. Increased participation of local media in building public awareness.

## Output 5

### 2.5 Risk management options and strategic environmental management plan (SEMP).

#### Activities for Output 5

- 2.5.1 Evaluate the effectiveness of existing local, national and international mechanisms and instruments (e.g. legal, economic, organizational, technical/scientific, administrative and policy) in the subregional sea areas/environmental hot spots. This will involve examination of capabilities to prevent and manage priority environmental concerns, identifying gaps, overlaps, constraints and inefficiencies in existing management regimes and the resulting impact on the life support system of each area.
- 2.5.2 Undertake consultations with policy-makers, national and local regulatory agencies, as well as other stakeholders in the public and private sectors. These consultations will be aimed at developing and strengthening institutional arrangements and capacities to manage priority environmental risks at each location, including; organizational and legal arrangements, risk assessment, and/or environmental impact assessment of transboundary environmental concerns, environmental monitoring and assessment, environmental standards and criteria, enforcement and surveillance, Port State Control, contingency planning, emergency response and liability and compensation.
- 2.5.3 Identify existing approaches, procedures, technologies, facilities and services that are in place to address the priority environmental concerns at each location, and evaluate their effectiveness in controlling, eliminating and/or responding to negative environmental impacts derived from economic development and human activities.
- 2.5.4 Undertake consultations with stakeholders in the public and private sectors to develop perspectives on strengths, weaknesses and gaps in existing environmental management programs and mechanisms, and to formulate a series of management options for providing incremental improvement to the priority areas.
- 2.5.5 Analyse the benefits derived and costs of each management option, implementing a predictive economic model linked to the GIS database, to identify the market and non-market benefits within relevant temporal and spatial limits and the associated capital and operating costs for each management

option.

- 2.5.6 Identify investment opportunities from the management options, that may be attractive to private investors, commercial banks, private sector developer and constructors, NGOs, bilateral and multilateral donors, international and intergovernmental institutions.
- 2.5.7 Formulate a draft Strategic Environmental Management Plan (SEMP) for each management area, incorporating the results of consultations with stakeholders on institutional arrangements, management options and investment opportunities, and distribute the draft plan to appropriate stakeholders in the public and private sectors at the local, national and international levels.
- 2.5.8 Conduct a national/regional policy conference at each location, for the purpose of reviewing and revising the draft Strategic Environmental Management Plan, and developing consensus among key stakeholders on strengthened local, national and international institutional arrangements and mechanisms for managing and reducing environmental risks in the marine and coastal areas.

Responsible parties: PDMO, N/PCC, lead agency/focal point, national professionals, international consultants, subcontractors, financiers/investors, environmental journalists, NGOs.

Success Criteria: Some stress reduction indicators defined. Increased stakeholder participation and public understanding of risk management options and costs/trade-offs. SEMPs developed in report format. Environmental investment opportunities identified.

## Output 6

### 2.6 Action plan development and implementation.

#### Activities for Output 6

- 2.6.1 With the collaboration of the respective National/Project Coordinating Committee and scientific/technical support institutions at each location, including the Straits of Malacca, formulate and implement action plans leading to:
  - a) the adoption of the Strategic Environmental Management Plan (SEMP) by appropriate regional, national and/or local authorities,
  - b) establishment/strengthening of institutional arrangements and mechanisms as defined in the SEMP,
  - c) development and adoption of work programmes/action plans by regional, national and local authorities, as appropriate at each site, for

- c. Verification of predictive models on pollutant fate and effects on life support systems and services provided by marine and coastal resources.
- d. Benefits derived and costs incurred as a result of management interventions.

2.7.3 Analyze and package the results of the environmental monitoring project into appropriate formats for distribution and use by coastal managers, policymakers, the media and the general public, utilizing the integrated information management system (IIMS) established at each project site.

**Responsible parties:** PDMO, NPCC/PCC national professionals, international consultants, subcontractors, local and national governments and relevant stakeholders.

**Success Criteria:** Integrated monitoring programme put in place. Reports prepared and submitted to coastal managers and policymakers. Increased media and community participation.

Output 8

## 2.8 Engagement of the Regional Task Force in technical support and training programme.

Activities for Output 8

2.8.1 Engage the Regional Task Force created under Immediate Objective 4, to serve as trainers in national and regional training programmes, and as response teams to assist national and local authorities in planning, developing and implementing environmental management programmes in subregional sea areas/environmental hot spots of the East Asian Seas region.

2.8.2 Engage the Regional Task Force created under Immediate Objective 4, to provide or facilitate technical support and assistance to scientific/technical institutions at project sites for preparing environmental profiles, SEMP and developing and implementing issue-oriented and/or area-oriented action plans. In conjunction with local scientific/technical institutions, the Regional Task Force will undertake monitoring and evaluation of achievements at each location.

**Responsible parties:** PDMO, Regional Task Force, N/PCCs, lead agency/focal point, national professionals, international consultants, subcontractors.

**Success Criteria:** Engagement of Regional Task Force in training and technical support activities. National professionals assume leadership of training programmes. Monitoring and evaluation of project sites completed. Recommendations made for improvement and upgrading of environmental risk profiles, SEMP and action plans.

### **IMMEDIATE OBJECTIVE 3**

**To assist human resource development in participating countries in areas of planning and sustainable management of coastal and marine areas, especially at the local level.**

As a result of the GEF Pilot Phase, successful ICM working models have been developed and verified. Under this component of the project, training will be implemented to impart the various skills that are necessary for integrated management of coastal and marine resources. The training programmes will take into account the needs of the region as a whole, as well as the gaps in knowledge and human resource skills in individual countries. One focus of the work will be the upgrading of capacity in institutions of higher education, through curriculum development and degree training, to ensure sustainability of the present efforts. Another focus will be training of trainers, ensuring the use of local resources and languages to the extent possible, thereby promoting a multiplier effect and wide dissemination and employment of project information and tools. As illustrated in Table 2, the training activities will be designed to suit the requirements of particular target groups. An outline of some of the training programmes is presented in Annex IV.

Specialized regional training will cover such areas as GIS, while ICM and RA/RM training will be focussed on skills development in specific disciplines or sub-disciplines in a field or 'laboratory' context, including integrated environmental impact assessment. In service training, will involve training on location, usually in lesser developed situations. Professional upgrading refers to focused, early to mid-career training.

Table 2: Types and Targets for Training

*Types of training*

TARGETS FOR TRAINING		laboratory concept	laboratory concept	In-service national; lesser developed countries	Professional upgrade
TRAINERS	Multiplier effect	Multiplier effect	Multiplier effect	Multiplier effect	Multiplier effect
SPECIAL GROUPS*	Respond to immediate needs	Respond to immediate needs	Respond to immediate needs	Respond to immediate needs	Respond to immediate needs
INTERNS					Hands-on experience
UN VOLUNTEERS					Hands-on experience
SENIOR OFFICIALS	Respond to immediate and long term needs	Respond to immediate and long term needs	Respond to immediate and long term needs		

\*includes degree and diploma training

Output 1.

**3.1 Assessment of impacts of and lessons learned from the training program undertaken during the GEF Pilot Phase.**

Activities for Output 1

3.1.1 Conduct a rapid 'tracer study' in order to assess impact from the training activities of the GEF Pilot Phase, using interviews and questionnaires with recipients for assessing cost effectiveness and application of knowledge learned.

3.1.2 Analyze data to distill lessons learned and incorporate suggestions for design improvement.

3.1.3 Prepare a report of the study.

Responsible parties: PDMO, national professionals.

Success Criteria: Lessons from the GEF Pilot Phase identified with suggestions for improved design of training programmes.

## Output 2

### 3.2 Specialized short-term training courses organized for technical and management skills upgrading of government officials, trainers, and concerned stakeholders.

#### Activities for Output 2

- 3.2.1 Conduct four training courses on "**integrated coastal management**" (ICM) based on the curriculum and training materials developed by the Pilot Project, and using Batangas and Xiamen as training sites. Preference will be given to local officials who are currently practicing, or will be practicing ICM programmes. The training courses will be organized in collaboration with the Swedish International Development Agency (Sida) and Coastal Management Center (CMC).
- 3.2.2 Conduct two training courses on "**risk assessment and risk management**" based on the curriculum and training materials developed by the GEF Pilot Phase project. Preference will be given to resource and environmental economists of participating nations, academicians and researchers on marine affairs, senior national and local officials. This work will be undertaken by subcontractors to be identified, in collaboration with the PDMO.
- 3.2.3 Conduct two training courses on "**natural resources damage appraisal for tropical ecosystems**" based on the training materials and curriculum developed by the GEF Pilot Phase project. Preference will be given to resource and environmental economists of participating nations, academicians and researchers on marine affairs, senior national and local officials. This work will be undertaken by subcontractors in close collaboration with the PDMO.
- 3.2.4 Conduct two training courses on "**oil pollution preparedness, response and cooperation (OPRC)**", based on the IMO model training courses. This training course will be organized in collaboration with IMO Headquarters in London, England and the Maritime and Port Authority of Singapore (MPA).
- 3.2.5 Conduct two training courses on "**integrated environmental impacts assessment**" based on curriculum and training materials jointly developed by CMC and the GEF Pilot Phase project. The course will be conducted in collaboration with Sida/CMC.
- 3.2.6 Conduct one training course on "**strategies, tools, and techniques for implementing international conventions**" based on the training materials prepared by the Legal Network during the GEF Pilot Phase. This work will be undertaken in connection with the Legal Network (refer to Immediate Objective 4).



- 3.2.7 Conduct one training course on "port state control" for participating nations. This training course will be jointly organized with IMO Headquarters and the Maritime and Port Authority of Singapore (MPA).
- 3.2.8 Conduct two training course on "project development and management" based on the course curriculum and training materials developed by CMC and the GEF Pilot Phase project. The course will be conducted by CMC and PDMO.

Responsible parties: PDMO, NPCCs, PCCs, Sida/CMC, Legal Network, IMO, MPA, international consultants, subcontractors, national academic and technical institutions, donors.

Success Criteria: Participation of national professionals and relevant stakeholders in training programmes. Design, development and improvement of training curricula and materials.

### Output 3

- 3.3 Implementation of internship/ professional upgrading programme.

#### Activities for Output 3

- 3.3.1 Design an internship/professional upgrading programme for national professionals from participating nations to acquire hands-on working experience in integrated coastal management, upgrading of project management skills and knowledge on special area of marine environmental management.
- 3.3.1 Explore co-financing of internship programme with other supporting agencies such as UN Volunteers, Peace Corps or international and national donors and foundations.

Responsible parties: PDMO.

Success Criteria: Participation of national professionals, UN volunteers, and other supporting agencies.

### Output 4

- 3.4 Degree training programme to support special skills development for participants from selected countries in East Asia.

#### Activities for Output 4

- 3.4.1 Arrange with potential sponsors to provide training support in the form of fellowships for degree programmes in such fields as integrated coastal management, maritime law, resource valuation, environmental accounting and environmental management at institutions within and outside the region.

**Responsible parties:** PDMO, sponsoring agencies (Sida).

**Success Criteria:** Participants engage in degree training.

#### **IMMEDIATE OBJECTIVE 4**

**To develop and reinforce regional networks and a Regional Task Force to provide support services for effective management of the coastal and marine environment.**

Networks will essentially serve as a tool to build capacity. The project will strengthen two existing networks and develop three additional networks that will: a) provide access to a pool or roster of experts as required; b) serve as a platform to discuss issues and concerns common to the region; c) reinforce links between institutions and agencies; and d) build up a critical mass of people exchanging knowledge and information related to their experience in managing the coastal and marine environment.

A Regional Task Force of experts will be established to provide technical field assistance and support services for the project, governments of participating countries and other constituents in the region.

#### **Output 1**

##### **4.1 Functional networks to provide a range of support services for coastal and marine environmental management in the region.**

Table 3 outlines the functional characteristics of each network, both existing and proposed. The environmental monitoring and legal networks are already operational. The project will build up three additional networks, for local government, maritime affairs institutions and information infrastructure. The networks will be established through a combination of communications managed by a provisional coordinator, and workshops that will bring stakeholders together to identify, define and put into an operational format, the types of support services that will be provided for their constituents. The local government network will serve as a platform to discuss common issues across the agencies and departments both nationally, and within the region, in areas related to the management of the coastal and marine environment of the East Asian Seas. The network will evolve out of activities implemented under Immediate Objective 1.

The network of maritime affairs institutions will serve as a 'think tank' to provide advisory and analytical support for decision-making in areas related to management of the coastal and marine environment. This network will be directly relevant to activities within Immediate Objective 9, concerning the drafting of policies and strategic plans.

The information network will serve as one of the foundations of the project through the creation of site-specific databases and linking of demonstration sites, 'hot spots' and relevant scientific institutions, stakeholders and other project partners. This work is elaborated in relation to Immediate Objective 7.

The project also proposes to create a media resource information unit on an ad hoc basis. This will be tied to the public awareness and stakeholder consultation activities within the project, and be part of the IIMS. It will consist of media representatives, particularly, environmental journalists.

Table 3 : Types of Networks and Function

Environmental Monitoring	Legal	Local Government	Maritime Affairs Institutions	Marine Environment Information
Track changes as a result of management interventions and contribute to state of the environment reports. Strengthen information exchange for environmental monitoring. Develop environmental status indicators such as those for stress reduction.	Explore practical aspects of the management of coastal and marine areas linking international instruments with national and local government legislation. The network will play an important role in the Regional Task Force and in addressing Immediate Objectives 9 and 10.	Provide institutional and line agency linkages and reinforce regional collaboration. The network will engage all local governments where ICM is practiced. Administrative arrangements and instruments will promote implementation of 'best practices'.	Serve advisory, forecasting, and diagnostic function for the region. The network will include the Korea Maritime Institute, the Malaysian Institute for Maritime Affairs, China Institute for Marine Development Strategy, Philippines Centre for Marine Affairs, Inc. and others to be identified.	Software and database development for technical support for of activities related to ICM, RA/RM etc., and also dissemination of information related to project outputs.
EXISTING	EXISTING	PROPOSED	PROPOSED	PROPOSED

#### Activities for Output 1

- 4.1.1 Consolidate the structure, sustainable financing mechanisms and operational modality of the Legal Advisors Network through re-registration of existing members and recruitment of new members, review of operational modality in terms of benefits and obligations, and definition of network activities including workplan, resource requirements, milestones, etc. The Legal Network will play a key role in activities related to Immediate Objective 10.
- 4.1.2 Refine the Legal Advisors Network brochure and membership list and promote electronic/Internet connectivity among members.
- 4.1.3 Consolidate the structure, sustainable financing mechanisms and operational modality of the Environmental Monitoring Network by re-registration of existing members and recruitment of new members, review of operational modality in terms of benefits and obligations, define network activities including workplan, resource requirements and milestones, etc. The Environmental Monitoring Network will play a key role in relevant activities at the 6 national demonstration sites and 3 subregional seas environmental hot spots.

4.1.4 Refine Environmental Monitoring Network brochure and membership list and promote Internet connectivity.

4.1.5 Establish a formal linkage between local governments implementing ICM programmes in the region in the form of a regional network to promote information exchange and sharing of experience. This activity is directly linked with work undertaken in Immediate Objective 1. The terms of reference of the network, operational modality and network activities will be developed prior to formal establishment. A memorandum of agreement between network members will be signed.

4.1.6 Establish a formal linkage between marine affairs institutions of the region in the form of a regional network to promote information exchange, sharing of experience and promotion of regional collaboration. The terms of reference of the network, operational modality and network activities will be developed before its formal establishment. A memorandum of agreement between network members will be signed.

4.1.7 Establish a formal linkage between ICM demonstration and parallel sites, and subregional seas hot spots, in the form of a regional network to promote information exchange and sharing of experience, environmental investment opportunities and information services. The terms of reference of the network, operational modality and network activities will be developed as part of the establishment process. The information network will evolve as one of the key aspects of the integrated information management system (IIMS, under Immediate Objective 7). The IIMS and related services will be one of the core elements of the Marine Environment Resource Facility within Immediate Objective 10, and will be closely linked to the formation of a media information resource unit (Immediate Objective 8).

Responsible parties: PDMO, PMOs, NPCCs/PCCs, national professionals, international consultants, concerned stakeholders, governments and institutions.

Success Criteria: Active participation of individuals and institutions in the various networks. Four networks established and operational. Memoranda of agreement established.

## Output 2

**4.2 A multidisciplinary Regional Task Force of experts to provide field technical assistance and support services in response to critical and timely issues related to management of the coastal and marine environment.**

A multidisciplinary Regional Task Force will be established to support requesting governments, institutions or private sector for technical advice and assistance with

respect to marine environmental matters such as integrated environmental impact assessment, environmental damage assessment, or responses to critical environmental issues such as oil or chemical spills. The Regional Task Force will be drawn from the pool of experts developed over the years through the GEF Pilot Phase, and international experts familiar with the region.

#### Activities for Output 2

4.2.1 Prepare a conceptual document on the objectives, operational modalities, resource requirements, compensation scheme, and a self-sustainable mechanism for the Regional Task Force. A list of potential experts including curricula vitae, experience and areas of expertise will also be prepared. The Regional Task Force will be linked to the Marine Environment Resource Facility under Immediate Objective 10. They may also be used as subcontractors or consultants for expected project activities where required (for example see Activities 2.8.1 and 2.8.2).

Responsible Parties: PDMO, Network participants, NPCCs/PCCs, national professionals.

Success Criteria: Regional Task Force established and operational.

#### **IMMEDIATE OBJECTIVE 5**

**To create investment opportunities and mechanisms for environmental improvement and coastal/marine resource development and management, in selected areas of the region.**

There will be many investment opportunities identified in the 16 demonstration and parallel sites as well as the local and subregional seas environmental hot spots. The GEF Pilot Phase project took considerable steps to identify environmental improvement investment opportunities and explore appropriate financing mechanisms in order to provide the financial resources needed for costly technological interventions. The ICM and RA/RM approaches cultivate a conducive policy environment and a management framework that enables private sector participation in marine resource development or management projects, especially through public-private partnership arrangements. The second phase will advance this work to foster an investment climate suitable for specific opportunities emerging from each demonstration and parallel site and 'hot spot' location. It will identify, package, position and present specific investment projects; and identify, define, catalyze and leverage a range of mechanisms that will move these environmental investments forward.

Potential project opportunities are expected to flow from the demonstration, parallel and pollution 'hot spot' sites at an early stage in the project cycle, particularly during the development of the strategic environmental management plans and the action plans. Activities will include the identification and definition of specific sets of project opportunities. These opportunities will be shaped into fast track, 'bankable' projects

that will have technology and services content. Figure 5 illustrates how, within this objective, the activities will be designed to 'spin off' and multiply the project opportunities and partnership arrangements at each site.

#### Output 1

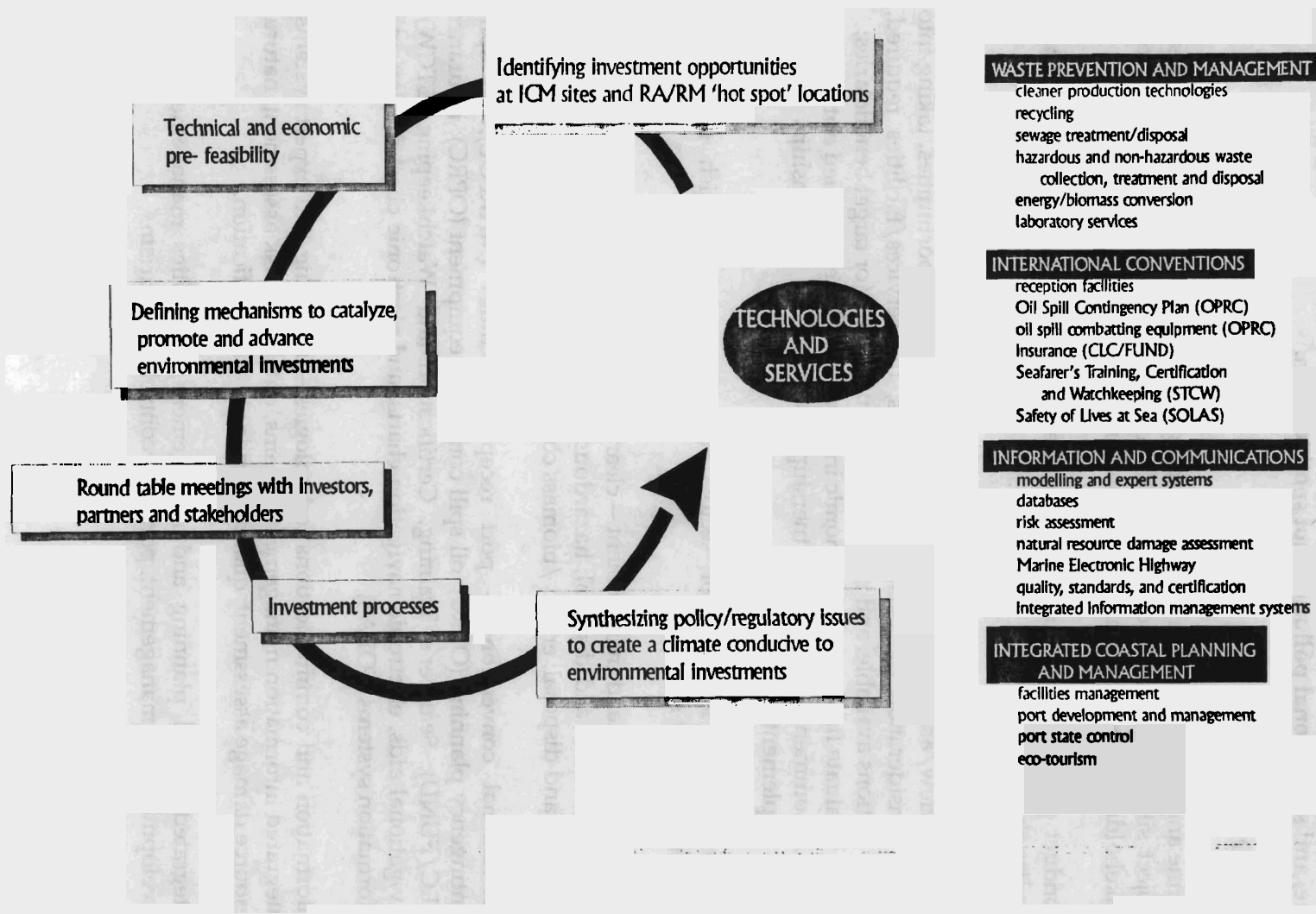
##### **5.1 Environmental and coastal/ marine resource development or management investment opportunities emerging from each ICM demonstration and parallel site, and subregional pollution 'hot spot' location.**

#### Activities for Output 5

- 5.1 Define and prepare a list of visible or emerging investment opportunities at each project site based on the coastal profile analysis and consultations with local stakeholders in the public and private sectors.
- 5.2 Conduct pre-feasibility studies of identified site-specific opportunities. These studies shall:
  - a) define the scope of the project;
  - b) review/assess characteristics of the investment opportunities, taking into consideration the existing capabilities, the services/facilities required, options available, and requirements of users and/or target beneficiaries;
  - c) evaluate financial and economic implications of the identified options;
  - d) recommend potential partnerships, structure of relationships and the implementation strategy.

Outlined below is a list of sectors/subsectors within which investment opportunities may emerge:

- a. Waste prevention and management -- cleaner production technologies; recycling; sewage treatment and disposal; hazardous and non-hazardous waste collection, treatment and disposal; energy/biomass conversion, laboratory services.
- b. International conventions -- port reception facilities (MARPOL); oil spill contingency planning (OPRC); oil spill combating equipment (OPRC); insurance (CLC/FUND); Seafarer's Training, Certification and Watchkeeping (STCW); navigational aids, electronic navigation charts, and electronic chart display and information systems (SOLAS).
- c. Information and communications technologies -- modeling and expert systems; integrated information management systems, databases; risk assessment; natural resource damage assessment; quality, standards and certification.
- d. Integrated coastal planning and management -- facilities management, port development and management, port state control, eco-tourism.



**FIGURE 5. CREATING ENVIRONMENTAL INVESTMENT OPPORTUNITIES AND MECHANISMS**

Responsible parties: PDMO, subcontractors, international consultants, national professionals.

Success Criteria: Investment opportunities identified. Pre-feasibility studies completed.

## Output 2

### **5.2 Mechanisms to catalyze, promote and advance investments in environmental opportunities.**

The results from Output 1 will flow into a set of stakeholder consultations designed to define, consolidate and/or create of a range of environmental investment mechanisms. The experience in the Pilot Project helped increase understanding and set in motion some substantive arrangements in public-private partnerships (PPP). Within this set of activities, efforts will focus on enhancing and expanding the public-private partnership model to each of the ICM sites and local and subregional seas 'hot spot' locations.

#### Activities for Output 2

- 5.2.1 Prepare "opportunity briefs", which will consist of a review of the potential application of the environmental investment opportunities based on the site-specific feasibility studies.
- 5.2.2 Package "opportunity briefs" in a format that will be received and considered by investors, partners and donors.

Responsible parties: PDMO, subcontractors, international consultants, national professionals, relevant public and private sector stakeholders.

Success Criteria: Opportunity briefs finalized.

## Output 3

### **5.3 Regional round table meetings of private sector companies and investors, intergovernmental and international financial institutions and agencies, donors and public sector institutions and agencies.**

#### Activities for Output 3

- 5.3.1 Convene a number of regional roundtable meetings of investors, donors, project proponents, and government representatives to consider or conclude near-to-market opportunities/proposals. This meeting will also serve as a forum to develop, facilitate and consolidate other activities and proposals related to the further creation and cultivation of investment mechanisms and instruments. Investors will include different types of venture capital groups, (particularly those managing environmental funds), bilateral donor agencies, regional



development banks, multilateral donor agencies, national development banks, and guarantee corporations, rural banks, local and central governments, technology and service 'brokers'. Prospective partners in the private sector may range from large multinational companies, to medium-sized domestic companies, to small and medium enterprises, industry associations such as fisheries cooperatives, and tourism associations.

Responsible parties: PDMO, subcontractors, international consultants, national professionals, PCC, NPCC, relevant stakeholders.

Success Criteria: Participation of relevant stakeholders in investment and deal-making processes. Potential partners identified. Investment opportunities defined as business opportunities.

#### Output 4

### 5.4 Investment processes.

#### Activities for Output 4

- 5.4.1 Determine the most appropriate or best investment mechanism for each opportunity.
- 5.4.2 Facilitate discussions and negotiations between local stakeholders, respective investors and private sector partners.
- 5.4.3 Assist the local governments in determining the most feasible investment mechanism (5.4.1)). Finalize investment deals to safeguard public interest and objectives of the projects, and draft of memoranda of agreement between the partners creating an operating company which will be responsible for final design, construction, start-up, operation and financing of the facility and/or service.

Responsible Parties: PDMO, international consultants, national professionals, NPCC, PCCs, Marine Environment Resource Facility, concerned national and local government agencies.

Success Criteria: Business propositions developed and negotiated with financing arrangements and partners defined. Guidelines and processes developed to ensure equity and transparency in transactions. Letters of intent to co-finance business plan development and agreements, where appropriate. Agreements forged to develop project operating companies responsible for the design, financing and implementation of projects.

## Output 5

### 5.5 Synthesis of policy/regulatory issues related to creating a climate conducive to environmental investments.

These activities link directly with Outputs 1.12, 1.13, 1.14, 2.4, 2.5 and 2.6, notably the establishment of strategic environmental management plans and action plans at each national ICM demonstration site and subregional seas environmental hot spot.

#### Activities for Output 5

5.5.1 Review the process, procedure, mechanisms and activities in Batangas Bay and Xiamen leading to the development and conclusion of site-specific investment opportunities, and distill experience and insights gained at each site on the barriers to the development and implementation of the project proposals, technologies, products or services in each sector or subsector defined above. Synthesize the localized experiences with a view to promote a climate conducive to environment investments. There will be implications for national level policy and regulation. Such issues could include:

- a. Regulatory instruments,
- b. Market-based instruments,
- c. Role of government departments and institutions,
- d. Power and energy requirements,
- e. Issuance of permits and licenses,
- f. Banking systems and movement of capital,
- g. Export and import facilities,
- h. Quality, standards (ISO 9000 and 14000) and certification,
- i. Availability of local manpower and services,
- j. Environmental compliance certificates (ECC),
- k. Taxation and fee structures,
- l. Role for small and medium enterprises (SMEs),
- m. Technology transfer and licensing,
- n. Privatization of public institutions,
- o. Corporatization of public institutions.

5.5.2 Convene a regional workshop to assess and synthesize these localized experiences.

5.5.3 Prepare policy briefs that could assist policymakers in the participating countries in addressing similar problems.

**Responsible parties:** PDMO, subcontractors, international consultants, national professionals, local and national government, relevant stakeholder groups.

**Success Criteria:** Policy analyses and recommendations submitted to relevant and concerned government departments in report format for review and possible adoption.

## Output 6

### 5.6 Draft financial plan for supporting or sustaining a regional mechanism.

#### Activities for Output 6

5.6.1 Conduct a study to define the concepts, operating principles, form, function and potential partners for the following components that can contribute to the sustainability of a regional mechanism as proposed under Immediate Objective 10. This would include consideration of:

- a) a foundation to guide environmental investments in the region;
- b) a trust fund to invest or leverage investment in potential project opportunities;
- c) a revolving fund to sustain activities within the proposed project; and
- d) a Marine Environment Resource Facility to provide a range of technical services in the protection and management of the coastal and marine environment.

Responsible parties: PDMO, subcontractors, international consultants, national professionals, NPCC, PCC, PSC, Multidisciplinary Expert Group.

Success Criteria: Financial options proposed.

### IMMEDIATE OBJECTIVE 6

**To advance scientific inputs in support of decision-making for coastal and marine environmental management**

There are many outstanding gaps in the use of scientific knowledge to address coastal and marine environmental management issues. Inasmuch as issues related to coastal and marine environmental management are relatively specialized, much of the available scientific information is fragmented among various institutions within the scientific and academic community. Consolidation and 'packaging' of this information into a useful format, for presentation and employment by environmental managers, is the main goal of this component. In addition, there is a need to create a mechanism to ensure that scientific and technical advice is provided to project proponents and partners on an ongoing basis.

#### Output 1

6.1 A multidisciplinary expert group (MEG) of coastal and marine experts to provide technical advice and guidance to the project.

## Activities for Output 1

- 6.1.1 Establish a Multidisciplinary Expert Group (MEG), drawn primarily from the networks of experts established during the GEF Pilot Phase, and from the Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) and the International Council for the Exploration of the Seas (ICES). The terms of reference and scope of activities of the MEG will focus on scientific issues put forward by the Programme Management, including issues listed under 6.2.1, and advise on project application of indigenous and emerging technologies, as illustrated in Table 4.

Project leaders, identified under Activity 6.2.1, will be invited to join the MEG as well.

- 6.1.2 The Multidisciplinary Expert Group will meet four times during the life of the project (beginning in Year 2), preceding or following PSC meetings.

Responsible Parties: PDMO, NPCCs, PCCs, international consultants, national professionals.

Success Criteria: Multidisciplinary Expert Group established, annual meetings held, scientific and technical recommendations made to Programme Management for project input.

## Output 2

- 6.2 **Analytical case studies in key areas of applied scientific research in coastal and marine environmental management.**

A series of major environmental and resource management concerns of the East Asian Seas will be tackled by working groups comprised primarily of respected regional scientists. Each working group will collect, analyze and package pertinent ecological, socioeconomic, policy and management information on respective priority issues. Based upon consultations with regional experts, several key concerns have been identified as:

- a. Ecosystem carrying capacity;

Table 4: Opportunities for Indigenous and Emerging Technologies in Environmental Management

Technologies/Processes	National ICM demo sites	Environment risk assessment subregional seas/LME's	Upgrading technical skills	Investment Mechanisms	Packaging scientific and technological inputs	Advancing scientific and technological inputs	Integrated information management systems	Enhancing NGO, CBO, environmental journalist collaboration	Facilitating national, coastal policies, and programmes	Supporting sustainable Regional Mechanisms
1. GIS	U	U	U	U	U	U	U	U	U	U
2. Remote sensing	U	U	U	U	U	U	U			
3. Physical, chemical and biological modeling	U	U	U	U	U	U	U			
4. Economic modeling	U	U	U	U		U				
5. Expert systems	U	U	U	U	U	U			U	U
6. Data processing and management	U	U	U	U	U	U	U	U	U	U
7. Monitoring and analytical devices (physical/chemical)	U	U	U	U		U				
8. Bioindicators	U	U	U	U		U				
9. Cleaner production	U	U		U						
10. Waste reduction, recycling, recovery and reuse	U	U		U				U		
11. Hazardous and non-hazardous waste management	U	U		U				U		
12. Internet/e-mail							U	U		U
13. Electronic navigational charts and information management systems		U		U						
14. Maritime safety and aids to navigation		U		U						
15. Alternative livelihood	U							U		

- b. Trade-offs between economic development and ecological benefits/cost benefit appraisals and models of management interventions;
- c. Impacts of maritime trade on endangered species;
- d. Transboundary impacts of national economic activities; and
- e. Socio-economic benefits of ICM.

#### Activities for Output 2

- 6.2.1 Provide Multidisciplinary Expert Group (MEG) with list of proposed areas of scientific research, for confirmation and development of terms of reference.
- 6.2.2 Establish a scientific working group for each confirmed area, along with terms of reference, operational modalities, workplan and budget, expected outputs and schedule.
- 6.2.3 Task each scientific working group with preparing a project proposal, including a definition of the problems, statement of objectives, a scientific methodology for examining the problems, and intended results.
- 6.2.4 Coordinate MEG verification and technical review of each scientific group output.
- 6.2.5 Monitor scientific working group progress and submission of the final report to the MEG for review and approval.
- 6.2.6 Publish and disseminate reports.

Responsible Parties: PDMO, Multidisciplinary Expert Group. subcontractors, international consultants, national professionals.

Success Criteria: Research project reports completed.

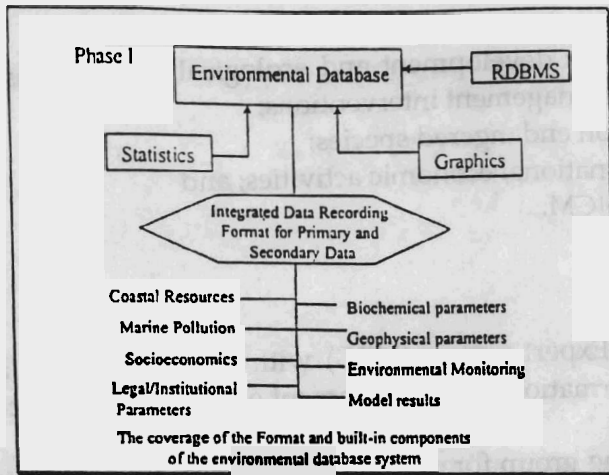
#### **IMMEDIATE OBJECTIVE 7**

**To establish an integrated information management system (IIMS) for coastal and marine environmental assessment, planning, monitoring and management.**

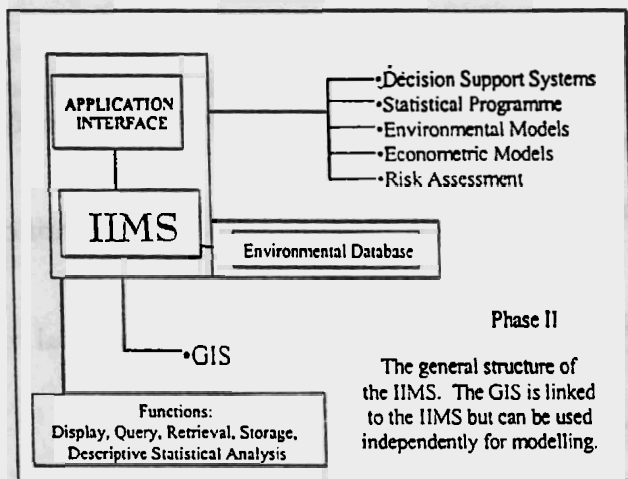
The aim of this component is to develop and implement an integrated information management system (IIMS). The IIMS will enable local constituents to build and maintain credible databases, which can be used for a wide range of purposes. Some of the uses include coastal and marine resource development and management, environmental impact assessment, dissemination of information and collaboration among local governments operating IIMS within the country, the region, or internationally.

The IIMS will be comprised of a network of local information bases or nodes, and each node will contain site specific data (see relevant Outputs related to Immediate

Phase I



Phase II



Phase II

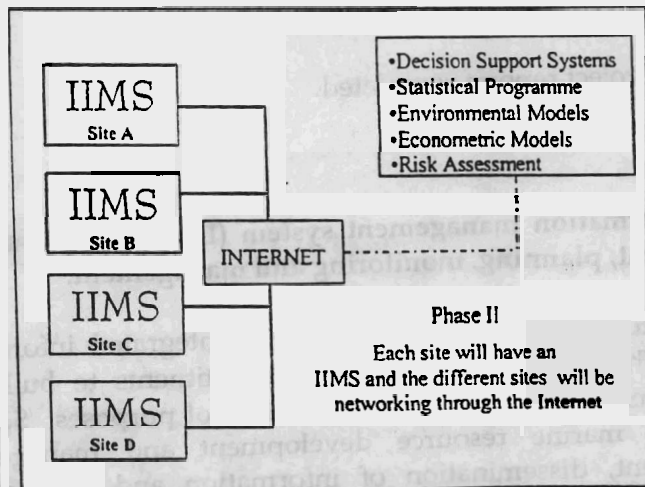


Figure 6: Development of the IIMS

Objectives 1, 2 and 5). The following features (Figure 6) will be incorporated into the network:

- a. Relational database management system (RDBMS) -- software that can be customized and able to handle large data sets;
- b. Graphics system - software that is capable of visualizing data as charts and bar graphs;
- c. Statistical analysis system -- software that is capable of providing simple, descriptive statistical tests such as mean, frequency distribution, summation, geometric mean, standard deviation, variance, simple transformation of numerical data and standard mathematical functions. The statistical analysis software will be linked to the graphics software;
- d. Geographic information system (GIS) -- software that is customized to link to the IIMS and enable use of the database in temporal and spatial analyses, modelling and forecasting. Derived data generated through the GIS can be stored and retrieved in the IIMS;
- e. Application Interface -- built into the IIMS to be accessed by external analytical programmes such as decision support systems (i.e. multicriteria evaluation), statistical programmes (e.g. SAS, SPSS), environmental programmes (e.g. oil spills models, hydrodynamic models, geostatistical package), econometric models (e.g. cost/benefit analysis, natural resource accounting), and risk assessment;

The IIMS will be designed to serve as a data storage facility, promote the regional connectivity and information exchange activities, and provide technical services. It will be in PC Windows 95/98 platform, and be Year 2000 compliant. An Internet link component will be available for users to access and down load information from the environmental database.

#### Output 1

#### **7.7 A prototype database, standard format and guidelines for the collection, compilation, processing and exchange of information.**

Since data quality is at present, uneven across disciplines, there is a need to develop a format for data recording that is not only cross disciplinary, but adheres to the standards set by each discipline for sampling and analysis.

#### Activities for Output 1

- 7.1 Review and refine the integrated information management system (IIMS) developed DURING the GEF Pilot Phase project, for application at the 6 ICM demonstration sites and 3 subregional sea pollution hot spots.



7.1.2 Procure the necessary hardware and software for each site/location.

Responsible parties: PDMO, PMOs, NPCC, PCC, international consultants, national professionals.

Success Criteria: An IIMS strategy developed. Required hardware and software obtained for each location.

#### Output 2

**7.2 Project personnel trained in extended applications of the IIMS.**

##### Activities for output 2

7.2.1 Train at least three project staff at each demonstration site and pollution "hot spots" in the use of hardware and software as well as the application of the IIMS.

7.2.2 Establish a Memorandum of Agreement with national or local government authorities to commit human and financial resources for the continued operation of the IIMS.

Responsible parties: PDMO, international consultants, national professionals, PMOs, subcontractors.

Success Criteria: Training procedures developed and applied. At least three project staff trained. Memoranda of agreement established with relevant governments.

#### Output 3

**7.3. A functional IIMS established at project sites.**

##### Activities for output 3

7.3.1 Encode into the IIMS the data gathered in the course of developing project activities at the ICM sites or the subregional pollution 'hotspot' locations. Apply and test the IIMS for modeling, assessment, planning, decision-making and information exchange.

7.3.2 Refine the operation of the IIMS to streamline operational procedures.

7.3.3 Train key personnel from national or local governments in the application of the IIMS.

Responsible parties: PDMO, national professionals, international consultants, PMOs, NPCC, PCC.

**Success Criteria:** Data gathered, verified, catalogued/collated and encoded into a localized database. IIMS maintenance manual developed. Key personnel trained at project sites.

#### Output 4

#### **7.4. Application of IIMS for integrated environmental impact assessment.**

##### Activities for Output 4

- 7.4.1 Demonstrate the effective use of the IIMS for environmental management of coastal and marine areas, including integrated environmental impact assessment, decision-making, environmental monitoring, the streamlining of data gathering processes, and overall cost-effectiveness.
- 7.4.2 Prepare a technical report on the assessment, including sustainability and potential replication in other sites.
- 7.4.3 Develop executive briefs for decision-makers on the value-added characteristics of the IIMS.

**Responsible parties:** PDMO, PCC, NPCC, PMO, subcontractors, international consultants, national professionals.

**Success Criteria:** Site-specific demonstrations take place. Technical reports prepared. Executive briefs prepared and distributed to relevant decision-makers.

#### Output 5

#### **7.5 An integrated information management system (IIMS) linking ICM sites and pollution hot spots into a regional network.**

##### Activities for Output 5

- 7.5.1 Establish linkages/connectivity among project sites using an Internet interface, for exchange of information on environmental monitoring, state of the environment reports, lessons learned and management guidelines.
- 7.5.2 Establish linkages/connectivity within and among GEF and other International Waters project personnel and sites for exchange of information, lessons learned and understanding of good management practices.

**Responsible Parties:** International consultants, national professionals, networks managers, PDMO, PMOs, PSC, NPCC, PCC.

Success Criteria: Linkages established between central network hub and various, relevant project sites. Exchange of information and cross-learning processes ongoing.

#### Output 6

**7.6 A technical support group within the PDMO with responsibility for the management of technical information for all aspects of the project, including hardware, software and peripherals required to link all the ICM sites, 'hot spots' and other relevant project sites/institutions into a network.**

#### Activities for Output 6

**7.6.1 Establish a technical support group, which will form part of the Marine Environment Facility to ensure the efficient use of IIMS, software applications and maintenance, and to coordinate data exchange at a regional level. The technical group will consist of professionals with practical knowledge on the use of hardware and software in the application of IIMS.**

**7.6.2 Provide technical assistance in the use of IIMS and the training of national project staff.**

Responsible parties: PDMO, Marine Environment Resource Facility, PMO, NPCC, PCC.

Success Criteria: Key technical personnel engaged. Technical support group emerges within PDMO. IIMS training programme conducted.

### **IMMEDIATE OBJECTIVE 8**

**To enhance collaboration with and among non-government and grass-roots organizations, religious groups, environmental journalists and other stakeholder groups, in coastal and marine environmental management.**

The aim of the component is to establish more environmentally committed interest groups, working together with local governments in addressing coastal and marine management problems. The knowledge and technical skills of these interest groups will be enhanced, to enable them to be more effective in the design and delivery of their own programmes, advocating the cause for environmental protection, and serving as a catalyst for mobilizing the government and people to work together. It will also serve as an instrument for ensuring transparency and objective assessments of the project during implementation and evaluation phases of the work. Religious groups and environmental journalists will be targeted specifically, in recognition of their effectiveness in influencing the public and government policy.

Representatives from these constituencies will be encouraged to participate in the activities at each ICM demonstration and pollution hot spot location. Special efforts will

be made to involve environmental journalists, through the International Federation of Environmental Journalists, to build public awareness and advocacy capabilities, as well as to shape the public policy process. The aim of these activities will be to understand common interests and to identify how each stakeholder or constituency can design and develop responses/action programmes that will contribute to the management of the coastal and marine environment. Linked to this objective will be the strengthening of a 'media resource information capability' to ensure that credible information is packaged and accessible by interest groups, and thereby enable greater and more meaningful participation in the management of the coastal and marine environment.

#### Output 1

**8.1 A mechanism to promote collaboration and involvement of concerned NGOs, environment journalists, religious and other grass-roots organizations in the planning and management of the coastal and marine environment in the East Asian Seas.**

##### Activities for Output 1

8.1.1 Facilitate the involvement of NGOs, environmental journalists, religious groups and other grass-roots organizations in the planning and execution of project activities at each site.

8.1.2 Include where possible, representation of NGOs, religious groups or environmental journalists as observers in National (and subregional) Project Coordinating Committees and the Programme Steering Committee (PSC).

8.1.3 Develop a media resource information capability within the Marine Environment Resource Facility (MERF, as indicated in Immediate Objective 10).

Responsible parties: PDMO, NPCCs, PCCs, PMOs. NGOs, environmental journalists.

Success Criteria: Working relationships established between the programme and NGO and grass-roots communities, religious groups and environmental journalists. Increasing media attention and public exposure to issues, concerns and results of programme.

#### Output 2

**8.2 Training and workshop opportunities for concerned NGOs, grass-roots organizations, religious and other stakeholder and media groups at the local or national level, to increase their understanding of, and participation in, strategies and actions of the regional programme in the protection and management of the coastal and marine environment.**

## Activities for Output 2

8.2.1 Include one or two representatives of concerned local or national NGOs, grass-roots organizations, religious and environmental journalists in relevant training and study tour programmes (see Immediate Objectives 1, 2 and 3) to increase their knowledge-base and ability to apply techniques in coastal and marine environmental management.

8.2.2 Conduct two specialized training/information workshops for environmental journalists and media-related representatives and groups to cultivate an understanding of issues and concerns that are being advanced by the regional programme.

Responsible parties: PDMO, subcontractors, national professionals, NGO and grass-roots representatives, environmental journalists.

Success Criteria: Participation of interest groups in training.

## Output 3

**8.3 Young environmentalists concerned with securing a sustainable future for the East Asian Seas.**

### Activities for Output 3

8.3.1 Organize a two-week "summer camp" for high school students by exposing them to the field condition of coastal ecosystems such as mangroves, coral reefs and sea-grass beds, in addition to increasing their knowledge-base of the coastal environment. A structured curriculum will be developed with special lectures from key national and regionally-based professionals. The main purpose will be to enable them to have a better appreciation of the marine environment and to cultivate future "champions" for environmental protection. Participants will be selected on the basis of academic achievement. The summer camp will initially be organized in the Philippines in collaboration with donors, local foundations and academic institutions.

8.3.2 Explore the possibility of hosting the "summer camp" on an annual basis, with replications in other parts of the region.

8.3.3 Create a special "young environmentalist" section in the programme website highlighting current environmental issues and promoting interaction.

Responsible parties: PDMO, Coastal Management Center, University of the Philippines-Marine Science Institute, Locsin Foundation (Philippines), bilateral and multilateral donors.

**Success Criteria:** Summer camp convened, and concept extended. Website feature created, and flow of contributions developed.

#### Output 4

**8.4 Site and project personnel trained to integrate social science concerns into coastal and marine environmental management programmes and projects.**

#### Activities for Output 4

8.4.1 Design a training workshop on the integration of social science issues into the general coastal and marine environment management framework. Refer to tested modules developed by such agencies as the Asian Development Bank, the UNDP and the Canadian International Development Agency (CIDA), as well as non-governmental organizations such as the Foundation for the Philippine Environment (FPE).

8.4.2 Conduct a regional training workshop on the application of social science tools and methods in project formulation, implementation, monitoring and evaluation for project personnel in the field, including social impact analysis. The purpose is to ensure that the relevant social, cultural and gender concerns are taken into account in the design and development of projects and activities. Principal among the objectives will be to ensure that mechanisms are created to encapsulate and present knowledge of various aboriginal, occupational, interest, religious or ethnic groups, as well as women and children into any policy, project or programme framework. Efforts will be made to ensure that gender issues are incorporated at each ICM demonstration site, and where possible at least 30% of the stakeholder participation reflects women's involvement.

**Responsible parties:** PDMO, subcontractors, international consultants, national professionals, NGO and grass-roots representatives, relevant donors.

**Success Criteria:** Workshop curriculum and materials developed. Regional workshop executed with participation from relevant constituencies.

#### Output 5

**8.5 Multimedia materials related to project activities and outputs.**

#### Activities for Output 4

8.5.1 Support four audio-visual productions focusing on: a) state of the coastal and marine environment of selected project sites, b) state of the coastal and marine environment towards project termination, c) integrated coastal management, d) managing environmental risks.

8.5.2 Publish and disseminate the newsletter "Tropical Coasts" in collaboration with Sida and CMC.

Responsible parties: PDMO, PMOs, subcontractors, and co-sponsors, Coastal Management Center/Sida.

Success Criteria: Audio-visual and print materials produced and disseminated.

## **IMMEDIATE OBJECTIVE 9**

**To facilitate the formulation and adoption of integrated approaches in managing land and water uses as part of a State's coastal/marine policy and strategies for addressing transboundary environmental issues, so as to achieve sustainable development goals and to contribute to financial recovery in the region.**

The essential policy elements in coastal and marine environmental management need to be evaluated in the context of their importance and effectiveness in relation to the socio-economic, political, demographic and cultural characteristics of the countries in the region. There are existing policies in areas such as fisheries, pollution and biodiversity, but there are tendencies for sectors to move unilaterally in policy implementation, resulting in increased interagency and legislative conflicts, with overlap and duplication of effort in some programme activities and oversight in others. There is a need to explore ways and means of improving and integrating policies on sectoral development, into an overall policy framework for sustainable development. There is also a need to ensure the harmonization of national policies with international conventions. Work within the ambit of this objective will concentrate on providing information and guidance to countries to better understand integrated policy issues, and the range of options for improving national policy regarding sustainable development of the coastal and marine environment and its resources.

### Output 1

**9.1 Cross sector reviews of current national policy governing coastal and marine area management as well as marine environmental action programs including identification of successes and constraints.**

#### Activities for Output 1

9.1.1 Conduct a critical cross sector review of existing national policies governing the use of coastal and marine natural resources, demographic pressure in coastal areas and the protection and management of the marine environment and related ecosystems. The review will cover the socioeconomic contribution of each concerned sector to the national economy and its projected significance in the 21st century.

- 9.1.2 Document "good practices" through analysis of specific policies relevant to the coastal and marine sector and identification of policy conflicts between sectors, including fisheries, tourism, agriculture, marine industries, naval security, environment, etc.
- 9.1.3 Assess the socioeconomic and ecological impacts of sector-based policies with respect to the protection and management of the marine environment.
- 9.1.4 Prepare policy briefs on specific environmental management issues that warrant better understanding by policymakers.
- 9.1.5 Organize seminars for senior level State policymakers to evaluate the analysis above and to draw conclusions based on recommendations contained in the reviews.
- 9.1.6 Recommend appropriate policy reform in consultation with interested governments and stakeholders.
- 9.1.7 Publish and disseminate the results of the studies.

**Responsible Parties:** PDMO, subcontractors, international consultants, marine affairs, research and policy institutions.

**Success Criteria:** Cross-sector review undertaken. Good practices identified and documented. Socio-economic and ecological impacts determined and incorporated into materials, particularly policy briefs. High level policy dialogue developed, and elements of a regional policy framework identified and promoted.

## Output 2

**9.2 Sample policy guidelines for the development of a national and regional management framework related to issues in the coastal and marine environment.**

### Activities for Output 2

- 9.2.1 Establish a working group to prepare sample policy guidelines for adoption, modification and implementation in the participating countries of the region. The guidelines shall address various issues, including:
- a. integration of sea-use planning into the physical framework plans at national and local levels;
  - b. allocation and use of marine resources;
  - c. harmonization of legislative conflicts;
  - d. obligations of international conventions;
  - e. seabed biodiversity and exploitation of seabed resources;



- f. monitoring and surveillance;
- g. environmental risk assessment and management responses;
- h. the role of local governments;
- i. resource management approaches;
- j. advancement of marginalized groups;
- k. retraining; and
- l. employment creation.

9.2.2 Organize consultative workshops for presentation of draft guidelines and create a feedback process to assess acceptability and applicability to the specific conditions in each participating nation.

9.2.3 Publish and disseminate the sample guidelines.

**Responsible Parties:** PDMO, subcontractors, international consultants, national professionals, local and national government, network of maritime affairs institutions.

**Success Criteria:** Working group established and consultative processes initiated to develop sample policy guidelines. Guidelines drafted, published and disseminated.

### Output 3

9.3 Recommendations for a policy framework for building partnerships in environmental protection and management of the East Asian Seas.

#### Activities for Output 3

9.3.1 Commission a study to evaluate the needs, scope, and operational modality for a regional policy framework for environmental protection and management of the East Asian Seas taking into consideration existing regional activities within APEC, ASEAN, and ocean-related UN agencies and programmes, among others.

9.3.2 Organize a series of regional consultative working group meetings to discuss the results of the study and to develop strategies in securing national agreements.

9.3.3 Organize a regional policy workshop for policymakers to review and develop a consensus on the draft regional policy framework and related implementation strategy.

9.3.4 Document, publish and disseminate the results of the workshops.

**Responsible parties:** PDMO, network of marine affair institutions, international consultants, national professionals, NPCC, PCC.

**Success Criteria:** Study undertaken on regional policy framework. High level

consultations implemented in an effort to achieve consensus on elements of a regional policy. Participation by national policymakers and relevant regional and international institutions. Report on regional policy framework produced and disseminated.

#### **IMMEDIATE OBJECTIVE 10**

**To support the development of a sustainable regional mechanism that augments the regional commitment to implementation of international conventions related to the protection and management of the coastal and marine environment of the East Asian Seas.**

The purpose of a sustainable regional mechanism is to assist concerned governments to achieve the net benefits of global agreements such as the UNCLOS, London, Basel, Climate Change, MARPOL, OPRC, FUND, CLC, CITES and Biodiversity Conventions. In part due to efforts of the GEF Pilot Phase, most countries in the region will have already ratified these conventions (refer to Annex XIV for information on the status of ratification). At present, however, each country is addressing implementation separately. The cumulative economic and environmental benefits are expected to be several fold greater when reinforced with the help of a regional mechanism. The mechanism will serve as the regional focus to undertake collaborative programs to address transboundary issues, and for mobilizing external resources to support national efforts in implementing global conventions. In addition, it serves as a regional framework within which national obligations to regional or global agreements can be enhanced.

The major thrust of this objective is:

- a. To facilitate debate on the concept, functions, establishment and sustainable operation of a regional mechanism, including possible expanded functions of existing regional bodies, through technical workshops and policy forums;
- b. To establish regional collaborative arrangements and mechanisms, to further enable the implementation of international conventions. This will be supplemented by a Marine Environment Resource Facility within the regional framework, which will have linkages to interagency and intersectoral partners, networks, the Regional Task Force, the Multidisciplinary Expert Group and scientific and technical working groups;
- c. To explore and develop sustainable financing instruments and administrative and operational procedures, for setting in place practical tools to sustain the regional mechanism beyond the life of the project.

The regional mechanism will develop and strengthen multi-country collaboration in environmental protection and management of the LMEs/subregional seas that make up the East Asian Seas, namely the Yellow Sea, East China Sea, South China Sea, Sulu-

Celebes Seas and the Indonesian Seas. The project will establish close linkages with the GEF Yellow Sea SAP (UNDP), the South China Sea SAP (UNEP), and the Mekong River Initiatives (World Bank and UNDP). It will also promote collaboration with existing, relevant regional mechanisms such as the APEC, ASEAN, ASEM, COBSEA, ICLARM and SEAFDEC. The LMEs of the East Asian Seas provide a unique opportunity for countries to work collectively, enhancing the effectiveness of available resources and expertise for the sustainable use of **common marine resources and protection of a shared environment**.

The Multidisciplinary Expert Group (Output 6.1) will collaborate with ongoing GEF, bilateral and multilateral international waters initiatives in the region, and promote strategic and complementary approaches to resolve priority environment and resource management problems of the international waters.

#### Output 1

**10.1 Analysis of the ratification and implementation of international conventions, bilateral and multilateral agreements related to coastal and marine environmental management in the East Asian Seas including effectiveness, constraints and barriers.**

##### Activities for Output 1

10.1.1 Organize a working group in conjunction with Activity 9.2.1 to undertake a comparative legal review of international conventions and agreements related to coastal and marine environmental management, and their application in the East Asian Seas region.

10.1.2 Building on work completed during the GEF Pilot Phase, review and analyze the existing international and national legal régimes for the protection and management of the East Asian Seas, with emphasis on assessing their effectiveness, identifying constraints and barriers to their ratification and implementation in particular transboundary environmental issues/contexts. The review shall include, amongst others, the Biodiversity Convention, UNCLOS, IMO conventions, Framework Convention on Climate Change, CITES, Basel Convention, Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, etc.

10.1.3 Prepare and disseminate reports and policy briefs.

**Responsible parties:** Subcontractors, international consultants, national professionals, Legal Network.

**Success Criteria:** Working group established. Comparative legal review undertaken. Reports and policy briefs prepared and disseminated.

## Output 2

### 10.2 Review of the processes, procedures, mode of operation, cost and benefits, and constraints of existing regional arrangements for environmental protection and resource management in other regional seas

#### Activities for Output 2

10.2.1 Commission a review of the processes, procedures, modes of operation, costs and benefits and constraints of existing regional arrangements such as the Helsinki Convention for the Baltic Sea, the Oslo Paris Convention (OsPAR), the Convention for North Atlantic, the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, Cambodia, Laos, Thailand, Vietnam Agreement on Cooperation for the Sustainable Development of the Mekong River Basin, the South Pacific Regional Environmental Programme (SPREP) and the various agreements related to the UNEP regional seas programme, amongst others.

Responsible parties: Network of maritime affairs institutions, PDMO, NPCC, PCC international consultants, national professionals.

Success Criteria: Comparative study undertaken. Report published and disseminated.

## Output 3

### 10.3 Working group on international waters projects in the region.

#### Activities for Output 3

10.3.1 Convene working group meetings on international waters projects in the region. The sustainable regional mechanism will be developed with a view to strengthening multi-country cooperation in protecting and managing LMEs that make up the East Asian Seas. Close working linkages will be established with the GEF Yellow Sea SAP (UNDP), the South China Sea SAP (UNEP), the Mekong River Initiatives (World Bank and UNDP) and other LME initiatives in the region. This activity will link the project leaders of these initiatives in the region to promote strategic and complementary approaches to resolve priority environment and resource management problems of the international waters. The meeting will involve representatives of existing relevant regional mechanisms such as the APEC, ASEAN, ASEM, COBSEA, ICLARM and SEAFDEC.

Responsible parties: PDMO, Multidisciplinary Expert Group, national professionals, international consultants.

Success Criteria: Documentation and information exchanged in the context of a working group on international waters. Discussions ongoing with respect to lessons learned, alignment and complementarity of programmes.

#### Output 4

### **10.4 Recommendations for a regional arrangement for implementing international conventions in the East Asian Seas including mode of operation and a sustainable mechanism.**

#### **Activities for Output 4**

10.4.1 Draft a regional arrangement that best meets the socioeconomic, ecological, cultural and political characteristics of the East Asian Seas including the structure, operational modality, legal requirements, rights and obligation of participating countries, etc.

10.4.2 Organize a regional technical workshop, primarily for concerned technical agencies of the governments, to discuss the operational feasibility of the proposed regional mechanism and strategies towards its establishment.

Responsible Parties: PDMO, NPCC, PCC, legal network, international consultants, national professionals.

Success Criteria: Draft elements of a regional arrangement prepared and reviewed by stakeholders.

#### Output 5

### **10.5 A regional marine environment resource facility.**

#### **Activities for Output 5**

10.5.1 Set up a working group to consider the justification and cost effectiveness in establishing a regional Marine Environmental Resource Facility for the East Asian Seas region. This will include the relevant output from Immediate Objective 5.

10.5.2 Critically examine the mission, objectives, long term financing implications, terms of reference, structure and strategy for the establishment of the facility. In particular the following proposed functions:

- a. Information services – establish and update databases on international conventions and national legislation, develop a roster of marine experts, national institutions, NGOs, grass-roots organizations, and industries

working in the marine environment; maintain information on training courses and projects related to marine environment;

- b. Technical assistance – provide technical assistance in integrated coastal management application, risk assessment and management, coastal and marine policy and national programme development; furnish legal and technical support to develop national legislation for implementing international conventions;
- c. Regional Networking/Connectivity-- establish and maintain specialized regional networks of institutions and individuals on marine legal aspects, environmental monitoring and assessment, socio-economic analysis, integrated coastal management, marine affairs; mobilize regional expertise for national project implementation and response to environmental crises and emergency situations. Also serve as technical support centre for the networks developed through the GEF Pilot Phase and current project (refer to Immediate Objective 4);
- d. Public awareness and education -- establish a regional/international marine environment newsletter/bulletin to disseminate marine environment information; ensure close collaboration with the media and NGOs, CBOs and POs for promoting public awareness on marine environmental issues; develop a media resource information capability to promote the exchange of environmental information materials; facilitate linkages with educational institutions and environmental centres in the region; and promote better understanding of international conventions at the NGO and community levels;
- e. Mobilizing external resources – active involvement in mobilizing external resources to support government efforts in addressing marine environmental issues in the region by identifying practical and bankable projects, developing project proposals for external funding and mobilizing regional expertise in their execution. Develop profiles of donors and potential investors.
- f. Sustainable financing—explore a sustainable financial mechanism, including the setting up of a Foundation that allows for a wider commercial, or revenue diversification mandate. This would include, for example, fund management, equity investments, licensing and marketing support services, technical consulting etc., including the creation of an Investment Unit for environmental improvement and resource management projects that emerge from Immediate Objectives 1, 2 and 5.

Responsible parties: PDMO, subcontractors, international consultants, national professionals, NPCC, PCC, PDMO, PSC, MEG.

**Success Criteria:** Working group established and terms of reference identified. Elements of a Marine Environment Resource Facility (MERF) defined and elaborated in the context of a draft report. Parts of the MERF structure/services may also emerge or 'spin-off' from the PDMO at various stages during the programme cycle.

#### Output 6

### **10.6 Policy conference on regional arrangement for implementing international conventions in the East Asian Seas.**

#### Activities for Output 6

10.6.1 Organize a high-level ministerial conference, leading to packaging of the main elements of the regional mechanism and the creation of an action plan and strategy to move the initiative forward. The action plan will include the setting up and operation of the Marine Environment Resource Facility and related support for the proposed Regional Arrangement.

10.6.2 Develop and implement a strategic action plan to create public awareness and mobilize public support.

**Responsible parties:** PDMO/MERF, international consultants, national professionals, PSC, local and national governments.

**Success Criteria:** Policy workshop convened. Strategic action plan on public awareness drafted and set in motion.

#### Output 7

### **10.7 A functional regional mechanism.**

#### Activities for Output 7

10.7.1 Prepare a proposal for a functional regional collaborative arrangement for environmental protection and management of the East Asian Seas for official endorsement in relevant forums.

10.7.2 Establish an implementing mechanism for the regional arrangement, and the Marine Environment Resource Facility.

**Responsible parties:** PDMO, national and local governments.

**Success Criteria:** Draft proposal for a functional regional collaborative agreement prepared and endorsed. Implementing regional mechanism established. Marine Environment Resource Facility officially launched.

E. Inputs

1. GEF Inputs (US \$)

10.00 Project Personnel

11.00 International Personnel

Post Title	Total (mm)	Cost
11.01 Regional Programme Director	60	900,000
11.02 Sr. Programme Officer - ICM Programme/Policy Development	60	750,000
11.03 Sr. Programme Officer - Environmental Management/Investment	60	750,000
11.04 Policy and Marine Affairs Specialist	48	540,000
11.05 Training and Information Management Specialist	48	540,000
<b>11.49 Subtotal Experts</b>		<b>3,480,000</b>
11.50 Consultants (6) ICM site selection	6	30,000
11.51 Consultants (6), project devt and mgmt mechanism	6	45,000
11.52 Consultants (6), ICM strategic env mgmt plan	6	45,000
11.53 Consultants (6), ICM institutional arrangements	6	45,000
11.54 Consultants (6), ICM action plans	6	45,000
11.55 Consultants (3), RA/RM pollution loading assess't	12	72,000
11.56 Consultants (3), RA/RM NRDA	12	72,000
11.57 Consultants (3), RM financial investment	9	36,000
11.58 Consultants (9) investment mechanisms, PPP	54	184,000
11.59 Consultants (9) IIMS	18	75,000
11.60 Consultant, draft regional arrangement	9	70,000
11.61 Consultants (6), ICM project devt & mgmt mech	6	12,000
11.62 Consultants (6), ICM public perception analysis	6	12,000
11.63 Consultants (6), ICM initial risk assessment	12	24,000
11.64 Consultants (6), ICM environmental profile	12	30,000
11.65 Consultants (6), ICM strategic env mgmt plan	24	48,000
11.66 Consultants (6), ICM action plans	24	48,000
11.67 Consultants (6), ICM institutional arrangements	12	24,000
11.68 Consultants (6), ICM documentation, revised plan	9	18,000
11.69 Consultants (3), RA/RM pollution load assessment	45	90,000
11.70 Consultants (3), RA/RM NRDA	15	30,000
11.71 Consultants (3), RA/RM management mechanism	18	36,000
11.72 Consultants (3), RA/RM pollution load control	30	60,000
11.73 Consultants (3), RA/RM strat env mgmt plan devt	30	60,000
11.74 Consultant, Regional mechanism cost ben. Analysis	12	30,000
11.75 Consultant, legal	8	40,000
<b>11.98 Subtotal Consultants</b>		<b>1,281,000</b>
<b>11.99 Subtotal Experts and Consultants</b>		<b>4,761,000</b>
<b>13.00 Administrative Support Personnel</b>		
13.01 Administration officer	60	90,000
13.02 Executive secretary	60	42,000
13.03 Management assistant	60	44,000
13.04 Administration assistant	60	39,000
13.05 Monitoring & eval'n/External coord'n & resource mobilization	60	198,000
13.06 Secretary	60	30,000
13.07 Secretary	60	30,000
13.08 Secretary	60	30,000
13.09 Driver	60	18,000



13.10	Utility staff	60	15,000
13.11	Utility staff	60	12,000
13.99	<b>Subtotal Administrative</b>		<b>548,000</b>
14.00	<b>UN Volunteers</b>		
14.01	UN Volunteers	48	80,000
14.99	<b>Subtotal UN Volunteers</b>		<b>80,000</b>
15.00	<b>Travel</b>		
15.01	Duty travel		400,000
15.99	<b>Subtotal Travel</b>		<b>400,000</b>
16.00	<b>Mission Costs</b>		
16.01	Evaluation Missions (3)		120,000
16.02	Programme Steering Committee		200,000
16.99	<b>Subtotal Mission Costs</b>		<b>320,000</b>
17.00	<b>National Professionals</b>		
17.01	ICM project site managers (6)	288	288,000
17.02	Project tech staff (4 x 6) ICM demonstration sites	1152	345,600
17.03	Regional Task Force (parallel sites)	48	250,000
17.04	RA/RM project manager and staff x 3 sites	144	225,000
17.05	Social scientist/Gender Specialist	60	72,000
17.06	Investments	60	72,000
17.07	IIMS Specialist	60	72,000
17.08	Training Specialist	60	72,000
17.09	Scientific research (MEG)	60	72,000
17.10	Technical services	60	72,000
17.11	ICM Programme	60	72,000
17.12	Information services	60	72,000
17.13	Environmental monitoring	60	72,000
17.14	International conventions specialist	60	72,000
17.15	Policy / legal specialist	60	72,000
17.16	Sr. GIS technician	60	60,000
17.17	ICM technical assistant	60	40,000
17.18	RA/RM technical assistant	60	40,000
17.19	Environmental monitoring technical assistant	60	40,000
17.20	Policy / legal technical assistant	60	40,000
17.21	GIS assistant	60	40,000
17.22	Training assistant	60	40,000
17.23	Technical artists (2)	120	60,000
17.24	Communications / editorial assistants (2)	120	80,000
17.49	<b>Subtotal Professionals</b>		<b>2,340,600</b>
19.00	<b>TOTAL PROJECT PERSONNEL</b>		<b>8,449,600</b>
20.00	<b>Subcontracts</b>		
	<b>Title</b>	<b>Total (mm)</b>	<b>Cost</b>
21.01	Data gathering for ICM environmental monitoring (6)		240,000
21.02	Initiation of ICM SEMP and Action Plan (6)		240,000
21.03	Workshop, local travel & local support for ICM sites		52,200
21.04	Public awareness for ICM sites		12,000
21.05	Establishing Batangas and Xiamen training sites		600,000

21.06	Remote sensing for RA/RM NRDA (3)	150,000
21.07	Refined RA/NRDA data gathering (3)	450,000
21.08	RM/NRDA appraisals (3)	150,000
21.09	Risk management for Malacca Straits	300,000
21.10	RM water monitoring project development (3)	300,000
21.11	Coastal and marine policy country reviews	180,000
21.12	Coastal and marine regional policy development	50,000
21.13	National policy planning	135,000
21.14	Survey of ICM public perceptions (6)	42,000
21.15	ICM investment option studies (6)	60,000
21.16	RA/RM video production and profiling (3)	87,000
21.17	Network secretariats (4)	100,000
21.18	Specialized research issues (5)	64,400
21.19	Establishment of investment units	10,000
21.20	Packaging of investment proposals	100,000
21.21	Conduct of investors' round table meetings	40,000
21.22	Production & dissemination of multimedia materials (newsletter)	110,000
21.23	Study on ratification / implementation of legal conventions	43,000
21.24	Workshop on international waters projects	10,000
21.25	Policy awareness campaign	40,000
21.26	Technical policy workshops (2)	60,000
21.27	Organization of interministerial meetings (2)	45,000
21.28	Creation of marine environment resource facility	50,000
	<b>Subtotal Subcontracts</b>	<b>3,720,600</b>
<b>30.00</b>	<b>Training and Fellowships</b>	
<b>31.00</b>	<b>Fellowships/Internships</b>	
31.01	Internships (10)	90,000
<b>32.00</b>	<b>Study Tour/Group Training/Workshops</b>	
32.01	Logistics (travel, per diem) regional ICM training (6)	136,800
32.02	ICM parallel sites training (6)	60,000
32.03	Study tour for senior staff project development and mgmt RA/RM	60,000
32.04	Logistics (travel, per diem) for RA/RM training (3)	57,000
32.05	Training impact assessment	5,000
32.06	ICM training (4) courses	90,000
32.07	RA/ RM training (2) courses	45,000
32.08	NRDA (2) courses	45,000
32.09	Training courses (1) on international conventions	45,000
32.10	Training courses (2) on project development and mgmt	45,000
32.11	Training materials development	36,000
32.12	Training on social and gender analysis	32,500
32.13	Training for national professionals	70,000
32.14	Training for NGOs, religious groups etc	50,000
32.15	RA/RM project development & mgmt training and travel	90,000
32.16	OPRC training courses (2)	45,000
32.17	Multidisciplinary expert group meetings (4)	132,000
32.18	Specialized research issues workshops (4)	200,000
32.19	Policy guidelines workshop	40,000
32.20	National policy workshops (5)	75,000
32.21	Upgrading and training of information technicians (IIMS)	60,000
32.22	Summer camps	20,000
	<b>Subtotal Training and Fellowships</b>	<b>1,529,300</b>

<b>40.00</b>	<b>Equipment</b>	
41.00	Expendable Equipment	
41.01	Computers, communications for 6 ICM project sites	62,880
41.02	Computers/communications equipment RA/RM hotspots (3)	146,400
41.03	IIMS software and accessories (9 sites)	225,000
41.04	Servers (9 sites)	60,000
41.05	Computers (15 for PDMO)	40,000
41.06	Remote sensing and aerial photo equipment	90,000
41.07	Software for RA/RM data gathering	30,000
41.99	<b>Subtotal Expendable Equipment</b>	<b>654,280</b>
42.00	<b>Non-expendable Equipment</b>	
42.01	Vehicles (9)	135,000
42.02	GIS equipment, digitizers	100,000
42.03	Audio-visual equipment	15,000
42.99	<b>Subtotal Non-expendable Equipment</b>	<b>250,000</b>
43.00	<b>Premises</b>	
43.01	Project office facilities for demonstration sites (6)	60,000
43.02	Office facilities for PDMO	30,000
43.99	<b>Subtotal Premises</b>	<b>90,000</b>
<b>49.00</b>	<b>TOTAL EQUIPMENT</b>	<b>994,280</b>
<b>50.00</b>	<b>Miscellaneous</b>	
<b>51.00</b>	<b>Operations/Maintenance</b>	
51.01	Operation and maintenance of equipment	120,000
51.02	Communications for PDMO	120,000
51.03	Communications and supplies for NGOs / env jourm	12,000
51.04	Technical services & maintenance, internet	30,000
52.00	Reporting Costs/Publications	
52.01	Technical reports and materials	180,000
52.02	Reporting costs and supplies for ICM sites	23,400
52.03	Reporting costs for PDMO	10,000
52.04	Office supplies for PDMO	60,000
<b>53.00</b>	<b>Sundry</b>	<b>56,220</b>
	<b>Subtotal Miscellaneous</b>	<b>611,620</b>
	Executing Agency overhead	918,324
	<b>GRAND TOTAL</b>	<b>16,223,724</b>

2. Immediate Objective/ Activity Financing (US \$ '000)

Objective/Activity	GEF	Co-Funding	Remarks
<i>Immediate Objective 1:</i>	3.284	5.969	Nat'l/local gov't in-kind and co-fund; UNDP and Sida co-fund
<i>Immediate Objective 2:</i>	2.700	0.507	National gov't in-kind and co-fund; NOAA in-kind
<i>Immediate Objective 3:</i>	1.173	1.567	National gov't in-kind and co-fund; IMO, UNDP and Sida co-fund
<i>Immediate Objective 4:</i>	0.150	0.100	National gov't in-kind
<i>Immediate Objective 5:</i>	0.695	0.789	National and local gov't in-kind and co-fund; Sida and Private sector co-fund
<i>Immediate Objective 6:</i>	1.378	0.909	National gov't in-kind and co-fund; UNDP and Sida co-fund
<i>Immediate Objective 7:</i>	2.082	0.803	National gov't in-kind and co-fund; UNDP and Sida co-fund
<i>Immediate Objective 8:</i>	1.273	0.309	National gov't in-kind and co-fund; Sida co-fund
<i>Immediate Objective 9:</i>	1.333	0.684	National gov't in-kind and co-fund
<i>Immediate Objective 10:</i>	1.238	0.684	National gov't in-kind and co-fund; UNDP and Sida co-fund
<b>Subtotals</b>	<b>15.306</b>	<b>12.321</b>	
<i>Executing Agency Overhead</i>	0.918		
<b>Totals</b>	<b>16.224</b>	<b>12.321</b>	

3. Third Party Inputs

Agency/Source	Amount (US \$)
United Nations Development Programme (UNDP)	3,148,000
International Maritime Organization (IMO)	720,000
Swedish Agency for International Development (SIDA)	3,910,000
National	3,313,000
National in-kind	670,000
National Oceanographic and Atmospheric Administration (NOAA) in-kind	260,000
Private sector	300,000
<b>TOTAL</b>	<b>12,321,000</b>

UNDP contributions will be used to co-finance 7 ICM parallel sites in China, the Philippines and Vietnam, undertake environmental monitoring programmes at the respective ICM sites, strengthen local NGO inputs to environmental issues at each demonstration site, develop national coastal and marine policy and support a sustainable marine environment resource facility.

IMO support is related to technical assistance activities that will be implemented on budgetary allocation and resource mobilization by IMO within the region during the project. IMO has recently signed an MOA with Singapore Maritime and Port Authority (MPA) to jointly implement a series of training activities (e.g. OPRC; Port State Control; CLC/FUND) in the region, and has plans for other project initiatives as well (e.g., Chemical Spills Prevention and Response in Port Areas). These activities will be co-ordinated by the Regional Programme, implemented at project sites that are part of the Regional Programme, and cost-shared between IMO, participating countries, (as in the case of Singapore MPA), and the Regional Programme. The technical assistance activities will contribute to the achievement of the overall objective of the "Building Partnerships" project.

Sida has recently launched a large coastal initiative programme, including South East Asia. Project proposals are being prepared for the Philippines and Vietnam and are under discussion with the respective Swedish embassies. Sida support will be used in Cambodia, the Philippines and Vietnam to set up ICM parallel sites, including implementing environmental monitoring programmes, supporting environmental investments, promoting public awareness, and conducting training and capacity building in areas such as ICM, risk assessment and risk management, integrated environmental impact analysis and project development and management. The Sida-Sarec Marine Science Program and the Regional Programme will co-finance institutional strengthening in Nha Trang and Haiphong Institutes of Oceanography, especially in pollution monitoring and coastal resource assessment, which will be employed in support of ICM demonstration and parallel project activities in Vietnam. In addition, Sida co-financing initiatives will be aimed at establishing a sustainable marine environment resource facility for the region, notably the public-private partnership financial mechanism.

National co-funding and in-kind contributions will be used in every major project activity, from public awareness campaigns to ICM field offices, to collecting and collating data for risk assessment and risk management database development, to hosting workshops, to providing national support staff for field offices. For example, each national ICM demonstration project will include a project site office and support staff. Negotiations are underway with central and local governments at the six proposed sites to confirm in-kind and co-funding contributions for the corresponding projects and offices. The Provincial Government of Batangas has agreed to provide building space and support staff to establish a regional ICM training centre, resulting in an in-kind contribution estimated to be USD 0.238 million, and co-funding of USD 0.167 million. The Municipal Government of Xiamen will provide USD 0.600 million to co-fund the establishment of a comparable regional training facility and the implementation of a second-cycle ICM programme in that locale. In addition, the

Government of the People's Republic of China has indicated an amount of not less than USD 2 million to co-finance the pollution 'hot spot' project proposed for the Bohai Sea. As host country, the Government of the Philippines will provide adequate air-conditioned office space to house about 60 PDMO personnel (approximately 500 m<sup>2</sup>), electricity, potable water and sanitary services, office furniture, office supplies and a reasonable level of technical and administrative support staff. This contribution has a value of USD 0.431 million in in-kind support and USD 0.346 million in co-funding. The Philippines' Government has also earmarked more than USD 0.200 million in counterpart funding for the development of three ICM parallel sites, to replicate the experience of the Batangas Bay working model.

The National Oceanographic and Atmospheric Administration (NOAA) will provide expertise through its office in Rhode Island for the development and implementation of the 'hot spot' demonstration project in the Gulf of Thailand. NOAA experts in the fields of oceanography, resource assessment, computer modeling and marine resource economics will be employed in the implementation of risk assessment/risk management of transboundary environmental issues, particularly with respect to forecasting of the likely effects of unsustainable human activities in the subregional sea area, as well as the costs and benefits of various management interventions.

Private sector financing in Batangas Bay will be used to co-fund the final stages of the public-private partnership (PPP) process, which was developed and initiated under the GEF pilot phase project. Waste Management New Zealand Ltd. has submitted a proposal regarding co-funding of the Batangas PPP, which was accepted by the Provincial Government of Batangas and other local stakeholders. The effort will see the establishment of a mixed ownership operating company, formulation and adoption of supporting regulations and user pay schemes, completion of a business plan, and the preparation of a bankable document for submission to financial institutions/commercial banks. These activities will complete the PPP process. The resulting PPP will serve as a working model for application in other environmental investment projects during the follow-on phase, as well as in the creation of a sustainable marine resource facility for the region.

As indicated in the preceding paragraphs, all National and Third Party Inputs are directly related to, and interwoven into, the objectives and activities of the GEF project.

#### F. Risks

The possible political risks are greatly minimized as the present political climate and economic achievements in the region are in favour of environmental protection and sustainable use of the marine and coastal resources. The project, in fact, responds to the common environmental concerns of the countries in the region.

The project is built upon the technical achievements and methodologies developed during the GEF Pilot Phase project and other past projects and programs, thus ensuring technical soundness and reducing vulnerability during project implementation. The Pilot Project not only provided tested techniques and methodologies but also made available a pool of regional expertise to undertake most of the described activities.

However, the success of implementing such a complex project depends a great deal on a strong and dynamic project leadership combined with flexibility and a level of autonomy given to its management. In this manner, the risks associated with political, economic, institutional and technical constraints are **greatly reduced**. This issue has been addressed in detail during the project design phase.

The GEF Pilot Phase has provided proof that increased government and private sector investment can be leveraged for baseline actions, when potential opportunities and benefits to be derived are clearly defined. However, in view of the current financial crisis in Asia, it is expected that the availability of government and private sector funds for environmental management activities will be limited. This will make leveraging of cash contributions for cofinancing difficult. As the project stresses sustainability and innovative mechanisms to mobilize public-private sector investment in environmental protection and management, it will nevertheless, be welcomed by the member governments. The project strategy will, therefore, emphasize short to medium term objectives, building on effective utilization of existing government budgets, and in-kind contributions. With respect to the private sector, efforts will be made to ensure that investment opportunities presented are sufficiently well developed as to generate demonstrable benefits, and a positive sum game for all parties concerned.

It is recognized that this is a complex, multifaceted project that will generate multiple outputs and 'spin off' effects, culminating in the creation of a sustainable regional mechanism. It may be possible that not all countries will support the proposed regional mechanism in whole, or in part. Every effort will be taken to increase the possibility that the regional mechanism will be achieved. Based on past experience in the Pilot Project, and on similar experiences in other regions, these types of mechanisms must be championed by a dedicated, well managed, and non-partisan group. The partnership-based strategy is seen as the most effective ways of carrying this out.

The management and execution of the project will necessarily be critical to success. The design of the project has taken this into consideration. Financial and human resource requirements have been prudently considered in this light. The project has been cast with ten objectives - four main objectives, and six supporting objectives - with activities that will be closely linked and interrelated, each building upon but not totally reliant on the other. With a clearly articulated 'vision' the project can move forward. Figure 7 provides a graphic representation of the main and supporting objectives, as they interact with project elements to achieve the desired outcomes.

Building partnerships, particularly sustainable partnerships, and managing the relationships are very difficult tasks that require much commitment, patience and groundwork. This project cannot be all things to all people. It does, however, propose to develop partnerships in a systematic fashion as indicated in the Project Strategy section. In order to increase the probability of success, it will seek to establish working relationships that will have a value-added, or multiplier effect. For example, partners in the delivery and execution of this project may be selected based on these types of characteristics:

- a. solid track records in a given field,

- b. strong management and organizational capabilities,
- c. highly developed networks (i.e. network of networks),
- d. convening power, and
- e. demonstrated commitment and support from constituents/beneficiaries.

G. Management arrangements

Coordination and administration will be guided by a Project Development and Management Office (PDMO). The PDMO will serve the pivotal function, and be complemented and supported by the UNDP, through its Representative offices in Manila and throughout the region, and headquarters in New York, the GEF Secretariat, the Programme Steering Committee, and the International Maritime Organization. The Tripartite Review Committee will assess annual project performance and evaluation reports (see Section I). The various interrelationships between elements of the Project Management Structure are depicted in Figure 8.

In addition to programme development and management, the PDMO will provide administrative and technical support for the Programme Steering Committee. It will serve as the central hub for information and communications related to all project activities, in close collaboration with the Executing Agency headquarters in London, United Kingdom, and the GEF and UNDP headquarters and regional representatives.

The principal coordination and leadership role will be assumed by a Regional Programme Director. There will be four senior level professional officers (designated as Senior Programme Officers/Programme Officers) that will be recruited internationally. They will each manage a respective programme portfolio.

This will be supplemented by a group of regionally-engaged professionals and technical assistants, finance and administration, specialized services and support staff. The PDMO will be built on the foundation of the existing operation for the Pilot Project in Manila, Philippines. The staff complement will require significant expansion from its current levels, to include a wider range of professional capabilities and functions in order to execute the project. Given the importance of delivery, functionality and building relationships with governments, the PDMO will require authority and a relative measure of decentralization with respect to operations.

H. Prior obligations and prerequisites

Prior obligations

None.



		M A I N O B J E C T I V E S			
		INTEGRATED COASTAL MANAGEMENT	RISK ASSESSMENT/ RISK MANAGEMENT	COASTAL AND MARINE POLICY	REGIONAL MECHANISM (Secretariat)
SUPPORTING OBJECTIVES	Integrated Information Management Systems	<ul style="list-style-type: none"> <li>Database</li> <li>GIS/ Monitoring</li> <li>Management atlas</li> <li>Connectivity</li> </ul>	<ul style="list-style-type: none"> <li>Database</li> <li>GIS/ Monitoring</li> <li>Integrated EIA</li> <li>Connectivity</li> </ul>	<ul style="list-style-type: none"> <li>Database</li> <li>Policy analysis</li> </ul>	<ul style="list-style-type: none"> <li>Marine environment resource facility (Information Services)</li> </ul>
	Environmental Investments	<ul style="list-style-type: none"> <li>Flow of projects, products, services</li> <li>Public-private partnerships</li> <li>Financing mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>Flow of projects, products, services</li> <li>Public-private partnerships</li> <li>Financing mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>Environmental monitoring systems</li> <li>Compliance</li> <li>Packaging and financing mechanisms</li> <li>Policy environment</li> </ul>	<ul style="list-style-type: none"> <li>Marine environment resource facility (Investment Units)</li> <li>Foundation and Trust Fund</li> </ul>
	Regional networks and task force	<ul style="list-style-type: none"> <li>Resource groups/experts</li> <li>Monitoring/ Legal/ Local Government</li> <li>Centers of excellence</li> <li>Training/research</li> </ul>	<ul style="list-style-type: none"> <li>Resource groups/ experts</li> <li>Monitoring/ Legal/ Local Government</li> <li>Centers of excellence</li> </ul>	<ul style="list-style-type: none"> <li>Maritime affairs institutions/ think tanks</li> <li>Response teams</li> </ul>	<ul style="list-style-type: none"> <li>Marine environment resource facility (Technical Services and Data Base)</li> </ul>
	MOU, Environmental journalists, community organization	<ul style="list-style-type: none"> <li>Participatory process</li> <li>Social impact</li> <li>Public awareness</li> <li>Alternate/sustainable livelihood</li> </ul>	<ul style="list-style-type: none"> <li>Participatory process</li> <li>Social impact</li> <li>Public awareness</li> <li>Civil advocacy</li> <li>Alternate/sustainable livelihood</li> </ul>	<ul style="list-style-type: none"> <li>Participatory process</li> <li>Social impact</li> <li>Public awareness</li> <li>Alternate/sustainable livelihood</li> </ul>	<ul style="list-style-type: none"> <li>Marine environment resource facility (Media Resource Information)</li> </ul>
	Science technology/ research	<ul style="list-style-type: none"> <li>Diffusion of knowledge</li> <li>Socio-economic and ecological analysis</li> <li>Indigenous and emerging technologies</li> </ul>	<ul style="list-style-type: none"> <li>Diffusion of knowledge</li> <li>Socio-economic and ecological analysis</li> <li>Indigenous and emerging technologies</li> </ul>	<ul style="list-style-type: none"> <li>Cost/ benefit analysis and assessment of trade-offs</li> <li>Indicators</li> <li>Technical support</li> <li>Policy analysis</li> </ul>	<ul style="list-style-type: none"> <li>Marine environment resource facility (Data-base and Technical Services)</li> <li>Scientific panel</li> </ul>
	Multi-focal training	<ul style="list-style-type: none"> <li>ICM training</li> <li>Integrated EIA training</li> <li>Project development and management</li> </ul>	<ul style="list-style-type: none"> <li>Damage assessment training</li> <li>Project development and management</li> <li>Integrated EIA training</li> <li>Risk Assessment and Risk Management training</li> <li>OPRC Training</li> </ul>	<ul style="list-style-type: none"> <li>Marine Policy analysis</li> </ul>	<ul style="list-style-type: none"> <li>Marine environment resource facility (Capacity Building)</li> </ul>

Figure 7: Interrelationship between main and supporting objectives

## Prerequisites

1. Each participating government will counterpart supporting the national budget to provide the inputs in Section E.
2. Each participating government will assist the Programme Development and Management Office (PDMO) in the search for the most appropriate personnel (national staff) to staff the positions as indicated in Section E.
3. Each participating government will encourage and facilitate the involvement of relevant national institutions in the project.
4. Each participating government agrees to make available to the fullest extent possible, all relevant data and information on coastal resources and their use, amenity values and human impacts.
5. Each participating government will encourage and facilitate the participation of the most appropriate officials, experts and other personnel in project activities, in particular the training opportunities provided by the project.
6. Each government will participate fully in the Programme Steering Committee meetings and other associations, networks and task forces established for the project.
7. Each government will assist in the identification of and support from relevant national agencies or offices to serve as focal points for the project management. This will include the designation of senior professional staff members of the agency/office to serve as the main points of contact.
8. Each participating government will facilitate speedy issuance of entry visas to officers and staff of PDMO, consultants, technical experts, training course participants and other participants in the Programme.

The project document will be signed by the UNDP, the GEF and the Executing Agency. UNDP-GEF assistance to the project will be provided only if the prerequisites stipulated above are have been fulfilled or are likely to be fulfilled. When anticipated fulfillment of one or more prerequisites fails to materialize, UNDP-GEF may, at its discretion, either suspend or terminate its assistance.

### I. Project review, reporting and evaluation

The Regional Programme Director will prepare an Inception Report within 3 months of the project getting under way. The Inception Report will refer to the UNDP Environmental Management Guidelines and ensure that they have been addressed.

The Regional Programme Director will prepare quarterly management reports and financial statements for submission to UNDP.

The Regional Programme Director will consolidate all sectoral progress reports from each project team into six-month Project Progress Reports to be submitted to project staff.

At the end of each quarter, or sooner if engaged on a shorter time frame, all consultants and contractors engaged on the project are to furnish the Regional Programme Director with a Progress Report on what has been achieved (according to agreed priorities) over the past quarter. Such reports should also look ahead to the upcoming quarter and outline the planned programme of work.

The project will be subject to tripartite review (joint review by representatives of the Governments, executing agency and UNDP) at least once every 12 months, the first such meeting to be held within the first 12 months of the start of full implementation. The Regional Programme Director shall prepare and submit to each tripartite review meeting a Project Performance Evaluation Report (PPER).

A project terminal report will be prepared for consideration at the terminal tripartite review meeting. It shall be prepared in draft sufficiently in advance to allow review and technical clearance by the executing agency prior to the terminal tripartite review.

A project terminal report will be prepared by the Regional Programme Director for consideration at the terminal review meeting. It shall be prepared in draft, sufficiently in advance to allow review and technical clearance at least 3 months prior to the terminal review.

In terms of evaluation, Annex I, the Logframe Matrix provides a detailed explanation and overview of how the project will measure its achievements through key performance indicators and monitoring and supervision mechanisms. There are many types of performance indicators identified. Moreover, these indicators will be developed, refined and tested within the scope of this project, as well as other related initiatives.

*Sustainable development indicators* are those that ensure continuation of environmental management efforts. They may possibly have a long term perspective, and include such indicators as attitudinal and behavioral changes, or the integration of environmental management programmes in national policy and legislation.

*Environmental status indicators* are measured changes in environmental conditions before and after management interventions. Examples would include temporal and spatial monitoring data of environmental quality, or through bioindicators.

*Stress reduction indicators* can be detected if identified environmental stresses or risks are either removed or have decreased. In many cases these are applied to ecosystems and public health. Untreated sewage and industrial wastes can devastate marine life in a lagoon and furthermore contribute to bad odor and increased health risk. A cleaning up of the lagoon would reduce these stresses.

*Process indicators*, show that desired actions, procedures and operations are underway in the pursuit of outputs and objectives. These indicators are likely to be generated early in the project cycle, and would include such processes as the institutionalization of an interagency coordinating body or council, the creation of a management and operations office, the establishment of local legislation, setting up water quality monitoring programmes and authorities, launching of task forces, networks and various working groups etc.

*Bibliometric indicators* represent an assessment of output in terms of different types of media materials produced, such as journal articles, reports, proceedings, books, audio-visuals etc. Among the most common techniques are citation analysis and scientific peer reviews. More recently, these types of indicators have been adapted and applied in relation to information technologies and may be referred to as "*infometric indicators*". The number of hits on a website or specific pages or sections of a website, or the number and types of pages of a report downloaded from a website are examples.

Table 5 outlines the schedule for project review, reporting and evaluation.

#### J. Legal context

This Project Document shall be the instrument envisaged in the Supplemental Provisions attached as Annex II hereto. The host country implementing agency shall for the purpose of the Supplemental Provisions to the Project Document, refer to the government cooperating agency described in the Supplemental Provisions.

The following types of revisions may be made to this project document with the signature of the authorized UNDP official only, provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

- a. Revisions in, or addition of, any of the annexes of the project document with the exception of the Standard Legal Text for non-SBAA countries which may not be altered and the agreement to which is a pre-condition for UNDP assistance;
- b. Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the programme, **but are caused by rearrangements of inputs already agreed to or by cost increases due to inflation;**
- c. **Mandatory annual revisions which update the delivery of agreed project inputs, or reflect increased expert or other costs due to inflation, or take into account agency expenditure flexibility.**



K. BUDGET

10.00	Project Personnel	Total	Cost	YEAR ONE	YEAR TWO	YEAR THREE	YEAR FOUR	YEAR FIVE
11.00	<b>International Personnel</b>	(mm)						
	<b>Post Title</b>							
11.01	Regional Programme Director	60	900,000	180,000	180,000	180,000	180,000	180,000
11.02	Sr. Programme Officer - ICM Prog/Policy	60	750,000	150,000	150,000	150,000	150,000	150,000
11.03	Sr. Programme Officer - Env. Mgt/Investment	60	750,000	150,000	150,000	150,000	150,000	150,000
11.04	Policy and Marine Affairs Specialist	48	540,000	135,000	135,000	135,000	135,000	
11.05	Training and Information Management Specialist	48	540,000	135,000	135,000	135,000	135,000	
11.49	<b>Subtotal Experts</b>		<b>3,480,000</b>	750,000	750,000	750,000	750,000	480,000
11.50	Consultants (6) ICM site selection	6	30,000	30,000				
11.51	Consultants (6), project devt and mgmt mechanism	6	45,000	45,000				
11.52	Consultants (6), ICM strategic env mgmt plan	6	45,000		45,000			
11.53	Consultants (6), ICM institutional arrangements	6	45,000		45,000			
11.54	Consultants (6), ICM action plans	6	45,000		45,000			
11.55	Consultants (3), RA/RM pollution loading assess't	12	72,000	36,000	36,000			
11.56	Consultants (3), RA/RM NRDA	12	72,000		36,000	36,000		
11.57	Consultants (3), RM financial investment	9	36,000		18,000	18,000		
11.58	Consultants (9) investment mechanisms, PPP	54	184,000		46,000	46,000	46,000	46,000
11.59	Consultants (9) IIMS	18	75,000	15,000	35,000	25,000		
11.60	Consultant, draft regional arrangement	9	70,000				35,000	35,000
11.61	Consultants (6), ICM project devt & mgmt mech	6	12,000	12,000				
11.62	Consultants (6), ICM public perception analysis	6	12,000	12,000				
11.63	Consultants (6), ICM initial risk assessment	12	24,000	12,000	12,000			
11.64	Consultants (6), ICM environmental profile	12	30,000	15,000	15,000			
11.65	Consultants (6), ICM strategic env mgmt plan	24	48,000			24,000	24,000	
11.66	Consultants (6), ICM action plans	24	48,000			24,000	24,000	
11.67	Consultants (6), ICM institutional arrangements	12	24,000	8,000	8,000	8,000		
11.68	Consultants (6), ICM documentation, revised plan	9	18,000				9,000	9,000
11.69	Consultants (3), RA/RM pollution load assessment	45	90,000	45,000	45,000			
11.70	Consultants (3), RA/RM NRDA	15	30,000	15,000	15,000			
11.71	Consultants (3), RA/RM management mechanism	18	36,000	12,000	12,000	12,000		
11.72	Consultants (3), RA/RM pollution load control	30	60,000			20,000	20,000	20,000

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11.73	Consultants (3), RA/RM strategic env mgmt plan devt	30	60,000			20,000	20,000	20,000
11.74	Consultant, Regional mechanism cba	12	30,000				20,000	10,000
11.75	Consultant, legal	8	40,000		10,000	10,000	10,000	10,000
11.98	<b>Subtotal Consultants</b>		<b>1,281,000</b>	<b>257,000</b>	<b>423,000</b>	<b>243,000</b>	<b>208,000</b>	<b>150,000</b>
11.99	<b>Subtotal Experts and Consultants</b>		<b>4,761,000</b>	<b>1,007,000</b>	<b>1,173,000</b>	<b>993,000</b>	<b>958,000</b>	<b>630,000</b>
<b>13.00 Administrative Support Personnel</b>								
13.01	Administrative officer	60	90,000	18,000	18,000	18,000	18,000	18,000
13.02	Executive secretary	60	42,000	8,400	8,400	8,400	8,400	8,400
13.03	Management assistant	60	44,000	8,800	8,800	8,800	8,800	8,800
13.04	Administration assistant	60	39,000	7,800	7,800	7,800	7,800	7,800
13.05	Mon. and eval'n/Ext'l coord. and resource mobil'n	60	198,000	39,600	39,600	39,600	39,600	39,600
13.06	Secretary	60	30,000	6,000	6,000	6,000	6,000	6,000
13.07	Secretary	60	30,000	6,000	6,000	6,000	6,000	6,000
13.08	Secretary	60	30,000	6,000	6,000	6,000	6,000	6,000
13.09	Driver	60	18,000	3,600	3,600	3,600	3,600	3,600
13.10	Utility staff	60	15,000	3,000	3,000	3,000	3,000	3,000
13.11	Utility staff	60	12,000	2,400	2,400	2,400	2,400	2,400
13.99	<b>Subtotal Administrative</b>		<b>548,000</b>	<b>109,600</b>	<b>109,600</b>	<b>109,600</b>	<b>109,600</b>	<b>109,600</b>
<b>14.00 UN Volunteers</b>								
14.01	UN Volunteers (5)		80,000	16,000	16,000	16,000	16,000	16,000
14.99	<b>Subtotal UN Volunteers</b>		<b>80,000</b>	<b>16,000</b>	<b>16,000</b>	<b>16,000</b>	<b>16,000</b>	<b>16,000</b>
<b>15.00 Travel</b>								
15.01	Duty travel	60	400,000	80,000	80,000	80,000	80,000	80,000
15.99	<b>Subtotal Travel</b>		<b>400,000</b>	<b>80,000</b>	<b>80,000</b>	<b>80,000</b>	<b>80,000</b>	<b>80,000</b>
<b>16.00 Mission Costs</b>								
16.01	Evaluation Missions (3)		120,000		40,000		40,000	40,000
16.02	Programme Steering Committee		200,000	40,000	40,000	40,000	40,000	40,000
16.99	<b>Subtotal Mission Costs</b>		<b>320,000</b>	<b>40,000</b>	<b>80,000</b>	<b>40,000</b>	<b>80,000</b>	<b>80,000</b>
<b>17.00 National Professionals</b>								
17.01	ICM project site managers (6)	288	288,000	57,600	57,600	57,600	57,600	57,600

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17.02	Project tech staff (4 x 6)) ICM demonstration sites	1,152	345,600	69,120	69,120	69,120	69,120	69,120
17.03	Regional Task Force (parallel sites)	60	250,000	50,000	50,000	50,000	50,000	50,000
17.04	RA/RM project manager and staff x 3 sites	144	225,000	45,000	45,000	45,000	45,000	45,000
17.05	Social scientist/Gender Specialist	60	72,000	14,400	14,400	14,400	14,400	14,400
17.06	Investments	60	72,000	14,400	14,400	14,400	14,400	14,400
17.07	IIMS specialist	60	72,000	14,400	14,400	14,400	14,400	14,400
17.08	Training specialist	60	72,000	14,400	14,400	14,400	14,400	14,400
17.09	Scientific research (MEG)	60	72,000	14,400	14,400	14,400	14,400	14,400
17.10	Technical services	60	72,000	14,400	14,400	14,400	14,400	14,400
17.11	ICM programme	60	72,000	14,400	14,400	14,400	14,400	14,400
17.12	Information services	60	72,000	14,400	14,400	14,400	14,400	14,400
17.13	Environmental monitoring	60	72,000	14,400	14,400	14,400	14,400	14,400
17.14	International conventions specialist	60	72,000	14,400	14,400	14,400	14,400	14,400
17.15	Policy/legal specialist	60	72,000	14,400	14,400	14,400	14,400	14,400
17.16	Sr. GIS technician	60	60,000	12,000	12,000	12,000	12,000	12,000
17.17	ICM technical assistant	60	40,000	8,000	8,000	8,000	8,000	8,000
17.18	RA/RM technical assistant	60	40,000	8,000	8,000	8,000	8,000	8,000
17.19	Environmental monitoring technical assistant	60	40,000	8,000	8,000	8,000	8,000	8,000
17.20	Policy/legal technical assistant	60	40,000	8,000	8,000	8,000	8,000	8,000
17.21	GIS assistant	60	40,000	8,000	8,000	8,000	8,000	8,000
17.22	Training assistant	60	40,000	8,000	8,000	8,000	8,000	8,000
17.23	Technical artists (2)	120	60,000	12,000	12,000	12,000	12,000	12,000
17.24	Communications/editorial assistants	120	80,000	16,000	16,000	16,000	16,000	16,000
17.49	<b>Subtotal Professionals</b>		<b>2,340,600</b>	<b>468,120</b>	<b>468,120</b>	<b>468,120</b>	<b>468,120</b>	<b>468,120</b>
19.00	<b>TOTAL PROJECT PERSONNEL</b>		<b>8,449,600</b>	<b>1,720,720</b>	<b>1,926,720</b>	<b>1,706,720</b>	<b>1,711,720</b>	<b>1,383,720</b>
20.00	<b>Subcontracts</b>							
	<b>Title</b>		<b>Cost</b>					
21.01	Data gathering for ICM environmental monitoring (6)		240,000	80,000	80,000	80,000		
21.02	Initiation of ICM SEMP and Action Plan (6)		240,000			80,000	80,000	80,000



K. BUDGET

21.03	Workshop, local travel and local support for ICM sites					26,100					
21.04	Public awareness surveys for ICM sites			12,000							
21.05	Strengthening Batangas and Xiamen demo sites			150,000		150,000				150,000	
21.06	Remote sensing for RA/RM NRDA (3)			50,000		50,000				50,000	
21.07	Refined RAINRDA data gathering (3)			50,000		200,000				200,000	
21.08	RM/NRDA appraisals (3)			50,000		50,000				50,000	
21.09	Risk management for Malacca Straits			75,000		75,000				75,000	
21.10	RM water monitoring project development (3)			75,000		75,000				75,000	75,000
21.11	Coastal and marine policy country reviews			180,000				45,000		90,000	45,000
21.12	Coastal and marine regional policy development			50,000						25,000	25,000
21.13	National policy planning			135,000				45,000		45,000	45,000
21.14	Survey of ICM public perceptions (6)			42,000	21,000						21,000
21.15	ICM investment option studies (6)			60,000		20,000			20,000		
21.16	RA/RM video production and profiling (3)			87,000		27,000			20,000		20,000
21.17	Network secretariats (4)			100,000	20,000	20,000			20,000		20,000
21.18	Specialized research issues (5)			64,400	16,100	16,100			16,100		
21.19	Establishment of investment units			10,000					10,000		
21.20	Packaging of investment proposals			100,000		25,000			25,000		25,000
21.21	Conduct of investors' round table meetings			40,000		20,000			20,000		
21.22	Production & dissemination of multimedia materials			110,000	22,000	22,000			22,000		22,000
21.23	Study on ratification / implementation of legal conv			43,000					20,000		23,000
21.24	Workshop on international waters projects			10,000		10,000					
21.25	Policy awareness campaign			40,000	8,000	8,000			8,000		8,000
21.26	Technical policy workshops (2)			60,000					30,000		30,000
21.27	Organization of interministerial meetings (2)			45,000							20,000
21.28	Creation of marine env resource facility			50,000							25,000
	<b>Subtotal Subcontracts</b>			<b>3,720,600</b>	<b>580,200</b>	<b>874,200</b>	<b>1,041,100</b>		<b>794,100</b>		<b>431,000</b>
30.00	<b>Training and Fellowships</b>										
31.00	<b>Fellowships/Internships</b>										
31.01	Internships (10)			90,000	18,000	18,000			18,000		18,000
32.00	<b>Study Tour/Group Training/Workshops</b>										
32.01	Logistics (travel, per diem) regional ICM training (6)			136,600	45,600	45,600			45,600		

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32.02	ICM parallel sites training (6)				60,000					20,000		20,000
32.03	Study tour for senior staff proj devt and mgmt RA/RM				60,000					20,000		20,000
32.04	Logistics (travel, per diem) for RA/RM training (3)				57,000	19,000				19,000		
32.05	Training impact assessment				5,000	5,000						
32.06	ICM training (4) courses				90,000					22,500		22,500
32.07	RA/RM training (2) courses				45,000					22,500		22,500
32.08	NRDA (2) courses				45,000					22,500		22,500
32.09	Training courses (2) on international conventions				45,000					22,500		22,500
32.10	Training courses (3) on project devt and mgmt				45,000	15,000				15,000		15,000
32.11	Training materials development				36,000	12,000				12,000		12,000
32.12	Training on social and gender analysis				32,500					32,500		32,500
32.13	Training for national professionals				70,000					35,000		35,000
32.14	Training for NGOs, religious groups etc				50,000	25,000				25,000		25,000
32.15	RA/RM proj dev & mgmt training and travel				90,000	45,000				45,000		45,000
32.16	OPRC training courses (2)				45,000					22,500		22,500
32.17	Multidisciplinary expert group meetings (4)				132,000	26,400				26,400		26,400
32.18	Specialized research issues workshops (4)				200,000					50,000		50,000
32.19	Policy guidelines workshop				40,000							20,000
32.20	National policy workshops (5)				75,000					30,000		45,000
32.21	Upgrading and training of information technicians				60,000	15,000				15,000		15,000
32.22	Summer camps				20,000	4,000				4,000		4,000
	<b>Subtotal Training and Fellowships</b>				<b>1,529,300</b>	<b>230,000</b>				<b>432,500</b>		<b>285,900</b>
<b>40.00</b>	<b>Equipment</b>											
<b>41.00</b>	<b>Expendable Equipment</b>											
41.01	Computers, communications for 6 ICM project sites				62,880	31,440				31,440		
41.02	Computers, communications equipment RA/RM hot spots				146,400	20,000				50,000		26,400
41.03	ILMS software and accessories (9 sites)				225,000	25,000				50,000		50,000
41.04	Servers (9 sites)				60,000					20,000		40,000
41.05	Computers (15 for PDMO)				40,000	20,000				10,000		5,000
41.06	Remote sensing and aerial photo equipment				90,000					30,000		30,000
41.07	Software for RA/RM data gathering				30,000	5,000				10,000		5,000
<b>41.99</b>	<b>Subtotal Expendable Equipment</b>				<b>654,280</b>	<b>101,440</b>				<b>201,440</b>		<b>116,400</b>

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42.00	<b>Non-expendable Equipment</b>																				
42.01	Vehicles (9)																				
41.10	GIS equipment, digitizers																				
41.12	Audio-visual equipment																				
42.99	<b>Subtotal Non-expendable Equipment</b>																				
43.00	<b>Premises</b>																				
43.01	Project office facilities for demonstration sites (6)																				
43.02	Office facilities for PDMO																				
43.99	<b>Subtotal Premises</b>																				
49.00	<b>TOTAL EQUIPMENT</b>																				
50.00	<b>Miscellaneous</b>																				
51.00	<b>Operations/Maintenance</b>																				
51.01	Operation and maintenance of equipment																				
51.02	Communications for PDMO																				
51.03	Communications/supplies for NGOs / env jourm																				
51.04	Technical services & maintenance, internet																				
52.00	<b>Reporting Costs/ Publications</b>																				
52.01	Technical reports and materials																				
52.02	Reporting costs and supplies for ICM sites																				
52.03	Reporting costs for PDMO																				
52.04	Office supplies for PDMO																				
53.00	<b>Sundry</b>																				
	<b>Subtotal Miscellaneous</b>																				
	<b>Executing Agency overhead</b>																				
	<b>GRAND TOTAL</b>																				

# L. WORKPLAN

OUTPUT	M O N T H S																			
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
<b>Objective 1</b>																				
Site selection	█																			
Project dev and mgmt mechanism		█	█	█																
Trained project staff			█	█																
Environmental profiles				█	█	█														
Analyses of public perceptions					█	█														
Environmental risk assessment						█	█													
Strategic environmental management plan							█	█												
Action plans								█	█											
Institutional arrangements									█	█										
Environmental monitoring programme										█	█	█	█	█	█	█	█	█	█	█
Integrated information mgmt system											█	█								
Financing options and mechanisms																				
Adoption of SEMP																				
SEMP and Action plans implementation																				
Monitoring and evaluation programme																				
Documentation of lessons learned																				
National and in-service training on ICM																				
Parallel implementation of ICM																				
<b>Objective 2</b>																				
Project dev and mgmt mechanism	█	█																		
Trained scientific and technical personnel			█	█																
Initial risk assessment				█	█	█														
Refined environmental risk assessment																				
Risk management options and SEMP																				
Action plan devt and implementation																				
Programme monitoring																				
<b>Objective 3</b>																				
Impact assessment and lessons learned																				
Specialized training courses																				
Internship and professional upgrading																				
Degree training programmes																				
<b>Objective 4</b>																				
Functional networks																				
Regional Task Force																				
<b>Objective 5</b>																				
Environmental investment opportunities																				
Technical/economic studies																				
Mechanisms to promote opportunities																				
Regional round table meetings etc.																				
Investment processes																				

# L. WORKPLAN

OUTPUT	M O N T H S																			
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
<b>Objective 5 (continued)</b>																				
Policy/regulatory synthesis				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Draft action plan for regional mechanism																				█
<b>Objective 6</b>																				
Multidisciplinary expert group				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Five analytical case studies				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
<b>Objective 7</b>																				
Prototype database, format, guidelines			█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Trained project personnel				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Function IIMS at project sites																				█
IIMS application for IEIA																				█
IIMS linking sites into regional network																				█
Technical support group in PDMO																				█
<b>Objective 8</b>																				
Mechanism to promote collaboration																				█
Training and workshops																				█
Young environmentalists																				█
Social science training for personnel																				█
Multimedia materials																				█
<b>Objective 9</b>																				
Cross sector policy reviews																				█
Sample policy guidelines																				█
Recommendations for regional policy																				█
<b>Objective 10</b>																				
Analysis of international conventions																				█
Review of existing regional arrangements																				█
Working group on international waters																				█
Recommendations regional arrangement																				█
Regional Marine Env Resource Facility																				█
Policy workshop on intl conventions																				█
Regional mechanism established																				█

## LOGFRAME MATRIX I: KEY PERFORMANCE INDICATORS

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<p><b>Overall Development Objective</b></p> <p>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 improved quality of life in the East Asian Seas Region.</p>	<ul style="list-style-type: none"> <li>Framework and implementation strategy for a regional intergovernmental mechanism developed and adopted by the participating governments;</li> <li>Multisectoral participation in the management of coastal areas and subregional seas evidenced through institutional arrangements and activities.</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly progress reports</li> <li>Annual reports</li> <li>Programme Steering Committee (PSC) and Tripartite Review (TPR) assessments;</li> <li>Mid-term and final project evaluations.</li> </ul>	<p>Risk is minimized as a consequence of the following critical assumptions:</p> <ul style="list-style-type: none"> <li>The East Asian Seas are critical to the economic development of the coastal countries, therefore mutual benefit may be achieved through cooperation;</li> <li>Countries are already investing in environmental programs indicating a willingness to address the problem;</li> <li>The GEF pilot project established working mechanisms and regional networks that can be developed and extended to other countries in the region.</li> </ul>
<p><b>Project Development Objectives</b></p> <p>To establish six national demonstration sites covering the application of integrated coastal management (ICM) for systematic and effective management of land and water resource uses, and to develop these sites for long term "in-house" training and capacity-building.</p>	<ul style="list-style-type: none"> <li>Operationalization of six national ICM demonstration sites;</li> <li>ICM framework, planning and management processes, institutional arrangements in place;</li> <li>SEMPs, action plans, monitoring programmes, networks and IIMS developed and implemented;</li> <li>Local officials trained in coastal planning and management;</li> <li>National universities/institutions linked with demonstration sites;</li> <li>Adoption and replication of ICM methodology and working model at parallel sites in participating countries.</li> </ul>	<ul style="list-style-type: none"> <li>Same as above</li> </ul>	<ul style="list-style-type: none"> <li>Build upon the ICM working model which was verified in Xiamen and Batangas Bay during the GEF pilot project;</li> <li>There are existing national environment management efforts;</li> <li>Related coastal management training existed in the region;</li> <li>National expertise available in most countries;</li> <li>The level of achievement, as measured by performance indicators, may vary among the countries;</li> <li>The risk is limited.</li> </ul>
<p>To apply the environmental risk assessment and risk management process to address transboundary environmental issues in subregional sea areas under stress.</p>	<ul style="list-style-type: none"> <li>Operationalization of risk assessment and risk management framework at three pollution "hot spots" in the region;</li> <li>Strategic environmental management plans, action plans and environmental monitoring programmes established and implemented at each location;</li> <li>Regional Task Force developed to replicate environmental risk assessment/risk management in other hot spots and/or to train and assist others to implement the process.</li> </ul>	<ul style="list-style-type: none"> <li>Same as above</li> </ul>	<ul style="list-style-type: none"> <li>Build upon the RA/RM working model which was developed and verified in the Malacca Straits;</li> <li>There are existing national environmental management efforts;</li> <li>The level of achievement of management actions among the sites depends on political will, funding and technical and scientific capabilities;</li> <li>Regional expertise is available;</li> <li>Some risks exist in the implementation of action plans, especially pertaining to transboundary issues, but these will be greatly minimized with the adoption of the RA/RM approach.</li> </ul>

implementation of improved management policies, coordinated environmental monitoring programs, innovative combinations of legal and economic instruments, enhanced enforcement capacities, strengthened environmental facilities and support services, training programs, information management and dissemination, public awareness and stakeholder participation in the development, implementation and evaluation of environmental programs, and

- d) the establishment of new public-private partnerships and increased investments from the private sector into facilities and services which foster sustainable development and use of marine and coastal resources.

2.6.2 In conjunction with Immediate Objective 5 activities, prepare investment opportunity briefs/profiles and conduct investors' meetings to mobilize investment partnerships and financing mechanisms.

Responsible parties: PDMO, N/PCC, lead agency/focal point, national professionals, international consultants, subcontractors, local and national government, environmental journalists, NGOs.

Success Criteria: SEMP submitted to governments for review and possible adoption. Additional work programmes and action plan developed. Investment opportunities identified, opportunity profiles/briefs drafted, and investment review processes set in motion. Letters of intent leading to environmental investment feasibility work initiated.

## Output 7

### 2.7 Environmental monitoring programme.

#### Activities for Output 7

2.7.1 Identify and determine the status of existing environmental monitoring programs in each subregional sea area/pollution hotspot and the contribution being made by such programs to environmental management of the respective locations, including the Straits of Malacca.

2.7.2 Based on the priority concerns identified as a result of the environmental risk assessment, develop an integrated environmental monitoring program at each project site to cover the following concerns:

- a. Data gaps and uncertainties identified as a result of the environmental risk assessment process.
- b. Improved indicators/benchmarks for assessing changes in the coastal and marine ecosystem, impacts on human health and overall effects on society.

- c. Verification of predictive models on pollutant fate and effects on life support systems and services provided by marine and coastal resources.
  - d. Benefits derived and costs incurred as a result of management interventions.
- 2.7.3 Analyze and package the results of the environmental monitoring project into appropriate formats for distribution and use by coastal managers, policymakers, the media and the general public, utilizing the integrated information management system (IIMS) established at each project site.

Responsible parties: PDMO, NPCC/PCC national professionals, international consultants, subcontractors, local and national governments and relevant stakeholders.

Success Criteria: Integrated monitoring programme put in place. Reports prepared and submitted to coastal managers and policymakers. Increased media and community participation.

#### Output 8

### 2.8 Engagement of the Regional Task Force in technical support and training programme.

#### Activities for Output 8

- 2.8.1 Engage the Regional Task Force created under Immediate Objective 4, to serve as trainers in national and regional training programmes, and as response teams to assist national and local authorities in planning, developing and implementing environmental management programmes in subregional sea areas/environmental hot spots of the East Asian Seas region.
- 2.8.2 Engage the Regional Task Force created under Immediate Objective 4, to provide or facilitate technical support and assistance to scientific/technical institutions at project sites for preparing environmental profiles, SEMP and developing and implementing issue-oriented and/or area-oriented action plans. In conjunction with local scientific/technical institutions, the Regional Task Force will undertake monitoring and evaluation of achievements at each location.

Responsible parties: PDMO, Regional Task Force, N/PCCs, lead agency/focal point, national professionals, international consultants, subcontractors.

Success Criteria: Engagement of Regional Task Force in training and technical support activities. National professionals assume leadership of training programmes. Monitoring and evaluation of project sites completed. Recommendations made for improvement and upgrading of environmental risk profiles, SEMP and action plans.



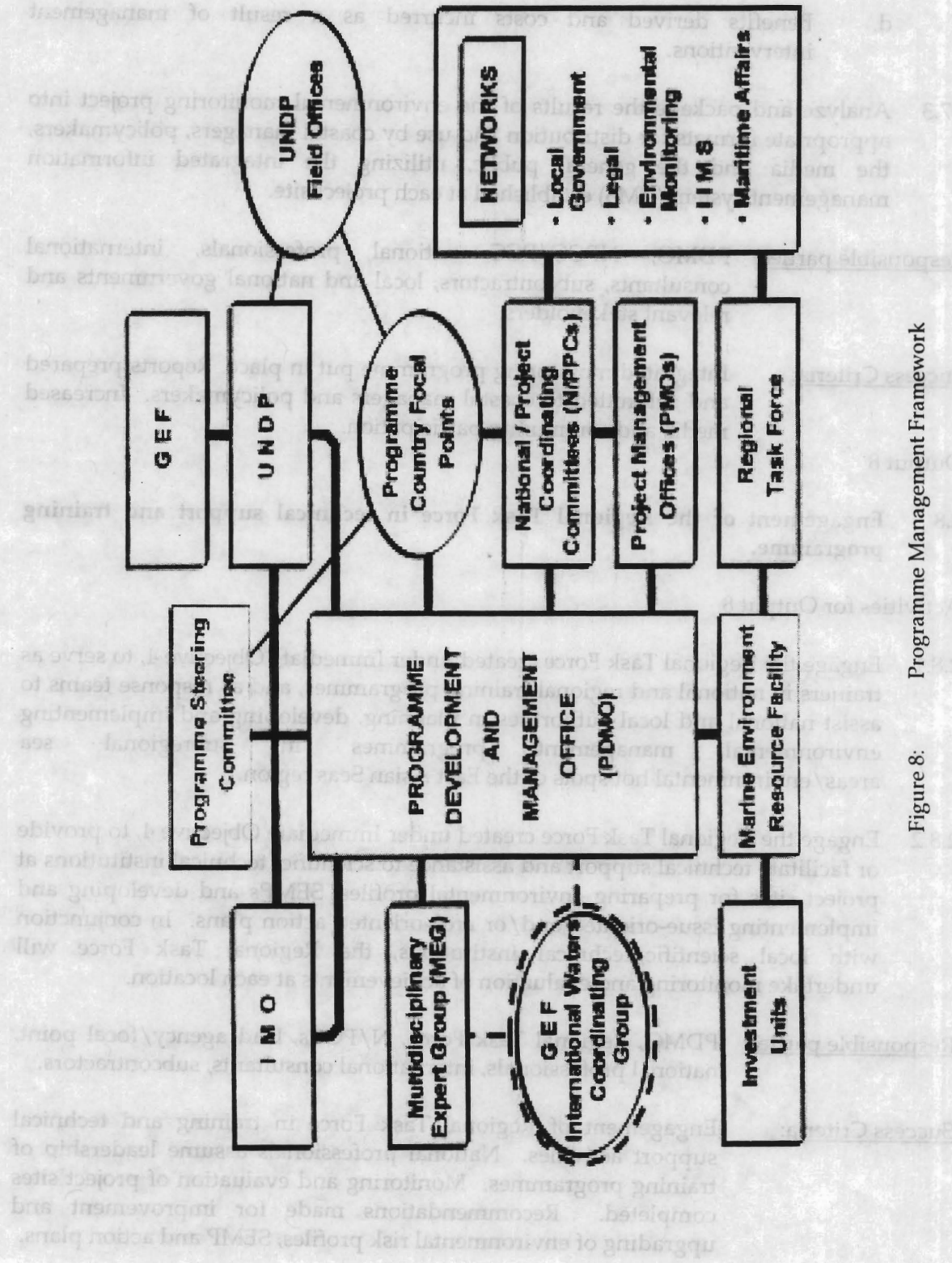


Figure 8: Programme Management Framework

LOGFRAME MATRIX I: KEY PERFORMANCE INDICATORS

Narrative Summary Project Development Objectives	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<p>To assist human resource development in participating countries in areas of planning and sustainable management of coastal and marine areas, especially at the local level.</p>	<ul style="list-style-type: none"> <li>• 2 regional train-the-trainer programmes developed and implemented;</li> <li>• 16 specialized training courses conducted.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Regional train-the-trainer programmes enhance national capacity and promote diffusion of knowledge;</li> <li>• Some training materials and manuals have already been prepared and tested under the GEF pilot phase;</li> <li>• The risk is minimal.</li> </ul>
<p>To develop and reinforce regional networks and a Regional Task Force to provide support services for effective management of the coastal and marine environment.</p>	<ul style="list-style-type: none"> <li>• 4 regional networks established, operationalized and coordinated;</li> <li>• Regional integrated information management network set in place;</li> <li>• A multi-disciplinary Regional Task Force established;</li> <li>• Regional advisory and analytical support services provided to project implementors and to participating governments.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Build upon the momentum of two existing networks of the GEF pilot project;</li> <li>• Participating individuals and institutions will be committed to provide regular input; incentives for network members will be available;</li> <li>• The risk is limited.</li> </ul>
<p>To create investment opportunities and mechanisms for environmental improvement and coastal/marine resource development and management, in selected areas of the region.</p>	<ul style="list-style-type: none"> <li>• Specific investment opportunities identified, assessed and developed;</li> <li>• Investors roundtables organized to promote public and private sector investment in environment;</li> <li>• Working models of public-private partnership arrangements or mechanisms for investment, are established at ICM demonstration sites and "pollution hot spots";</li> <li>• \$600 million in environmental investments implemented.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Private sector exists within the participating country;</li> <li>• Private sector (local and/or foreign) has available resources and increasing awareness of investment opportunities in the environmental sector;</li> <li>• Private investors concur that financial risks and potential returns on investment are within acceptable limits;</li> <li>• Government and multilateral, bilateral and other partners are willing to work within a cooperative framework;</li> <li>• Financial crisis in Asia may reduce availability of private sector resources;</li> <li>• Risk is associated with the degree to which cooperation and trust can be nurtured between the public and private sectors within and among participating countries.</li> </ul>

## LOGFRAME MATRIX I: KEY PERFORMANCE INDICATORS

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<p>To advance scientific inputs in support of decision-making for coastal and marine environmental management.</p>	<ul style="list-style-type: none"> <li>5 scientific working groups established to analyze key coastal and marine environmental concerns;</li> <li>5 working group reports translated into policy briefs and disseminated to governments;</li> <li>Policy briefs used by participating countries to address relevant issues in coastal and marine policy.</li> </ul>	<ul style="list-style-type: none"> <li>Peer review of approaches, methodologies and outputs, through scientific workshops and seminars;</li> <li>Progress and final reports reviewed by the Multidisciplinary Expert Group;</li> <li>PSC and TPR reviews.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing studies and use of scientific information in participating countries imply recognition of need for scientific input to decision-making;</li> <li>Appropriate scientific expertise is available within the region;</li> <li>Recognized need for a multidisciplinary expert group on coastal and marine environmental issues in East Asia, with participation and links to like-minded international organizations;</li> <li>Risk is limited.</li> </ul>
<p>To establish an integrated information management system (IIMS) for coastal and marine environmental assessment, planning monitoring and management.</p>	<ul style="list-style-type: none"> <li>Information infrastructure installed and operationalized at 6 ICM national demonstration sites and 3 subregional seas pollution hotspots;</li> <li>Integrated information management systems used by local and national agencies for environmental management, EIA, etc., within the ICM and RA/RM frameworks;</li> <li>IIMS used by external groups and communities (research, academe, media, NGOs, private sector, public etc.).</li> </ul>	<ul style="list-style-type: none"> <li>Progress reports;</li> <li>PSC and TPR review;</li> <li>Project evaluation report;</li> <li>Assessment report on the effective use of IIMS.</li> </ul>	<ul style="list-style-type: none"> <li>A regional network of ICM sites and pollution 'hot spot' locations is deemed desirable and helpful by participating governments;</li> <li>Substantial holistic information is available at the ICM sites and hot spots and will be accessible;</li> <li>There is a legal obligation and interest within participating governments in EIA and other types of environmental assessment;</li> <li>Preliminary efforts in IIMS software development are already initiated in the GEF pilot phase</li> <li>Risk is limited.</li> </ul>
<p>To enhance collaboration with and among non-government and grass-roots organizations, religious groups, environmental journalists and other stakeholder groups in coastal and marine environmental management.</p>	<ul style="list-style-type: none"> <li>Key officials of NGOs, CBOs, POs and religious groups from selected sites trained in coastal and marine environmental management issues and methodologies;</li> <li>Media resource information capability established;</li> <li>2 specialized training workshops for environmental journalists implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Progress reports;</li> <li>PSC and TPR reviews;</li> <li>Workshop reports;</li> <li>Project evaluation.</li> </ul>	<ul style="list-style-type: none"> <li>NGOs, CBOs, POs and/or religious groups exist in the country and coastal and marine environmental protection and management is within the scope of their interest and activities;</li> <li>Increased understanding and interest in environmental issues by all sectors;</li> <li>Risk is limited.</li> </ul>

## LOGFRAME MATRIX I: KEY PERFORMANCE INDICATORS

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<p><b>Project Development Objectives</b></p> <p>To facilitate the formulation and adoption of integrated approaches in managing land and water uses as part of a State's coastal/marine policy and strategies for addressing transboundary environmental issues, so as to achieve sustainable development goals and to contribute to financial recovery in the region.</p>	<ul style="list-style-type: none"> <li>• Cross sector reviews of relevant national policies undertaken and policy guidelines established;</li> <li>• National policy "good practices" developed in consultation with, and disseminated to, participating governments;</li> <li>• Regional policy framework and implementation strategy developed;</li> <li>• Workshops organized to build consensus among countries on a regional policy framework;</li> <li>• Consensus achieved among participating countries.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing recognition of use conflicts and environmental degradation warrants countries to develop national coastal and marine policies and programmes;</li> <li>• Coastal nations recognize the need to establish appropriate policy and programmes for their own social and economic development and benefit;</li> <li>• Existing marine affairs institutions in the region can assist in maritime policy development;</li> <li>• The level of adoption of recommended policy varies with the conditions in each participating country.</li> </ul>
<p>To support the development of a sustainable regional mechanism which augments the regional commitment to implementation of international conventions related to the protection and management of the coastal and marine environment of the East Asian Seas.</p>	<ul style="list-style-type: none"> <li>• Review and analysis completed on national, regional and extra-regional regimes and their capacities and effectiveness in implementing pertinent international conventions;</li> <li>• Regional working group on international waters projects established;</li> <li>• Regional framework and sustainable financing mechanisms drafted in consultation with participating countries;</li> <li>• Policy conference convened and a strategy and action plan for a regional mechanism endorsed;</li> <li>• Implementing arrangements established for the regional mechanism, including a marine environment resource facility.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Most countries have already signed international conventions concerning marine environment protection;</li> <li>• Countries realize the common benefits and increased effectiveness through cooperation in implementing international conventions;</li> <li>• Some existing regional mechanisms are in place (e.g., ASEAN; COBSEA) and the project will be working with these bodies;</li> <li>• There is a risk that some governments may take a longer time to agree to a regional mechanism than others.</li> </ul>

## LOGFRAME MATRIX I: KEY PERFORMANCE INDICATORS

Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<p><b>Project Outputs</b></p> <ul style="list-style-type: none"> <li>• Establish national ICM demonstration sites, ICM parallel sites and develop fast track ICM programmes;</li> <li>• Develop regional capacity to implement environmental risk management programs in sub-regional sea areas of LMEs;</li> <li>• Organize special training program for upgrading of technical skills;</li> <li>• Build capacity through regional networks and a Regional Task Force.</li> </ul>	<ul style="list-style-type: none"> <li>• 6 national ICM demonstration sites established;</li> <li>• 10 national ICM parallel sites implemented;</li> <li>• 3 subregional sea area pollution hotspots implemented risk assessment/risk management programmes;</li> <li>• 16 specialized training courses conducted;</li> <li>• 5 regional networks established;</li> <li>• Regional Task Force engaged.</li> </ul>	<ul style="list-style-type: none"> <li>• NPCC review of project progress;</li> <li>• PMO's quarterly and annual reports;</li> <li>• Reports of technical studies at each site;</li> <li>• Mid-term and final project evaluation;</li> <li>• Participants' assessments of training programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Experience developed in Xiamen, Batangas Bay and Malacca Straits are transferable;</li> <li>• Training courses developed during GEF pilot phase will be employed;</li> <li>• There will be variation in terms of achievement and rate of progress from site to site;</li> <li>• Risk is low.</li> </ul>
<ul style="list-style-type: none"> <li>• Set up a series of public-private investments;</li> <li>• Package bankable project proposals;</li> <li>• Develop project operating companies, responsible for design, financing, construction and operation of projects.</li> </ul>	<ul style="list-style-type: none"> <li>• At least US \$600 million in investment opportunities identified;</li> <li>• At least 6 project proposals for ICM sites and 3 proposals for pollution hot spots developed;</li> <li>• At least 3 project operating companies established.</li> </ul>	<ul style="list-style-type: none"> <li>• PMO review of project feasibility studies;</li> <li>• Progress reports;</li> <li>• Opportunity briefs and project proposals;</li> <li>• Round Table meetings with investors.</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable financing mechanisms developed during GEF pilot phase will be employed.</li> </ul>
<ul style="list-style-type: none"> <li>• Case studies in relatively unexplored key areas of applied scientific research in coastal and marine environmental management.</li> </ul>	<ul style="list-style-type: none"> <li>• 5 selected case studies undertaken, peer reviewed, published and disseminated to participating governments;</li> <li>• Multidisciplinary expert group (MEG) and case study working group recommendations incorporated into project activities.</li> </ul>	<ul style="list-style-type: none"> <li>• MEG progress reports;</li> <li>• Peer review of case studies;</li> <li>• On-site evaluation of recommendations;</li> <li>• Review of scientific input to project policy or decision-making activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Scientific capability available within the region;</li> <li>• Secondary scientific data accessible and of appropriate quality;</li> <li>• Indigenous and emerging technologies appropriate for priority concerns at ICM demonstration sites and pollution hot spots;</li> <li>• Indigenous and emerging technologies are cost-effective and competitive.</li> </ul>

## LOGFRAME MATRIX I: KEY PERFORMANCE INDICATORS

Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<p><b>Project Outputs</b></p> <ul style="list-style-type: none"> <li>• A functional IIMS established at project sites;</li> <li>• A regional IIMS network linking project sites and international waters projects in the region.</li> </ul>	<ul style="list-style-type: none"> <li>• Hardware and software obtained and installed at relevant sites / locations;</li> <li>• Programme and project personnel trained in IIMS system;</li> <li>• Connectivity established between network hub and, where possible, various and relevant project sites;</li> <li>• Key technical personnel engaged, and technical applications of IIMS emerged.</li> </ul>	<ul style="list-style-type: none"> <li>• Progress and milestone reports;</li> <li>• PSC and TPR reviews;</li> <li>• Mid-term and final evaluations.</li> </ul>	<ul style="list-style-type: none"> <li>• Practitioners at ICM sites are interested and willing to share information;</li> <li>• Countries have sufficiently developed communication infrastructure;</li> <li>• Communities / sites / locations have access to broad bandwidth Internet.</li> </ul>
<ul style="list-style-type: none"> <li>• Mechanism to promote collaboration and involvement of concerned NGOs, CBOs, POs, religious groups and environmental journalists.</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs, etc. participating as active members on established ICM councils or similar bodies for environmental management;</li> <li>• Multimedia materials related to the project developed and disseminated;</li> <li>• Media resource information center established.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs, etc. are active in participating countries and are interested in environmental issues.</li> </ul>
<ul style="list-style-type: none"> <li>• Guidelines for national and regional policy on coastal and marine environmental management issues;</li> <li>• Recommendations for a regional policy framework for environmental protection and management of the East Asian Seas.</li> </ul>	<ul style="list-style-type: none"> <li>• Guidelines drafted, published and disseminated;</li> <li>• Study of regional policy framework undertaken and report produced and disseminated;</li> <li>• High level consultative processes implemented for consensus building.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Incremental benefits of national marine and coastal policies are recognized by participating countries.</li> </ul>
<ul style="list-style-type: none"> <li>• Set up a regional mechanism which strengthens technical capacity of participating governments and promotes greater cooperation in implementing related global instruments.</li> </ul>	<ul style="list-style-type: none"> <li>• Policy conference convened;</li> <li>• Marine resource center established;</li> <li>• Sustainable financing mechanisms verified;</li> <li>• Implementing arrangements defined and executed.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition among participating countries that it is desirable to collaborate when addressing increasing environmental transboundary issues;</li> <li>• Existing regional mechanisms can be used as starting points.</li> </ul>



## ANNEX II

### The Legal Context

#### General responsibilities of the Government, UNDP and the executing agency

1. All phases and aspects of UNDP assistance to this project shall be governed by and carried out in accordance with the relevant and applicable resolutions and decisions of the competent United Nations organs and in accordance with UNDP's policies and procedures for such projects, and subject to the requirements of the UNDP Monitoring, Evaluation and Reporting System.
2. The Government shall remain responsible for this UNDP-assisted development project and the realization of its objectives as described in this Project Document.
3. Assistance under this Project Document being provided for the benefit of the Government and the people of (the particular country or territory), the Government shall bear all risks of operations in respect of this project.
4. The Government shall provide to the project the national counterpart personnel, training facilities, land, buildings, equipment and other required services and facilities. It shall designate the Government Co-operating Agency named in the cover page of this document (hereinafter referred to as the "Co-operating Agency"), which shall be directly responsible for the implementation of the Government contribution to the project.
5. The UNDP undertakes to complement and supplement the Government participation and will provide through the Executing Agency the required expert services, training, equipment and other services within the funds available to the project.
6. Upon commencement of the project the Executing Agency shall assume primary responsibility for project execution and shall have the status of an independent contractor for this purpose. However, that primary responsibility shall be exercised in consultation with UNDP and in agreement with the Co-operating Agency. Arrangements to this effect shall be stipulated in the Project Document as well as for the transfer of this responsibility to the Government or to an entity designated by the Government during the execution of the project.
7. Part of the Government's participation may take the form of a cash contribution to UNDP. In such cases, the Executing Agency will provide the related services and facilities and will account annually to the UNDP and to the Government for the expenditure incurred.

#### (a) Participation of the Government

1. The Government shall provide to the project the services, equipment and facilities in the quantities and at the time specified in the Project Document. Budgetary provision, either in kind or in cash, for the Government's participation so specified shall be set forth in the Project Budgets.



2. The Co-operating Agency shall, as appropriate and in consultation with the Executing Agency, assign a director for the project on a full-time basis. He shall carry out such responsibilities in the project as are assigned to him by the Co-operating Agency.
3. The estimated cost of items included in the Government contribution, as detailed in the Project Budget, shall be based on the best information available at the time of drafting the project proposal. It is understood that price fluctuations during the period of execution of the project may necessitate an adjustment of said contribution in monetary terms; the latter shall at all times be determined by the value of the services, equipment and facilities required for the proper execution of the project.
4. Within the given number of man-months of personnel services described in the Project Document, minor adjustments of individual assignments of project personnel provided by the Government may be made by the Government in consultation with the Executing Agency, if this is found to be in the best interest of the project. UNDP shall be so informed in all instances where such minor adjustments involve financial implications.
5. The Government shall continue to pay the local salaries and appropriate allowances of national counterpart personnel during the period of their absence from the project while on UNDP fellowships.
6. The Government shall defray any customs duties and other charges related to the clearance of project equipment, its transportation, handling, storage and related expenses within the country. It shall be responsible for its installation and maintenance, insurance, and replacement, if necessary, after delivery to the project site.
7. The Government shall make available to the project - subject to existing security provisions - any published and unpublished reports, maps, records and other data which are considered necessary to the implementation of the project.
8. Patent rights, copyright rights and other similar rights to any discoveries or work resulting from UNDP assistance in respect of this project shall belong to the UNDP. Unless otherwise agreed by the Parties in each case, however, the Government shall have the right to use any such discoveries or work within the country free of royalty and any charge of similar nature.
9. The Government shall assist all project personnel in finding suitable housing accommodation at reasonable rents.
10. The services and facilities specified in the Project Document which are to be provided to the project by the Government by means of a contribution in cash shall be set forth in the Project Budget. Payment of this amount shall be made to the UNDP in accordance with the Schedule of Payments by the Government.
11. Payment of the above-mentioned contribution to the UNDP on or before the dates specified in the Schedule of Payments by the Government is a prerequisite to commencement or continuation of project operations.

(b) Participation of the UNDP and the executing agency

1. The UNDP shall provide to the project through the Executing Agency the services, equipment and facilities described in the Project Document. Budgetary provision for the UNDP contribution as specified shall be set forth in the Project Budget.
2. The Executing Agency shall consult with the Government and UNDP on the candidature of the Project Manager (or other appropriate designation) who, under the direction of the Executing Agency, will be responsible in the country for the Executing Agency's participation in the project.

The Project Manager shall supervise the experts and other agency personnel assigned to the project, and the on-the-job training of national counterpart personnel. He shall be responsible for the management and efficient utilization of all UNDP-financed inputs, including equipment provided to the project.

3. The Executing Agency, in consultation with the Government and UNDP, shall assign international staff and other personnel to the project as specified in the Project Document, select candidates for fellowships and determine standards for the training of national counterpart personnel.
4. Fellowships shall be administered in accordance with the fellowships regulations of the Executing Agency.
5. The Executing Agency may, in agreement with the Government and UNDP, execute part or all of the project by subcontract. The selection of subcontractors shall be made, after consultation with the Government and UNDP, in accordance with the Executing Agency's procedures.
6. All material, equipment and supplies which are purchased from UNDP resources will be used exclusively for the execution of the project, and will remain the property of the UNDP in whose name it will be held by the Executing Agency. Equipment supplied by the UNDP shall be marked with the insignia of the UNDP and of the Executing Agency.
7. Arrangements may be made, if necessary, for a temporary transfer of custody of equipment to local authorities during the life of the project, without prejudice to the final transfer.
8. Prior to completion of UNDP assistance to the project, the Government, the UNDP and the Executing Agency shall consult as to the disposition of all project equipment provided by the UNDP. Title to such equipment shall normally be transferred to the Government, or to an entity nominated by the Government, when it is required for continued operation of the project or for activities following directly therefrom. The UNDP may, however, at its discretion, retain title to part or all of such equipment.
9. At an agreed time after the completion of UNDP assistance to the project, the Government and the UNDP, and if necessary the Executing Agency, shall review the

activities continuing from or consequent upon the project with a view to evaluating its results.

10. UNDP may release information relating to any investment oriented project to potential investors, unless and until the Government has requested the UNDP in writing to restrict the release of information relating to such project.

#### Rights, Facilities, Privileges and Immunities

1. In accordance with the Agreement concluded by the United Nations (UNDP) and the Government concerning the provision of assistance by UNDP, the personnel of UNDP and other United Nations organizations associated with the project shall be accorded rights, facilities, privileges and immunities specified in said Agreement.

2. The Government shall grant UN volunteers, if such services are requested by the Government, the same rights, facilities, privileges and immunities as are granted to the personnel of UNDP.

3. The Executing Agency's contractors and their personnel (except nationals of the host country employed locally) shall:

- (a) Be immune from legal process in respect of all acts performed by them in their official capacity in the execution of the project;
- (b) Be immune from national service obligations;
- (c) Be immune together with their spouses and relatives dependent on them from immigration restrictions;
- (d) Be accorded the privileges of bringing into the country reasonable amounts of foreign currency for the purposes of the project or for personal use of such personnel, and of withdrawing any such amounts brought into the country, or in accordance with the relevant foreign exchange regulations, such amounts as may be earned therein by such personnel in the execution of the project; and
- (e) Be accorded together with their spouses and relatives dependent on them the same repatriation facilities in the event of international crisis as diplomatic envoys.

4. All personnel of the Executing Agency's contractors shall enjoy inviolability for all papers and documents relating to the project.

5. The Government shall either exempt from or bear the cost of any taxes, duties, fees or levies which it may impose on any firm or organization which may be retained by the Executing Agency and on the personnel of any such firm or organization, except for nationals of the host country employed locally, in respect of:

- (a) The salaries or wages earned by such personnel in the execution of the project;

- (b) Any equipment, materials and supplies brought into the country for the purposes of the project or which, after having been brought into the country, may be subsequently withdrawn therefrom;
  - (c) Any substantial quantities of equipment, materials and supplies obtained locally for the execution of the project, such as, for example, petrol and spare parts for the operation and maintenance of equipment mentioned under (b), above, with the provision that the types and approximate quantities to be exempted and relevant procedures to be followed shall be agreed upon with the Government and, as appropriate, recorded in the Project Document; and
  - (d) As in the case of concessions currently granted to UNDP and Executing Agency's personnel, any property brought, including one privately owned automobile per employee, by the firm or organization or its personnel for their personal use or consumption or which after having been brought into the country, may subsequently be withdrawn therefrom upon departure of such personnel.
6. The Government shall ensure:
- (a) prompt clearance of experts and other persons performing services in respect of this project; and
  - (b) the prompt release from customs of:
    - (i) equipment, materials and supplies required in connection with this project; and
    - (ii) property belonging to and intended for the personal use or consumption of the personnel of the UNDP, its Executing Agencies, or other persons performing services on their behalf in respect of this project, except for locally recruited personnel.
7. The privileges and immunities referred to in the paragraphs above, to which such firm or organization and its personnel may be entitled, may be waived by the Executing Agency where, in its opinion or in the opinion of the UNDP, the immunity would impede the course of justice and can be waived without prejudice to the successful completion of the project or to the interest of the UNDP or the Executing Agency.
8. The Executing Agency shall provide the Government through the resident representative with the list of personnel to whom the privileges and immunities enumerated above shall apply.
9. Nothing in this Project Document or Annex shall be construed to limit the rights, facilities, privileges or immunities conferred in any other instrument upon any person, natural or juridical, referred to hereunder.

### Suspension or termination of assistance

1. The UNDP may by written notice to the Government and to the Executing Agency concerned suspend its assistance to any project if in the judgement of the UNDP any circumstance arises which interferes with or threatens to interfere with the successful completion of the project or the accomplishment of its purposes. The UNDP may, in the same or a subsequent written notice, indicate the conditions under which it is prepared to resume its assistance to the project. Any such suspension shall continue until such time as such conditions are accepted by the Government and as the UNDP shall give written notice to the Government and the Executing Agency that it is prepared to resume its assistance.
2. If any situation referred to in paragraph 1, above, shall continue for a period of fourteen days after notice thereof and of suspension shall have been given by the UNDP to the Government and the Executing Agency, then at any time thereafter during the continuance thereof, the UNDP may by written notice to the Government and the Executing Agency terminate the project.
3. The provisions of this paragraph shall be without prejudice to any other rights or remedies the UNDP may have in the circumstances, whether under general principles of law or otherwise.

## ANNEX III

### Equipment Requirements

A project of this scope and magnitude requires more equipment in terms of 'hardware', than most national projects supported by the GEF. It should be noted that this project will involve nine requesting countries and three other participating countries, and therefore covers a relatively large region. There will be six new ICM demonstration sites and three new subregional pollution 'hot spot' locations, in addition to continuation of the two existing ICM demonstration sites and the Straits of Malacca activities. Each site and location will require not only basic capital equipment (some of which will be provided through in-kind contributions), but also specialized apparatus for such activities as scanning, digitizing, GIS work, remote sensing and aerial photography.

As one of the key supporting objectives will be to establish an information infrastructure between and among all these sites and locations, there will be a need for extensive computer hardware, data base and applications software and networking equipment. Preliminary requirements analysis and cost estimates have been made to assist in the preparation of the project document. It should be noted, however, that given the fast pace of technological change in the information and communications sectors, it would not be advisable to commit to certain equipment specifications and models too early in the process. This will ensure that the project and its constituents do not acquire obsolescent technology, or technology that is near obsolescence. Procurement of such equipment will be undertaken at the appropriate juncture and follow procedures and guidelines specified by the Executing Agency.

In view of the above, the project will require both expendable and non-expendable equipment, presented as follows:

Expendable	Units
• Computers/communication equipment	35
• IIMS software and accessories	10
• Internet servers and accessories	9
• Data collection and processing equipment	9
• Remote sensing and aerial photo equipment	1
• Publishing software/supporting equipment	3
Non-expendable	
• Vehicles	9
• GIS equipment and digitizers	9
• Audio-visual equipment	9

These requirements will be addressed by both national contributions and project funds.

### ANNEX III

#### Equipment Requirements

A project of this scope and magnitude requires more equipment in terms of hardware than most national projects supported by the CER. It should be noted that the project will involve nine requesting countries and three other participating countries and therefore covers a relatively large region. There will be six new ICM demonstration sites and three new subregional planning hot spot locations in addition to continuation of the two existing ICM demonstration sites and the State of Alaska activities. Each site and location will require not only best capital equipment (some of which will be provided through in-kind contributions), but also specialized support for such activities as training, digitizing, air work, on-site setting and aerial photography.

As one of the key supporting objectives will be to establish an information infrastructure between and among all these sites and locations, there will be a need for extensive computer hardware, data base and applications software and networking equipment. Preliminary equipment studies and cost estimates have been made to assist in the preparation of the project document. It should be noted, however, that given the fast pace of technological change in the transportation and communications sectors, it would not be advisable to commit to certain equipment specifications and models too early in the process. This will ensure that the project and its components do not become obsolete technology or technology that is near obsolescence. Procurement of such equipment will be undertaken at the appropriate juncture and follow procedures and guidelines specified by the Financing Agency.

In view of the above, the project will require both expendable and non-expendable equipment presented as follows:

Equipment	Units
• Airborne equipment	10
• GIS equipment and displays	5
• Vehicles	5
Non-expendable	
• Telemetry software/supplies/equipment	5
• Radio receiving and serial data equipment	1
• Data collector and processing equipment	5
• In-flight services and services	5
• ICM software and accessories	10
• Computer communication equipment	10

These requirements will be addressed by both national contributions and project funds.

## ANNEX IV

### Main Training Programmes

#### A. Integrated Coastal Management

A typical ICM training programme would be conducted over a three week period, and be modular in format. The curriculum would combine the use of different types of experts, seminar/lectures, case study reviews, site visitations, and participatory, hands-on experience using the training laboratories and materials developed during the Pilot Project. These materials will continually be upgraded and modified based on the data and information that emerges from each new activity.

A sample outline of materials is presented below:

1. Literature on ICM concept and definition, particularly the paradigm shift in ICM, from sectoral to holistic, integrated approaches;
2. ICM principles and guidelines;
3. Case study of Manila Bay and Pasig River;
4. Application of ICM processes, actions and issues;
5. Initiating ICM programmes;
6. Planning ICM programmes;
7. Participation of stakeholders and communities;
8. Preparation of coastal marine profiles;
9. Information management and geographic information systems;
10. Institutional and legislative requirements;
11. International conventions;
12. Marine pollution monitoring and assessment;
13. Resource valuation and assessment;
14. Programme approval, implementation and refinement;
15. Regulatory and market-based instruments;
16. Sustainable financing mechanisms;
17. Public education and awareness building;
18. Monitoring and evaluation;
19. Case study of Batangas Bay or Xiamen demonstration project;
20. Case study of waste management in Batangas.

Participants, usually limited to 30 per session, would be drawn from relevant local and national government agencies, private sector, coastal community and industry associations, NGOs, CBOs and other stakeholder groups. Participants will provide an assessment of each course/programme.

#### B. Risk Assessment and Risk Management

The methodology and materials for risk assessment training have been developed during the Pilot Project, and will continue to be upgraded and improved with each new activity. It essentially blends instruction in principles, with practical hands-on



experience. A typical training programme would be delivered in four days, and often continue with training other related fields, such as natural resource damage assessment (NRDA). Morning sessions use lecture/seminar format, using the risk assessment manual as the main source document, concluding each session with a lecture from a local or guest expert on a topic of relevance. Afternoons would involve computer exercises and group work, concluding with a final, round-up session.

The Environmental Risk Assessment Manual consists of these sections:

1. Introduction to Environmental Risk Assessment - its importance for environmental management, the core components, data preparation, and determining significance in risk assessment.
2. An Approach to Risk Assessment - problem formulation, retrospective risk assessment, prospective risk assessment.
3. How can risk quotients be used in risk management? - risk assessment as a management tool, comparative risk assessment, cost-benefit analysis, example cost-benefit analysis, risk management procedures.
4. Limitations of the Risk Assessment Approach - relative merits of risk-based versus other approaches, critical analysis of risk quotients.
5. Case Studies - e.g., mangrove forest decline, shell deformation in mollusks, oily substances impact on ecosystems, human exposure to sewage bacteria in coastal areas, oil spills, runoff and aerial drift of herbicides, high concentrations of heavy metals, shellfish contamination from pesticides, and copper tailings from mines entering marine ecosystems.

Training will also focus on: using techniques for data evaluation in chemical analysis and monitoring, issues in biological monitoring, and developing skills for modeling and geographic information systems used in oil spill modeling and preparation of environmental profiles. The Malacca Straits experience will be used as the basis for a good part of the training. The participants will assess each course.

### C. Oil Spill Preparedness and Response

The Oil Spill Preparedness and Response training programme will be conducted under the auspices of the International Maritime Organization (IMO). The contents of the programme will be based on the experience and materials prepared by the IMO, supplemented by case studies and materials that have emerged from the GEF Pilot Phase project. This would cover, among other things:

1. Properties and behaviour of oil;
2. Mechanical containment recovery and temporary disposal;
3. Use of dispersants and other combating techniques;
4. Shore line clean up, oil sampling, wild life casualties and storage, maintenance and cleaning of equipment;
5. Practical exercises in oil combating;
6. Site safety;
7. Operations planning;

8. Recovery of oil;
9. Response management and organization;
10. Evidence gathering and documentation;
11. Incident communications and briefing;
12. Liability and compensation;
13. Evaluation of the training programme.

D. Natural Resource Damage Assessment (NRDA)

NRDA is used in describing and quantifying the damages associated with an action, event or activity on the environment and human health. NRDA provides policy makers, planners, marine environmentalists and others with well-defined frameworks, methodologies and outputs. The techniques are often complementary to other types of instruments such as risk assessment. Results can be used in decisions and action to forecast and minimize environmental risks, and to determine the economic impact and compensation due as a result of damage to the coastal and marine environment, and to coastal communities.

Training programmes normally deal with conceptual aspects as well as practical, hands-on experience using case studies. A typical programme would cover:

1. Introduction to NRDA;
2. Economic value of resources;
3. Resources as natural assets, and as services;
4. Direct and indirect value of resources;
5. Allowable methods for extending natural damage;
6. Standards to apply in weighing the results of such methods;
7. Means of limiting transaction costs;
8. Situation analysis.

E. Legal Training

Training for legal practitioners and policy makers for whom legal training would be useful, consists of several modules. These modules and the main sessions are outlined below:

1. International Law and the Marine Environment
  - a. International Law, the Marine Environment and Marine Pollution;
  - b. Implementing International Conventions: National Experiences;
2. National Policies and Legislation
  - a. National Legal Frameworks on Marine Pollution;
  - b. Developing National Coastal Action Plans;
  - c. Developing Marine Pollution Laws;

- d. Drafting Workplans for Developing Coastal Plans and Marine Pollution Laws;
3. Strategies, Tools and Techniques
    - a. Consensus Building, Conflict Management and Appropriate Dispute Resolution Processes;
    - b. The Role of Local Governments;
    - c. The Role of Integrated Environmental Impact Assessment, Economic Instruments, and Public-Private Partnerships;
  4. Internship Programme

This is a special programme created for highly motivated young professionals from the participating countries. The technical training usually lasts for six months and involves advanced training in the technical areas falling within the Programme's purview. The work of the interns is guided by designated professional staff, and is overseen by the Regional Programme Director. Areas of interest available to interns include:

- Integrated coastal management;
- Environmental risk assessment/risk management
- Marine pollution monitoring;
- Oil spill prevention, response and management;
- Legal regimes in marine pollution;
- Economic assessment and valuation of coastal and marine resources;
- Waste management;
- Integrated environmental impact assessment; and
- Environmental accounting

## ANNEX V

### Job Descriptions

#### 1. Regional Programme Director (D1/D2)

The Regional Programme Director (60 months) will work under the guidance of the Executing Agency, with the following duties and responsibilities:

- a. Development, coordination and implementation of all project activities.
- b. Establishment of a rapport and dialogue with high level policy and decision makers with the region and at a global level with respect to the programme in general, and negotiations with respect to the sustainable regional mechanism in particular. This would include national, provincial and local governments, bilateral and multilateral agencies, foundations and associations, scientific and technical institutions and international and domestic financial organizations.
- c. Creation of a rapport and dialogue with chief executives and chief operations officer of large multinational and domestic private sector companies, for purposes of engagement with respect to environmental investments and related co-financing initiatives.
- d. Building of partnerships and working relationships with various financial institutions, multilateral and bilateral agencies, non-government and community-based organizations, the private sector and other stakeholder groups.
- e. Refinement of the five-year project plan and development of the required programme of work and budget and operational guidelines for the approval of the Programme Steering Committee.
- f. Serve as Executive Secretary to the Programme Steering Committee and work towards the implementation of PSC decisions.
- g. Review, monitor and report on progress to the Programme Steering Committee as required.
- h. Development and evaluation of project proposals within the framework of the programme for national, bilateral and multilateral support.
- i. Establishment of viable options for cofinancing and related fund raising with respect to programme activities, as well as the sustainable regional mechanism, with a view to ensuring an exit strategy for the GEF and UNDP.
- j. Provision of technical advice to participating agencies, institutions and other partners in the region.

- k. Establishment of linkages with relevant international and regional organizations, networks and the private sector, to exchange information pertaining to legal, institutional, political, economic and social aspects of coastal and marine environmental management. This would include coordination with other GEF initiatives in International Waters, as well as creation of a high level dialogue to advance the sustainable regional mechanism.

The Regional Programme Director will require a balance of management and technical skills, vision, leadership, business acumen and negotiation experience, knowledge of the region, and relevant experience. This person should possess the following:

1. managerial and relevant technical qualifications;
2. strong interpersonal skills, leadership qualities and experience in managing a regional project of such complexity and magnitude;
3. familiarity with United Nations system, agencies, policies and practice combined with a good network of contacts with multilateral and bilateral agencies, the non-government and private sectors;
4. knowledge, understanding and sensitivity with respect to the diverse cultures, traditions and languages of the East Asian region;
5. solid network of contacts within institutions, governments, companies pertinent and relevant to the implementation and achievement of goals and objectives of the programme;
6. ability to negotiate with skill, tact and diplomacy at the highest levels of government, and with senior executives from the private sector;
7. demonstrated capability in a English as well as any other major language of the region.

**Required qualifications:**

1. PhD D or equivalent in a discipline related to coastal and marine environmental management;
2. At least 15 years of professional experience in a related field;
3. At least 10 years of direct professional experience in the East Asian context;
4. Experience and knowledge of policy and practice within the UN System;
5. Excellent writing skills in English and any other major language of the East Asian region;

6. Significant track record in the management of large, multifaceted international projects and programmes;
7. Proven ability to engage and negotiate at the highest levels of government;
2. Senior Programme Officer (P5) (Integrated Coastal Management (ICM) Programme/Policy)

#### Duties and Responsibilities

Reporting to the Regional Programme Director, the Senior Programme Officer will be responsible to:

1. Develop and coordinate programme activities concerning national coastal and marine policy, international conventions and regional collaborative mechanisms;
2. Develop, manage, monitor and evaluate selected national Integrated Coastal Management sites in the East Asian Seas region, and all related activities;
3. Assist in site selection, development and implementation of a number (possibly ten) of parallel ICM demonstration sites in close association with national and local governments in the East Asian Seas region;
4. Build and manage partnerships and working relationships with various stakeholders, including multilateral and bilateral agencies, financial institutions, local and national governments, the private sector, non-government and community-based organizations, religious groups, environmental journalists etc.;
5. Develop, implement and follow-up a range of local, national and regional training initiatives, as they relate to ICM, integrated environmental impact assessment, natural resource damage assessment, coastal and marine policy and legislation, social impact analysis etc., and liase with relevant agencies, institutions and individuals;
6. Develop relevant project activities and subactivities designed to achieve relevant project objectives as outlined in the project document;
7. Provide timely and relevant financial inputs and technical support to project implementation, monitoring and evaluating project performance including budgetary and quality control;
8. Prepare timely technical and financial progress reports, for submission to relevant bodies, including the Programme Steering Committee;

9. Document and package materials relating to lessons learned in the form of case study material and technical reviews for dissemination;
10. Engage, supervise, monitor and guide technical and management staff, interns and volunteers within the PDMO as well as project sites;
11. Engage, supervise, monitor and guide international consultants and national professionals within the PDMO as well as project sites;
12. Prepare terms of reference, contracts and relevant documentation for consultants, technical assistance, subcontractors etc.;
13. Liaise with relevant officials within the Implementing and Executing Agencies on policy and programme matters;
14. Represent the programme and the Executing Agency at conferences, seminars, meetings and similar events in the region related to areas of expertise and responsibility;
15. Conduct and lead missions to countries participating in the programme in the performance of activities and other related duties;
16. Engage in any other activities assigned by the Regional Programme Director.

#### Qualifications and experience

Candidate will require an appropriate balance of management and technical skills, shared vision, knowledge of the region, experience with multidisciplinary projects and good communication and interpersonal skills. The applicant should have demonstrated working experience in Integrated Coastal Management and Marine Affairs and be familiar with the structure and operations of the United Nations system, particularly with the relevant specialized agencies. Qualifications include:

- a. Master's degree in ICM, Marine Affairs or relevant field, with specialization in marine policy and management. Candidates with Ph.D. will be considered favourably;
- b. At least 10 years professional experience, preferably in the area of coastal and marine management in the public sector in East Asia;
- c. Familiarity with the policies, programmes and operating styles of local and national governments that are participating in the project;
- d. Solid network of contacts in international and national scientific and technical agencies, policy institutions, non-government and community-

based organizations and private sector, as they relate to coastal and marine environmental management;

- e. Understanding and sensitivity to the diversity of cultures, traditions and languages of the East Asian Seas region;
- f. Excellent knowledge of spoken and written English. A working knowledge of one of the major languages of the region would be an asset.

3. Senior Programme Officer (P5) (Environmental Management and Investment)

Duties and Responsibilities

Reporting to the Regional Programme Director, the Senior Programme Officer will be responsible to:

1. Develop, manage, monitor and evaluate project activities related to risk assessment and risk management in local and subregional sea pollution environmental 'hot spot' locations in the East Asian Seas region;
2. Develop, build, negotiate and manage partnerships and working relationships with various stakeholders, including multilateral and bilateral agencies, financial institutions, local and national governments, the private sector, non-government and community-based organizations, etc.;
3. Develop, coordinate, implement, monitor and evaluate activities related to the creation of project opportunities, mechanisms and financial investment in environmental services in selected sites and locations;
4. Manage and coordinate technical support/service activities to the various project sites and locations, through: a) the development and implementation of regional networks of local governments working in ICM project; b) development and implementation of environmental monitoring programmes; and c) formulation, application and dissemination of an integrated information management system for compiling, collating, analyzing and presenting coastal and marine environmental information to key stakeholders and users at the regional, national and local levels;
5. Organize, manage and coordinate a Regional Task Force of technical experts to provide technical support to the implementation, monitoring and evaluation of ICM and RA/RM projects in participating countries;
6. Develop relevant project activities and subactivities designed to achieve relevant project objectives as outlined in the project document;



7. Provide timely and relevant financial inputs and technical support to project implementation, monitoring and evaluating project performance including budgetary and quality control;
8. Prepare timely technical and financial progress reports, for submission to relevant bodies, including the Programme Steering Committee;
9. Document and package materials relating to lessons learned in the form of case study material and technical reviews for dissemination;
10. Engage, supervise, monitor and guide technical and management staff, interns and volunteers within the PDMO as well as project sites;
11. Engage, supervise, monitor and guide international consultants and national professionals within the PDMO as well as project sites;
12. Prepare terms of reference, contracts and relevant documentation for consultants, technical assistance, subcontractors etc.;
13. Liaise with relevant officials within the Implementing and Executing Agencies on policy and programme matters;
14. Represent the programme and the Executing Agency at conferences, seminars, meetings and similar events in the region related to areas of expertise and responsibility;
15. Conduct and lead missions to countries participating in the programme in the performance of activities and other related duties;
16. Engage in any other activities assigned by the Regional Programme Director

#### Qualification and experience

Candidate will require an appropriate balance of management and technical skills, shared vision, knowledge of the region, experience with multidisciplinary projects and good communication and interpersonal skills. The applicant should have demonstrated working experience in project development and management in the areas of agricultural and industrial waste treatment, environmental and information technologies, environmental policy and economic valuation tools and methods. The candidate should be familiar with the structure and operations of the United Nations system, particularly with the relevant specialized agencies. Qualifications include:

- a. Master's degree in Environmental Engineering or relevant field, with specialization in waste management, environmental technologies and environmental policy. Candidates with Ph.D. will be considered favourably;

- b. At least 10 years professional experience, preferably in the area of industrial and hazardous waste management in East Asia;
- c. Familiarity with the policies, programmes and operating styles of local and national governments that are participating in the project;
- d. Solid network of contacts in international and national scientific and technical agencies, policy institutions, non-government and community-based organizations and private sector, as they relate to coastal and marine environmental management;
- e. Understanding and sensitivity to the diversity of cultures, traditions and languages of the East Asian Seas region;
- f. Excellent knowledge of spoken and written English. A working knowledge of one of the major languages of the region would be an asset.

3. Training and Information Management Specialist (P4)

Duties and Responsibilities

Reporting to the Regional Programme Director, the Training and Information Specialist will be responsible to:

- 1. Develop, manage, monitor and evaluate all activities related to the establishment and implementation of regional, national and specialized training programmes under the project.
- 2. Design, develop and implement a community mobilization programme, focused on building the capacity of NGOs, CBOs, POs, religious groups, environmental journalists and the general public, regarding coastal and marine environmental issues, options for improving environmental management, and enhancing contribution to the decision-making process;
- 3. Create and supervise an Internet and "Web-based" strategy for presentation and dissemination of information, products and services related to the regional programme;
- 4. Build and manage partnerships and working relationships with various stakeholders, including multilateral and bilateral agencies, financial institutions, local and national governments, the private sector, non-government and community-based organizations, religious groups, environmental journalists etc.;
- 5. Ensure timely and cost effective sourcing and procurement of necessary and relevant hardware and software to carry out responsibility #2;

6. Develop and manage a technical support group within the PDMO that will provide a range of information services both for project personnel and external users;
7. Develop relevant project activities and subactivities designed to achieve relevant project objectives as outlined in the project document;
8. Provide timely and relevant financial inputs and technical support to project implementation, monitoring and evaluating project performance including budgetary and quality control;
9. Prepare timely technical and financial progress reports, for submission to relevant bodies, including the Programme Steering Committee;
10. Document and package materials relating to lessons learned in the form of case study material and technical reviews for dissemination;
11. Engage, supervise, monitor and guide technical and management staff, interns and volunteers within the PDMO as well as project sites;
12. Engage, supervise, monitor and guide international consultants and national professionals within the PDMO as well as project sites;
13. Prepare terms of reference, contracts and relevant documentation for consultants, technical assistance, subcontractors etc.;
14. Liaise with relevant officials within the Implementing and Executing Agencies on policy and programme matters;
15. Represent the programme and the Executing Agency at conferences, seminars, meetings and similar events in the region related to areas of expertise and responsibility;
16. Conduct and lead missions to countries participating in the programme in the performance of activities and other related duties;
17. Engage in any other activities assigned by the Regional Programme Director.

#### Qualifications and experience

Candidate will require an appropriate balance of management and technical skills, shared vision, knowledge of the region, experience with multidisciplinary projects and good communication and interpersonal skills. The applicant should have demonstrated working experience in training, working with community groups, production of technical publications, information services and network development, and be familiar

with the structure and operations of the United Nations system, particularly the with the relevant specialized agencies. Qualifications include:

- a. Masters degree in information and/or social sciences; Candidates with Ph.D. will be considered favourably;
- b. At least 10 years professional experience, preferably in the area of information systems and network development in East Asia;
- c. Familiarity with the policies, programmes and operating styles of local and national governments that are participating in the project;
- d. Knowledge of the trends and markets related to information products and services;
- e. Solid network of contacts in the private sector, international and national scientific and technical agencies, scientific research and technical institutions, community-based organizations, as they relate to coastal and marine environmental management;
- f. Understanding and sensitivity to the diversity of cultures, traditions and languages of the East Asian Seas region;
- g. Excellent knowledge of spoken and written English. A working knowledge of one of the major languages of the region would be an asset.

4. Policy and Marine Affairs Specialist (P4)

Duties and Responsibilities

Reporting to the Regional Programme Director, the Policy and Marine Affairs Specialist will be responsible to:

1. Develop, manage, monitor and evaluate activities designed to facilitate the reinforcement of existing, and formulation of new policies for coastal and marine environmental management;
2. Develop, manage, monitor and evaluate activities designed to support a sustainable regional mechanism to augment regional commitment for implementation of international legal conventions for protection and management of coastal and marine areas;
3. Develop, implement, monitor and evaluate selected site(s) of subregional seas under environmental stress in the East Asian Seas region;

4. Build and manage partnerships and working relationships with various stakeholders, including multilateral and bilateral agencies, financial institutions, local and national governments, the private sector, non-government and community-based organizations, religious groups, environmental journalists etc.;
5. Develop relevant project activities and subactivities designed to achieve relevant project objectives as outlined in the project document;
6. Provide timely and relevant financial inputs and technical support to project implementation, monitoring and evaluating project performance including budgetary and quality control;
7. Prepare timely technical and financial progress reports, for submission to relevant bodies, including the Programme Steering Committee;
8. Document and package materials relating to lessons learned in the form of case study material and technical reviews for dissemination;
9. Engage, supervise, monitor and guide technical and management staff, interns and volunteers within the PDMO as well as project sites;
10. Engage, supervise, monitor and guide international consultants and national professionals within the PDMO as well as project sites;
11. Engage, supervise, monitor and guide a team to develop multi media materials in support of the project's objectives and activities;
12. Prepare terms of reference, contracts and relevant documentation for consultants, technical assistance, subcontractors etc.;
13. Liase with relevant officials within the Implementing and Executing Agencies on policy and programme matters;
14. Represent the programme and the Executing Agency at conferences, seminars, meetings and similar events in the region related to areas of expertise and responsibility;
15. Conduct and lead missions to countries participating in the programme in the performance of activities and other related duties;
16. Engage in any other activities assigned by the Regional Programme Director and Senior Programme Officer.

## Qualifications and experience

Candidate will require an appropriate balance of management and technical skills, shared vision, knowledge of the region, experience with multidisciplinary projects and good communication and interpersonal skills. The applicant should have demonstrated working experience in project development and management in the areas of science and technology, environmental technologies, role of NGOs, national policies related to environmental management, and relevant legal conventions and mechanisms. The candidate should be familiar with the structure and operations of the United Nations system, particularly the with the relevant specialized agencies. Qualifications include:

- a. Bachelor degree in International Law, Master's degree in International Relations or relevant field, with specialization in policy and legal matters as they relate to environmental management. Candidates with Masters' degree in International Law and PhD D in a relevant social science will be considered favourably;
- b. At least 10 years professional experience, preferably in the area of policy and legal matters in East Asia;
- c. Familiarity with the policies, programmes and operating styles of local and national governments that are participating in the project;
- d. Solid network of contacts among the legal community, among international and national scientific and technical agencies, policy institutions, and the private sector, as they relate to coastal and marine environmental management;
- e. Understanding and sensitivity to the diversity of cultures, traditions and languages of the East Asian Seas region;
- f. Excellent knowledge of spoken and written English. A working knowledge of one of the major languages of the region would be an asset.

Candidates will require an appropriate balance of management and technical skills, sound vision, knowledge of the region, experience with multidisciplinary projects and good communication and interpersonal skills. The applicant should have demonstrated working experience in project development and management in the area of science and technology, environmental technologies, role of NGOs, national policies related to environmental management and relevant legal conventions and mechanisms. The candidate should be familiar with the structure and operation of the United Nations system, particularly with the relevant specialized agencies. Qualifications include:

a. Bachelor degree in International Law, Master's degree in International Relations or relevant field, with specialization in policy and legal matters as they relate to environmental management. Candidates with a Master's degree in International Law and PhD in a relevant subject area will be considered favorably.

b. At least 10 years professional experience, preferably in the area of policy and legal matters in past 5 years.

c. Familiarity with the policy, procedures and operating styles of local and national governments and any participating in the project.

d. Solid network of contacts among the local community, among international and national scientific and technical agencies, policy institutions and the private sector as they relate to coastal and marine environmental management.

e. Understanding and sensitivity to the diversity of cultures, traditions and languages of the host Asian region.

f. Excellent knowledge of spoken and written English. A working knowledge of one of the major languages of the region would be an asset.

ANNEX VI

A. Criteria for the Assessment of Sites for ICM Application and Demonstration

Sites proposed by the participating governments are initially assessed by experts using the "Field Guide for the Assessment of Sites for Integrated Coastal Management Application and Demonstration". Potential sites are further evaluated for their suitability for development into a national demonstration site where the concept, approaches and methodology of integrated coastal management is transferred to other coastal areas within the country. Selection is based on (a) the nature of environmental management issues; (b) manageability of the proposed site; (c) replicability in other coastal areas in the country and the region at large, and (d) presence of factors conducive for integrated management. The assessment of the relative chance of success for ICM implementation and demonstration is therefore based upon the positive factors that can be derived from the above-mentioned conditions.

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Assessment

The statements given under categories I to IV are being evaluated wherein a total of 100 points are allotted. Categories I, II and III are assigned 20 points each while category IV carries 40 points. Statements under each group are given similar weight such that the total score should be divided equally among them. Please tick as many statements per category whenever applicable.

Proposed Site(s): \_\_\_\_\_  
\_\_\_\_\_

I. Nature of environmental management issues      Score     

Environmental problems are common to most coastal areas in the country or the region at large.      \_\_\_\_\_

Environmental management issues are common to most coastal areas in the country or the region.      \_\_\_\_\_

Key environmental problems are solvable through policy, management and technical interventions.      \_\_\_\_\_

Key environmental problems fall within the provision of relevant international conventions.      \_\_\_\_\_

II. Manageability of the proposed site      Score     

Geographical coverage is manageable for ICM practices within the limitation of project resources.      \_\_\_\_\_



Site covers less than 5 municipalities. \_\_\_\_\_

Population of the proposed sites is less than one million. \_\_\_\_\_

**III. Replicability**

Score

Political, socio-economic, and cultural characteristics of the proposed sites are similar to other coastal areas. \_\_\_\_\_

Approaches and methodologies developed can be easily transferred to other areas. \_\_\_\_\_

Willingness of concerned local government to serve as a demonstration site for the application of ICM working models. \_\_\_\_\_

**IV. Factors conducive for ICM application**

Score

Strong political will at local government level. \_\_\_\_\_

Support from the central government. \_\_\_\_\_

Keen interest of a neutral agency to serve as lead implementing agency. \_\_\_\_\_

Keen interest and commitment of local government agencies to implement ICM program. \_\_\_\_\_

Availability of co-financing mechanisms. \_\_\_\_\_

The public is aware of the environmental problems. \_\_\_\_\_

Availability of local "champions". \_\_\_\_\_

Availability of scientific/ professional institutions within the site or nearby. \_\_\_\_\_

**Total Score**

**B. Field Guide for the Assessment of Sites for ICM Application and Demonstration**

The following questions are designed to assist in the evaluation of sites for integrated coastal management application and demonstration. Answers can be in the form of interviews, field observation or from secondary data. Each question is given a value of 10 points. For questions consisting of less or more than 10 choices, values are determined by counting the number of choices ticked divided by the total number of choices and multiplied by 10.

Proposed Site(s): \_\_\_\_\_

**I. Are there environmental problems requiring integrated management approaches?**

Yes \_\_\_\_\_ No \_\_\_\_\_

Tick as many choices whenever applicable:

- Waste management issues \_\_\_\_\_
- Land submergence \_\_\_\_\_
- Habitat degradation \_\_\_\_\_
- Pollutant discharge from land and sea-based activities \_\_\_\_\_
- Oil/chemical spills from ships \_\_\_\_\_
- Marine dumping \_\_\_\_\_
- Coastal erosion \_\_\_\_\_
- Salt water intrusion \_\_\_\_\_
- Freshwater resource depletion \_\_\_\_\_
- Proliferation of introduced species \_\_\_\_\_
- Impacts of sea water level rise \_\_\_\_\_
- Multiple resource use conflict \_\_\_\_\_
- Sedimentation \_\_\_\_\_
- Eutrophication \_\_\_\_\_
- Occurrence of red tide \_\_\_\_\_
- Major fish kills \_\_\_\_\_
- Others (please specify) \_\_\_\_\_

Score

**II. Are there reports on the following public health problems at the site? (Tick as many choices whenever applicable).**

- Heavy metal poisoning through seafood consumption Yes \_\_\_\_\_
- High incidence of diarrhea after seafood consumption \_\_\_\_\_
- Reported ciguatera poisoning \_\_\_\_\_

Reported shellfish poisoning \_\_\_\_\_

Score \_\_\_\_\_

III. Are there environmental management issues requiring coordination and integration ?

Yes \_\_\_\_\_

No \_\_\_\_\_

Tick as many choices whenever applicable:

None or inadequate planning and management capacity at the local level \_\_\_\_\_

None or lack of technical expertise to mitigate environmental degradation \_\_\_\_\_

None or inadequate land-sea use planning \_\_\_\_\_

None or inadequate permit systems or other regulations for renewable resources and marine environment management \_\_\_\_\_

None or ineffective Environmental Impact Assessments \_\_\_\_\_

Lack of water quality management program \_\_\_\_\_

None or inadequate water quality monitoring program \_\_\_\_\_

Legislative conflicts between national and local legislation \_\_\_\_\_

Inefficient law enforcement \_\_\_\_\_

Interagency conflict \_\_\_\_\_

Lack of coordination and integration of policy and management interventions \_\_\_\_\_

None or lack of economic incentives for environmental management \_\_\_\_\_

Score \_\_\_\_\_

IV. What are the trans-boundary environmental issues requiring cross country or cross boundary management interventions? (Tick as many choices whenever applicable)

Oil/chemical spill \_\_\_\_\_

Marine pollutant transport \_\_\_\_\_

Shared fisheries stocks \_\_\_\_\_

Shared marine ecosystems \_\_\_\_\_

Dumping of wastes \_\_\_\_\_

Threats to endangered species \_\_\_\_\_

Score \_\_\_\_\_

V. Has any of the following transboundary issues resulted to or has potential to cause political boundary disputes? (Tick as many choices whenever applicable).

- Shared fisheries stocks \_\_\_\_\_
- Shared marine ecosystems \_\_\_\_\_
- Oil/chemical spills \_\_\_\_\_
- Dumping of wastes \_\_\_\_\_
- Threats to endangered species \_\_\_\_\_
- Marine pollutant transport \_\_\_\_\_

Score

VI. Are the environmental issues identified in "I" can be addressed through any of the following international conventions/declarations? (Tick as many choices whenever applicable).

- Convention on Biodiversity \_\_\_\_\_
- Convention on Climate Change \_\_\_\_\_
- Law of the Sea \_\_\_\_\_
- CITES \_\_\_\_\_
- London Convention \_\_\_\_\_
- Basel Convention \_\_\_\_\_
- CLC/ FUND Convention \_\_\_\_\_
- OPRC Convention \_\_\_\_\_
- MARPOL Convention \_\_\_\_\_
- Washington Declaration on Land-based Pollution \_\_\_\_\_

Score

VII. Are there any on-going or potential economic development activities that could affect the coastal and marine environment? (Tick as many choices whenever applicable).

- Industrial development projects** \_\_\_\_\_
- Port development projects** \_\_\_\_\_
- Industrial park projects** \_\_\_\_\_
- Food processing projects** \_\_\_\_\_
- Tourism development projects** \_\_\_\_\_
- Golf course development projects** \_\_\_\_\_
- Fish port project** \_\_\_\_\_
- Commercial fishing projects** \_\_\_\_\_
- Coastal aquaculture projects** \_\_\_\_\_

Score

on environmental management \_\_\_\_\_  
Conflicts in religious teaching \_\_\_\_\_  
Lack of public awareness \_\_\_\_\_

Score

XI. What are the main social factors that require special consideration? (Tick as many choices whenever applicable).

Poverty \_\_\_\_\_  
Gender \_\_\_\_\_  
Religious and cultural practices \_\_\_\_\_  
Traditional practices \_\_\_\_\_  
Drug problem \_\_\_\_\_  
Unemployment \_\_\_\_\_  
Privileged group/individuals \_\_\_\_\_

Score

XII. Are there local "champions" who can be identified to help in the initiation, planning and implementation of the proposed projects. ("Champions" are persons who share the view of sustainable development, are keen and are willing to promote and participate in environmental management).

Champion(s) at community level:  
Name(s): \_\_\_\_\_  
Position(s): \_\_\_\_\_  
Roles: \_\_\_\_\_

Champion(s) at district/municipal government level:  
Name(s): \_\_\_\_\_  
Position(s): \_\_\_\_\_  
Roles: \_\_\_\_\_

Champion(s) at State/ Provincial level:  
Name(s): \_\_\_\_\_  
Position(s): \_\_\_\_\_  
Roles: \_\_\_\_\_

Score

XIII. Does the local authority have the human and financial resources to resolve these problems?

Yes \_\_\_\_\_ No \_\_\_\_\_

*Existing or potential local government programs related to environmental or coastal or marine resource management: (Tick as many choices whenever applicable).*

- Fisheries development program \_\_\_\_\_
- Water quality monitoring program \_\_\_\_\_
- Waste management program \_\_\_\_\_
- Watershed management program \_\_\_\_\_
- Special area management program \_\_\_\_\_
- Coral reef rehabilitation program \_\_\_\_\_
- Mangrove rehabilitation program \_\_\_\_\_
- Related specialized studies \_\_\_\_\_
- Others (please specify) \_\_\_\_\_

Score

XIV. What sort of external inputs are expected from the local authority? (Tick as many choices whenever applicable)

- Technical expertise \_\_\_\_\_
- Operational funds \_\_\_\_\_
- Equipment \_\_\_\_\_
- Salaries of local staff \_\_\_\_\_
- Honorarium for government officials \_\_\_\_\_

Score

XV. What are the existing or potential sources of financial or human resource support? (Tick as many choices whenever applicable).

- Donors \_\_\_\_\_
- National government \_\_\_\_\_
- Provincial government \_\_\_\_\_
- Private foundations \_\_\_\_\_

Score

XVI. What is the geographical scope proposed for management?

Total area \_\_\_\_\_  
 Total coastline \_\_\_\_\_  
 Population at each administrative unit:  
     Village \_\_\_\_\_  
     District \_\_\_\_\_  
     Municipality \_\_\_\_\_  
     City \_\_\_\_\_  
     Province/state \_\_\_\_\_

**Degree of manageability**

Site within single municipality \_\_\_\_\_  
 Site covers two-five municipalities \_\_\_\_\_

Score

XVII. Are there environment NGO's within the target site or within the province/state or within the country? Identify relevant NGOs with capability to help in the project design and implementation.

NGOs at target site:

Name(s): \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Contact person(s): \_\_\_\_\_

NGOs located in the province/state

Name(s): \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Contact person(s): \_\_\_\_\_

Ngos located in the country:

Name(s): \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Contact person(s): \_\_\_\_\_

Score

XVIII. Are there relevant scientific/professional institutions within the target site or within the province/state or within the country?

Institution(s) at target site:

Name(s): \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Contact person(s): \_\_\_\_\_

Institution (s) located in the province/state

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

Contact person(s): \_\_\_\_\_

Institution(s) located in the country:

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

Contact person(s): \_\_\_\_\_

Score

XIX. Are there indications of political will to address current or potential environmental problems? (Tick as many choices whenever applicable).

Willingness to make policy changes \_\_\_\_\_

Willingness to provide human and financial resources for management interventions \_\_\_\_\_

Willingness to integrate sea use into land use planning \_\_\_\_\_

Supports Agenda 21 \_\_\_\_\_

Supports implementation of international conventions \_\_\_\_\_

Willingness to implement ICM program once developed \_\_\_\_\_

Supports the integrated approach \_\_\_\_\_

Score

XX. Who are the key stakeholders? (Tick as many choices whenever applicable).

Fishermen \_\_\_\_\_

Tourist facilities operators \_\_\_\_\_

Fish farm operators \_\_\_\_\_

Aquatic products processing operators \_\_\_\_\_

Ship operators \_\_\_\_\_

Coastal/marine manufacturing industries operators \_\_\_\_\_

Other marine industries operators \_\_\_\_\_

Aquatic products gatherers \_\_\_\_\_

Financiers \_\_\_\_\_

Officers governing and managing natural resource and the environment \_\_\_\_\_

Policy makers \_\_\_\_\_

Others (please specify) \_\_\_\_\_

Score

TOTAL SCORE



## ANNEX VII

### POTENTIAL ICM DEMONSTRATION SITES, LOCAL AND SUBREGIONAL SEAS ENVIRONMENTAL HOT SPOTS

#### 1. ICM Demonstration Sites

##### CAMBODIA: KOMPONG SOM, SIHANOUKVILLE

The proposed site is located at the southwest tip of the Kompong Som Bay (see the attached map). The site is characterized by extensive stretches of coral reefs and mangrove forests. Increased clearings of mangrove forests for conversion to shrimp ponds and for charcoal production were evident in recent years. Quality of the coastal waters at Kom Pong Som Bay is generally good as industrialization and urbanization are yet to take place around the coastal areas.

There are ongoing efforts to build the area into the largest deep water international port in the country. Priority has also been given by the government to the tourism development. An investment project amounted to US\$1 billion was initiated in December 1994 for the construction of tourism infrastructure.

Major environmental problems and management issues are related to the potential impacts of overarching port development on tourism, traditional fisheries and the habitats of coral reefs and mangrove. Specifically, the problems include: (a) watershed destruction due to deforestation and soil erosion; (b) fishing habitat degradation; (c) discharge of untreated sewage; and (d) discharge of hazardous wastes. The legal and institutional coordination and implementing mechanisms are not well-developed to meet the needs for an integrated management of the coastal areas. The training of core staff in the coastal management practices are urgently needed in order to build up both national and local coastal management capabilities.

Concerned government agencies expressed strong support to the application of ICM approaches to the coastal problems. The development of indigenous capacity in ICM represents both challenges and opportunities.

##### DPR KOREA: NAMPO REGION

Nampo, about 40 kilometers away from Pyongyang, is situated in the middle part of Korean West Sea where Taedong River enters the sea. In the West Sea, salinity is at about 31.5 ‰, water temperature at 5°C in winter and 25°C in summer. Biological productivity is high with diverse marine flora and fauna. The region has semi-diurnal tides with a range of 4-6 meters. Average air temperature is about 25°C in the summer and 5°C in the winter. The dry season is in spring and autumn. Average annual precipitation is 900 mm.

An eight kilometer long West Sea Barrage spans the mouth of the Taedong River, allowing the passage of ships at 50,000 ton class. Significant siltation inside the dyke

occurs as the water exchange has been reduced. Nampo is among the country's major ports. The siltation also affects the navigational channels, increasing the risk of oil pollution by ships. Industrial and municipal sewage discharges also pose concerns.

Institutions concerned with coastal management in the region include State Hydro-meteorological Administration, Ministry of Maritime Transport, Ministry of Fisheries, Ministry of Land and Environment Protection, Nampo Port, West Sea Barrage Management Agency, Kim Il Sung University, the West Sea Oceanographic Institute, the Fisheries Research Institute and Nampo Fisheries College.

The country has ratified MARPOL 73/78 and is considering the signing of OPRC 1990. The Government attaches increased importance to the environment. ICM approaches have been accepted as a better management alternative to coastal problems by some central government agencies.

### **INDONESIA: MADURA STRAITS AREA, EAST JAVA**

The proposed site is located on the north-eastern end of the Java island, including the Madura Straits, Madura Island; it covers four municipalities, namely, Gresik, Surabaya and Sidoarjo in Java island, and Bangkalan in Madura island (see the attached map). The site is characterized by a diverse coastal ecosystem including mudflats, mangroves forests, coral reefs, and estuaries.

Since 1993, there has been a major shift in the economic development in East Java province, i.e. from agriculture to manufacturing industry. The four municipalities in the proposed site are among the six most developed industrial centers in the whole province. The main economic activities include the manufacturing and service industries, commerce, port development, tourism, and, to a limited extent, the agriculture, aquaculture and fishing.

In the area, environment and management issues are dominated by the interaction between navigation through the strait and traditional fisheries. Marine pollution from discharges of industrial wastes and oil spill and environmental problems arising from shipping activities cause concerns. Other management issues include: (a) existence of multiple use conflicts among the various coastal activities; (b) lack of linkage among different marine environment monitoring programs; (c) risk of oil pollution and lack of an oil spill contingency plan; and (d) lack of interdisciplinary management planning and institutional capabilities.

At the national level, a number of marine and coastal environmental initiatives and programs, environmental legislation and acts were developed since 1988. A decentralization program - a handing-over of authority and responsibility to provincial- and local-level governments - was initiated since 1996-97. The opportunities for sustainable development and usage of the resources of the coastal area invariably will depend on the preservation and protection of the coastal environment and resources based on an holistic approach and an interactive planning process within an integrated coastal management (ICM) framework.

## INDONESIA: SOUTHEAST BALI, BALI

The proposed site is located on the southeast coast of Bali island including the Badung Straits, its associated island and adjacent waters (see the attached map). The site is endowed with habitats for coral reefs, mangroves, sea grass beds, sea turtles and migratory fish species. Tourism, which contributed to 31% of its total GDP (Rp. 8,621 million), plays an important role in the economic development of the Bali island. The Badung Straits and its nearby waterways are used for international navigation.

Environment and management issues are dominated by the impacts of the booming international tourist industry on waste management and habitat conservation. Major environmental problems included: (a) damage to coral reefs, mangroves and habitats for sea turtle; (b) impacts of sea level rise (erosion and shoreline retreat); (c) pollution of rivers and coastal waters by nutrients, and oil and grease; (d) unregulated coastal sand mining; and (e) oil pollution risk from oil loading terminal and shipping.

Major environmental management issues are: (i) lack of interdisciplinary management planning and institutional capabilities; (ii) existence of multiple use conflicts; (iii) lack of a periodic and regular marine environment monitoring program; (iv) lack of contingency plan to combat oil pollution; and (v) ineffective measures for waste management;

At the national level, a number of marine and coastal environmental initiatives and programs, environmental legislation and acts were developed since 1988. A decentralization program - a handing-over of authority and responsibility to provincial- and local-level governments - was initiated since 1996-97. The opportunities for sustainable development and usage of the resources of Bali's coastal area invariably will depend on the preservation and protection of the coastal environment and resources based on an integrative, holistic approach and an interactive planning process within an integrated coastal management (ICM) framework.

## MALAYSIA: KLANG AREA, SELANGOR

The site is a major industrial, commercial and shipping center in Malaysia. Port Klang, which is situated within the proposed site, is the largest port in Malaysia, where active port development and shipping activities occur. Selangor as a whole underwent rapid economic development with a growth rate of 9% per annum (1997). Presently, the negative impacts of sand mining, erosion and reclamation of mangrove swamps are already visible in the proposed site.

Major environmental problems and management issues center around impacts of rapid port expansion and the booming industrial zone on mangrove habitats and traditional fisheries. Management problems include: (a) lack of mechanisms for effective involvement of stakeholders in the approval/review of major coastal development projects; (b) lack of planning for various marine development activities; (c) rapid reclamation of coastal areas contributing to the losses of mangrove habitats; (d) lack of systematic management programs to address major environmental problems; (e)

inadequate facilities for wastes disposal and treatment (e.g., shore reception facilities); and (f) uncoordinated dredging and sand-mining.

A number of regulations concerning the use of specific coastal resources are already in place. In general, Malaysia has practiced specific problem-oriented sectoral approaches to coastal management, especially in the fields of erosion and mangrove area. However, Malaysia has been making efforts to apply integrated coastal management approaches particularly since the National Coastal Erosion Study in 1984-85.

Selangor State Government is responsible for planning and management of social and economic development programmes, including programmes in the coastal area of the State. The State Government has expressed interest in adopting integrated approaches to managing coastal land and water uses.

### VIETNAM: DA NANG CITY

Da Nang is a city under direct jurisdiction of the central government with the same status as that of Hanoi and Hochiminh City. The city's coastal districts cover Lion Chien, Thanh Khe, Hai Chau, Son Tra and Nguhanh Son (see the attached map). Uniqueness of organisms in coastal area is a mix between the country's north and the south. Son Tra Peninsula is declared as a marine park. The city's coastal waters offer breeding grounds for lobsters, shrimps and turtles.

GDP growth for the city has been 12-15% from 1994 to the present. In contribution to GDP, the service sector takes up 59%, industries 35%, and agriculture 6%. Danang is the third largest port in Vietnam, handling some 3.6 million tons per year. Fisheries production is about 60,000-70,000 tons. The city occupies 15% of the national total in tourism revenues in 1997. There are four research institutions in Danang (including DOSTE) and one university.

Major environmental problems are related to the risk of offshore oil transshipments, operational discharges of oil from ships and unknown impacts by the ocean dumping of dredge materials, and solid wastes. Dredging is done around the port and materials are disposed 1 mile offshore at a depth of about 50m. About 200 tons/day of solid wastes are collected and disposed in open dump sites, representing about 65% of the total solid waste production in the city. Conflicts between port expansion and relocation of local fishing communities were reported.

Major management issues are related to the conflicts of maritime shipping/port development, booming tourism and local fishing communities. The city has no comprehensive planning for coastal water and land uses. Pre-development EIA requirements are not effectively enforced. Apart from some incidental observations, an effective marine environmental monitoring programme is yet to be developed and implemented.

Recent development of legal and policy environment at the national level in Vietnam is favorable for application of ICM approaches. The government identified Sustainable

Development with equity as the major objective and formulated a "National Plan for Environment and Sustainable Development" in 1991. ICM concepts and approaches have been accepted as part of the strategies in environment management at some national and local government agency level.

#### VIETNAM: KHANH HOA PROVINCE

The proposed site is characterized by three bays, Van Phong, Nha Phu, and Nha Trang, and the Tre Islands (see the attached map). The province has supplied 70-80% of shrimp juveniles across the country by 1997. Dominant species are of Tiger shrimp (*Penaeus Monodom*) and lobster (*Bulurius*). The broodstock is believed to exist in Nha Phu Bay. In addition, the province is also a major source of birds nests in the country: about 2,000 tons per year collected from the Tre Islands.

In contribution to the GDP in the province, service sector occupies 36%; industries 34%; and agriculture (including fisheries), 30%. The province has 7 ports including 4 civilian ones. The province had 350,000 visitors in 1977, generating revenue of about VND 115B. The province has an oceanographic tradition.

Major environmental problems include the overexploitation of fishery resources, degradation of habitats, deterioration of water quality, reduction of biodiversity, coastal siltation and erosion, unregulated mining, risks of pollution by oil and other substances. Some 50% coral coverage has been reduced by 1994 and only about 5% remained in 1998. Mangrove area was reduced from about 4,000 ha. 20 years ago to only about 250 ha. at present. Shrimp production is decreasing.

Major management issues are related to conflicts among living resource uses, biodiversity conservation, tourism and port development. There is no facilities for the treatment of domestic and industrial wastes, a lack of trained management personnel, no environmental planning for appropriate coastal land and water uses, and insufficient interaction among concerned agencies, research institutions and local communities in environment management.

Recent development of legal and policy environment at the national level in Vietnam is favorable for application of ICM approaches. The government identified Sustainable Development with equity as the major objective and formulated a "National Plan for Environment and Sustainable Development" in 1991. ICM concepts and approaches have been accepted as part of the strategies in environment management at some national and local government agency level.

## **2. Local and Subregional Sea Areas: Environmental Hot Spots**

#### CHINA: BOHAI SEA

The Bohai Sea is the largest internal sea in the People's Republic of China and is one of twelve internal seas in the world. It is almost enclosed by the Liadong Peninsula in the

northeast, Shandong Peninsula in the southeast and Hubaei Plain the west. The coastline is 3,784 km long and total sea area is 77,284 km<sup>2</sup> with an average depth of 18 metres. Three out of nine potential megacities – Beijing, Tianjin and Shenyang – are within the coastal area of the Bohai Sea. There are nine rivers that drain into the Bohai Sea; among them are the Huanghe (Yellow River), Haihe, Daliaohe, with a combined annual flow of 72,000 million m<sup>3</sup>. The overall water exchange between the Bohai Sea and the Yellow Sea, through the Bohai Straits will take sixteen years. This means the persistent pollutants will remain in “enclosed ponds” for at least this period.

The problems caused by marine pollution in the Bohai Sea are manifold. Fisheries production has been sharply reduced and some economic fisheries are near extinction. Estuaries and coastal areas are the nursery ground for many species of fish, however these are the most polluted areas. Dalian Bay, one of the more important mariculture areas, is also the location for numerous factories and industrial establishments. Due to increasingly heavy metal concentrations in some areas along the Bay, such as Zn, Cu, Hg, and Cr, and a significant number of mariculture sites have been abandoned. Similarly in Jinzhou Bay, which used to be a rich fishing ground, waste water effluents containing high concentrations of oil and Hg have devastated the marine ecosystem.

Coordination of government actions continues to be a problem. Presently, more than ten ministerial levels are engaged in the development and management of Bohai Sea, apart from the provincial, county and community levels. It is very difficult to set up a development plan with uniform objectives within the present management structure. There are many contradictions between different sectoral planning approaches, and in the absence of an institutional framework of management mechanism, coastal and marine resources are being destroyed.

Multiple use conflicts needs to be addressed in the following areas:

1. Between fisheries and tourism sectors;
2. Between petroleum production and fisheries sectors;
3. Between salt pans and fisheries sectors;
4. Conflicts between coastal land use, for example preservation of wetlands versus development of pulp and paper mills;
5. Conflicts in coastline use, arising from the absence of a zoning plan.

An integrated, management approach to addressing problems of coastal and marine environmental pollution would need to consider:

1. Development and prioritization of regulations for functional zonation, protected areas, standards for mariculture wastes, oil spill response and clean-up, disaster prevention and management, standards for discharge of waste water, and environmental reporting;
2. Reduction and control of land-based pollution sources. This would involve the promotion of pollution prevention approaches and technologies. In the shorter term, however, the establishment of waste treatment facilities will serve to mitigate existing problems;

3. Reduction and control of sea-based pollution sources. Port and ship waste reception and treatment facilities will be required.

#### PHILIPPINES: MANILA BAY

Manila Bay is situated within the administrative boundaries of three regions of the Philippines, the National Capital Region (NCR) and Regions 3 and 4. The basin covers an area of about 17,000 km<sup>2</sup> and is ca. 11.3 times the area of the bay, which is approximately 1,510 km<sup>2</sup> (Figure 1).

Manila Bay is an important economic resource with manifold and usually competing uses. The increasing urbanization of Manila, e.g., reclamation of foreshore areas has destroyed the coastal areas and estuaries which serve as spawning grounds of many economically important fishes. Aquaculture structures such as fish corrals, pens and cages obstruct navigation. Red tide phenomenon, which is caused by the bloom of harmful dinoflagellates, is causing paralytic shellfish poisoning. The water quality of the Manila Bay has continuously deteriorated due to increased discharges, particularly of domestic and industrial origin.

The hygienic water quality is poor at Navotas Fish Port, Luneta Park and Bacoor. The hygienic quality at the beach resorts is not in compliance with the criteria for bathing water quality.

Changes in the water quality of Manila Bay in 1996-1997 have been seasonal. The wet season is characterized by a stratification of the water column, development of critical oxygen deficiency in the bottom water, phytoplankton blooms and peaks of high concentrations of nutrients.

The rate of sedimentation (3-4 kg DM/m<sup>2</sup>/yr) and the net accretion of the sediment (1.3-1.4 cm/yr) are high in the northern part of the bay and is comparable with previous estimates based on different methods. The content of the heavy metals, mercury and cadmium, in the sediment is below the detection limits of the analytical methods applied. The concentrations of copper, chromium, lead and zinc close to the port area and Pasig River are relatively higher during the wet season. The increase in heavy metal concentration in these areas may be attributed to increase loads in the wet season. PCBs and organochlorine pesticides have not been detected in the sediment samples analyzed during the dry and wet season. High concentrations of polyaromatic hydrocarbons have been identified particularly at the port area and Pasig River.

The total biomass and total abundance of the bottom fauna are relatively rich in the northern and central part of Manila Bay in the dry season. The bottom fauna is poor in a confined zone south of Pampanga Bay and in a large area west and south of Pasig River. The poor bottom fauna close to the large rivers may be attributed to the excessive sedimentation in Pampanga and the accumulation of organic matter and heavy metals in Pasig River. Seasonal variations in the oxygen concentrations in the bottom water are suggested as a main factor determining the observed changes in biomass and abundance in bottom fauna. The interpretation is supported by the small sizes of

mussels indicating frequent disturbance of the benthic community.

Oysters and mussels are contaminated by faecal coliforms. The contamination appears to be higher during wet season and close to the large rivers. The contents of Cd, Cr, Pb and Hg in oysters and mussels are below the detection limit in the wet season. Concentrations of Cu and Zn are similar in the mussels and close to a natural level. The content of Cu and Zn is 10 to 20 times higher in oyster compared to mussels. The organic compounds PCBs and PAH were not detected in oysters and mussels in the wet season. However, pesticide contamination was detected in all samples.

Manila Bay fisheries possess the characteristics typical of an overfished fishing ground. There is fluctuation of annual production, decreasing trend in catch per unit effort (CPUE), decreasing trend of the average size of fish, succession of species composition, decline in the number of species per fishing operation and the increasing of boat density. Study showed a massive economic and biological overfishing of its demersal resources.

In addition to the above, the management of Manila Bay is hampered by socio-political and interagency conflicts.

#### **THAILAND: GULF OF THAILAND**

The Gulf of Thailand constitutes a portion of the shallow Sunda Shelf, opening to the South China Sea. The Gulf is approximately 720 km in length, with a maximum depth of 84 metres. It serves as a major marine resource for fisheries/aquaculture, coral and mangrove resources, and oil and mineral resources.

The pollution problems in the Gulf can be prioritized based on the following categories:

1. **Untreated municipal and industrial wastewater.**

Most natural waterways serve as sinks for domestic and industrial wastewater. The Chao Phraya River, for example, receives 60-70% of domestic, untreated waste from the Bangkok Metropolitan Area (BMA), which eventually flows into the Gulf. Biological oxygen demand (BOD) loads and bacterial contamination are very high.

2. **Eutrophication.**

Eutrophication is only recently apparent in Thailand. In the Gulf, blue-green algae blooms are more frequent, causing discoloration. Red tides also occur on the west coast of the Gulf. These phenomena inflict heavy losses to the shellfish and fish farming industries.

3. **Trace metals contamination.**



The main rivers in Thailand (Chao Phraya, Bang Pakong, Mae Klong, Tha Chin, Petchaburi, and Pran Buri) contain high levels of organic wastes, suspended solids, heavy metals and bacteria. Elevated levels (much higher than world standard) of chromium, copper, iron, mercury, manganese, lead and zinc are found in estuarine waters. Pesticide contamination in some of these river systems is evident as well.

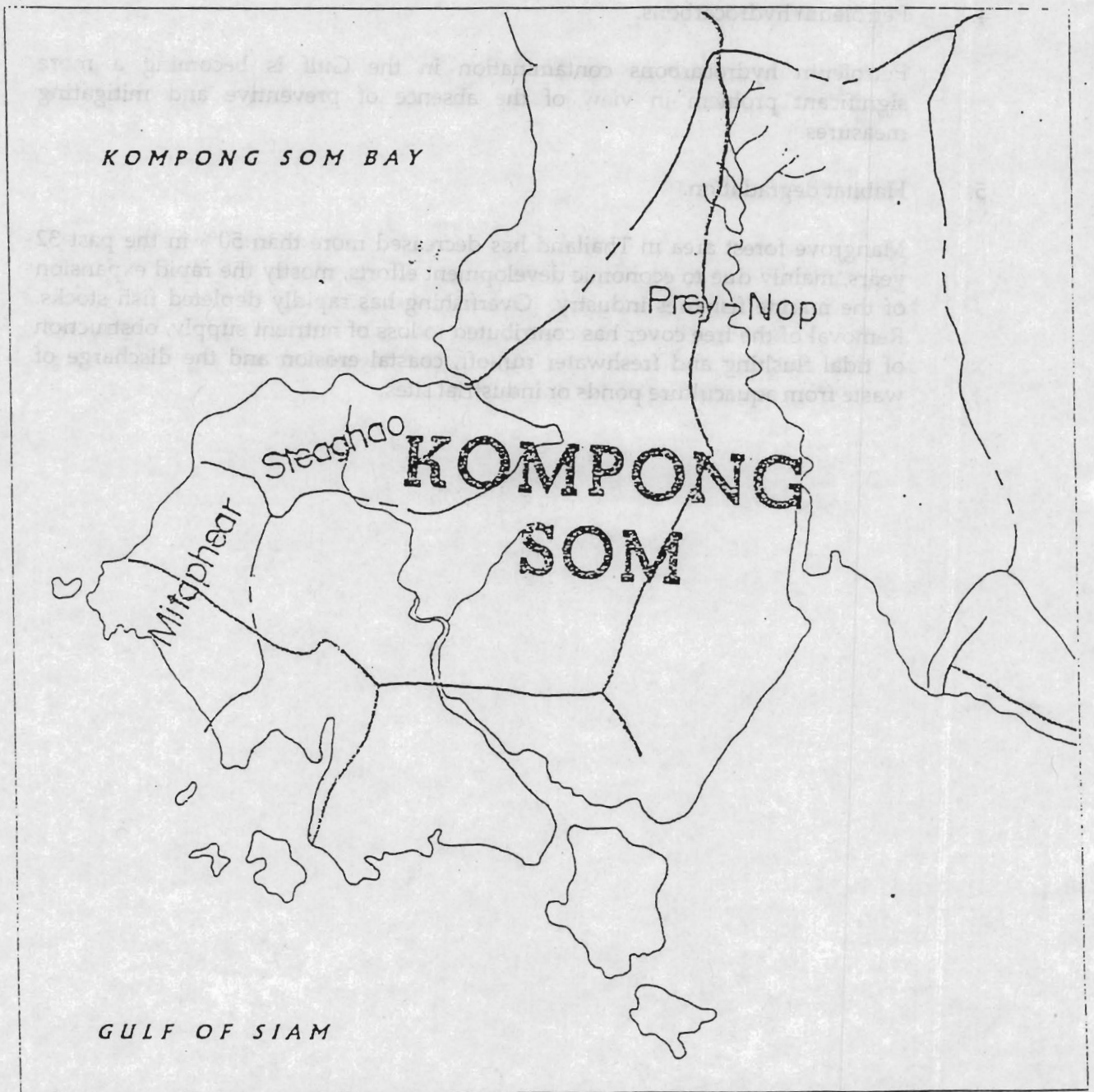
4. Petroleum hydrocarbons.

Petroleum hydrocarbons contamination in the Gulf is becoming a more significant problem in view of the absence of preventive and mitigating measures.

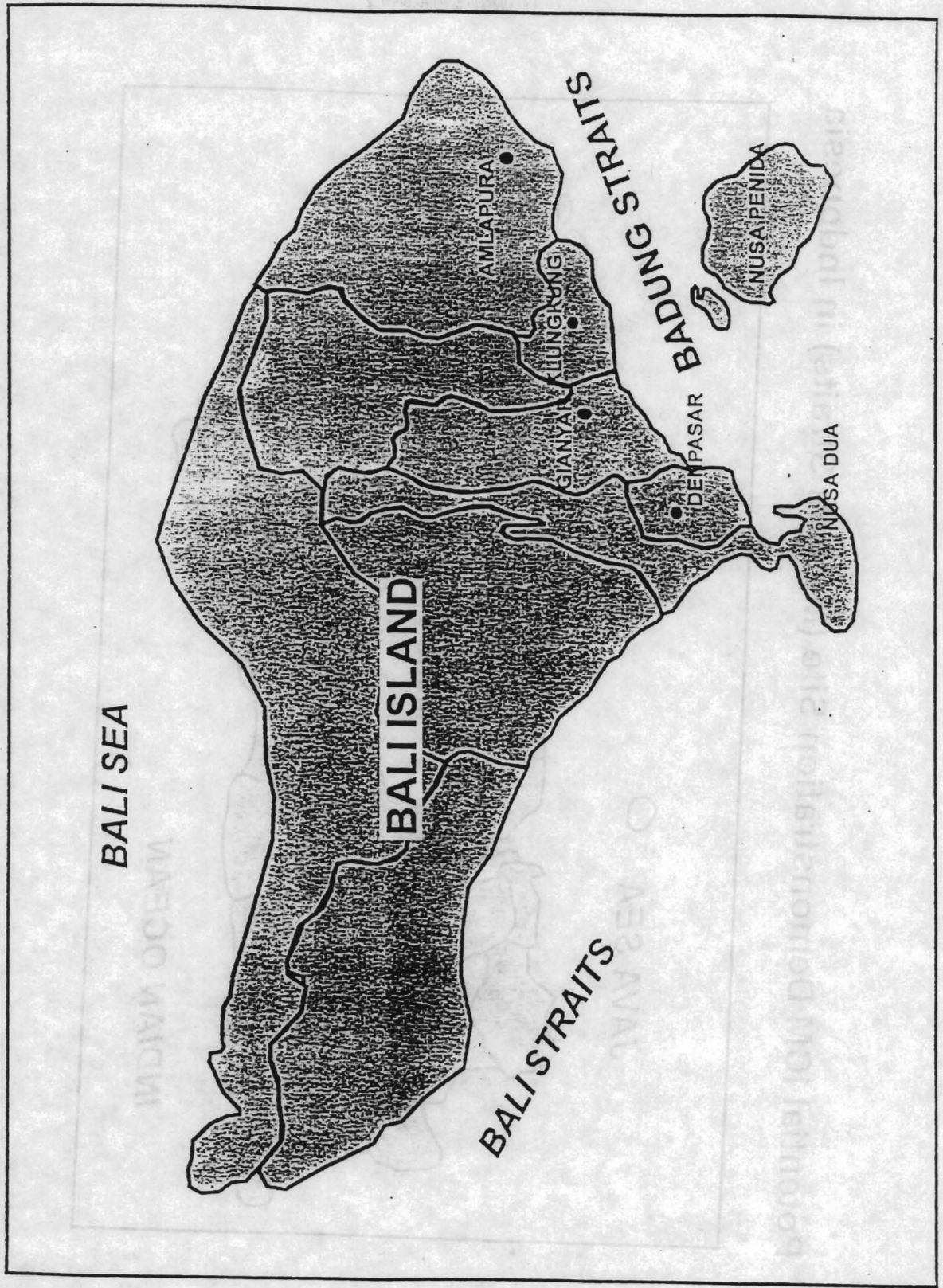
5. Habitat degradation.

Mangrove forest area in Thailand has decreased more than 50% in the past 32 years, mainly due to economic development efforts, mostly the rapid expansion of the marine fisheries industry. Overfishing has rapidly depleted fish stocks. Removal of the tree cover has contributed to loss of nutrient supply, obstruction of tidal flushing and freshwater run-off, coastal erosion and the discharge of waste from aquaculture ponds or industrial sites.

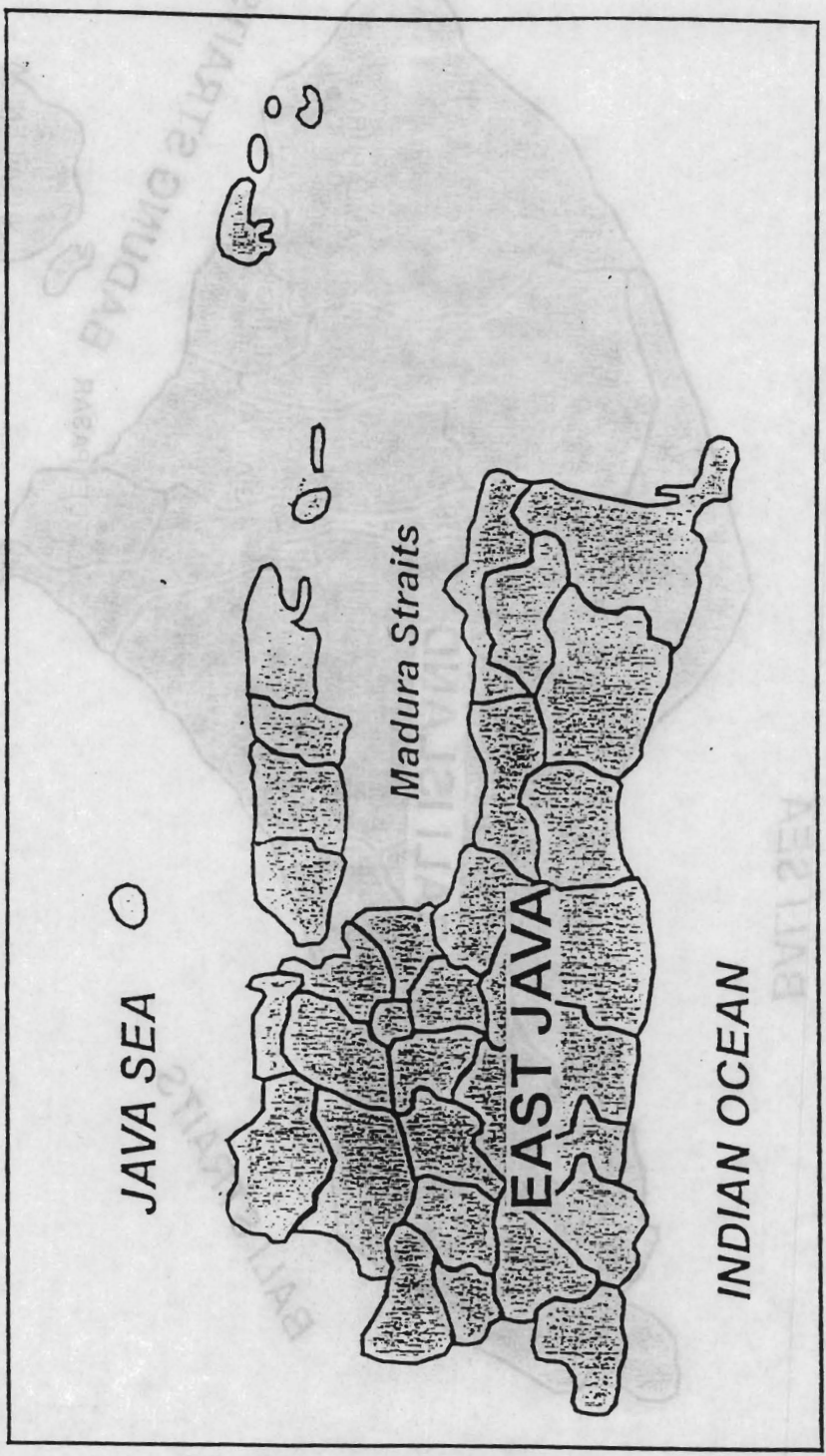
# Potential ICM Demonstration Site in Cambodia: Kompong Som, Sihanoukville



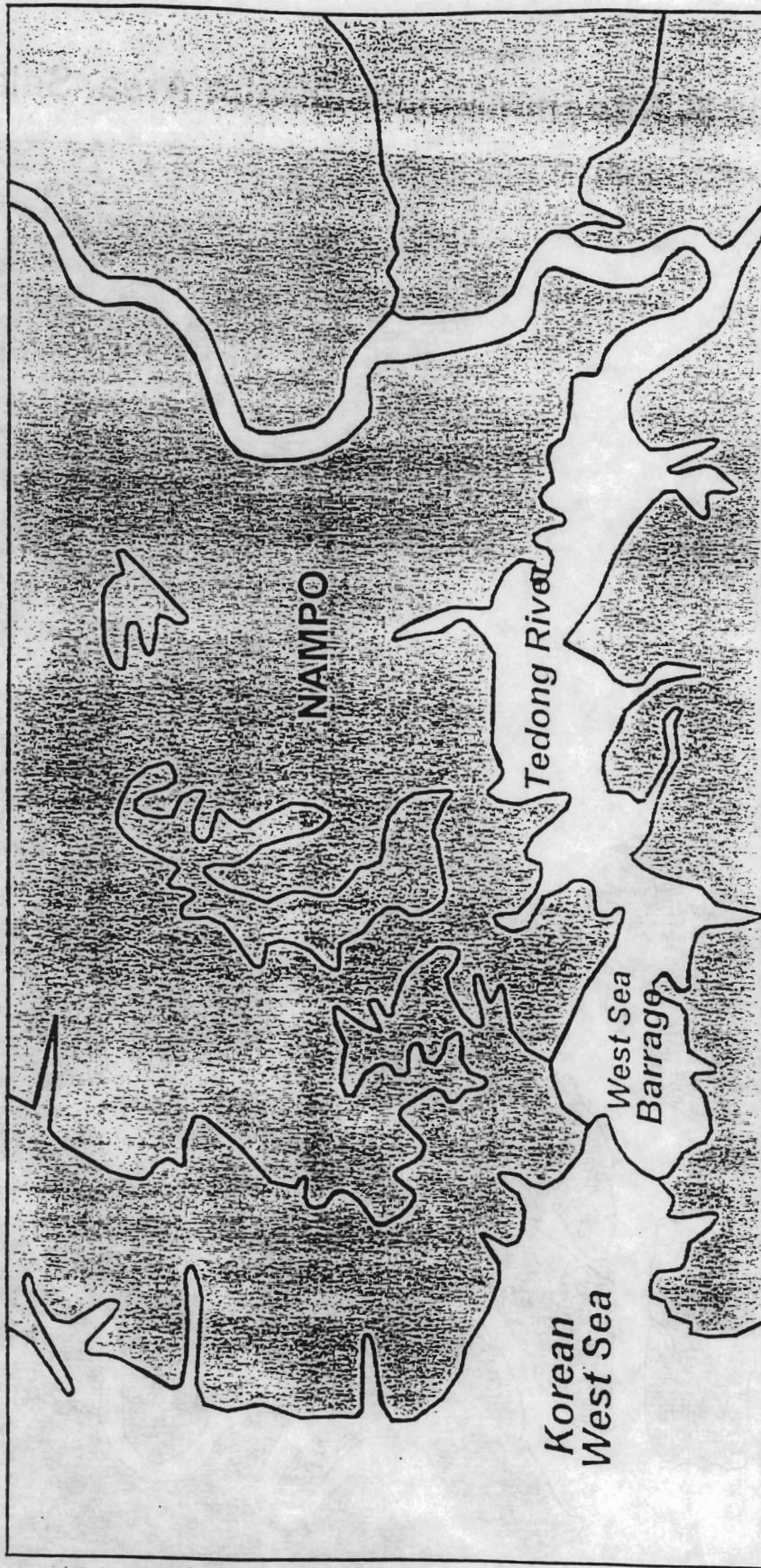
Potential ICM Demonstration Site (Southeast Bali Island) in Indonesia



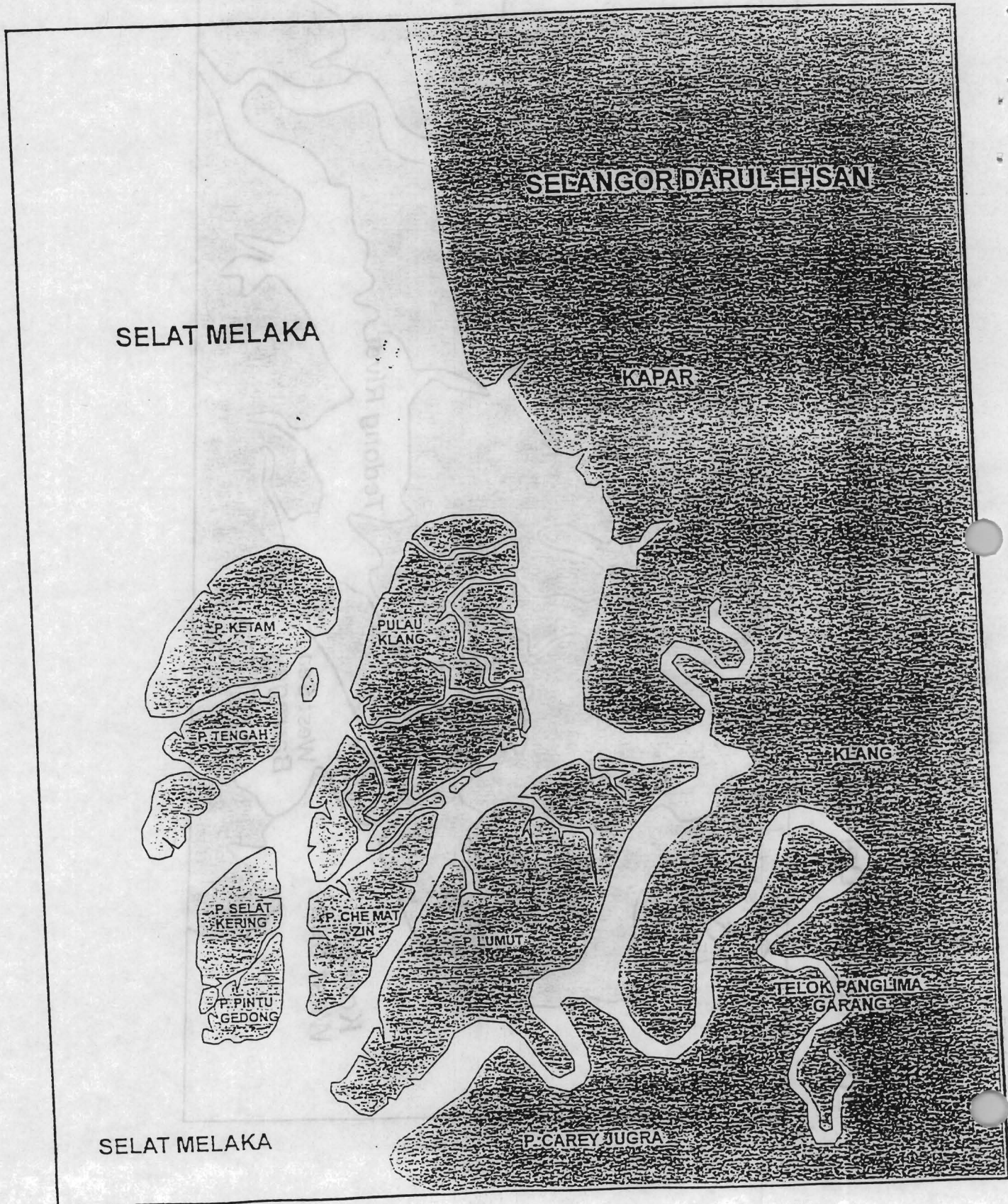
Potential ICM Demonstration Site (Madura Straits) in Indonesia



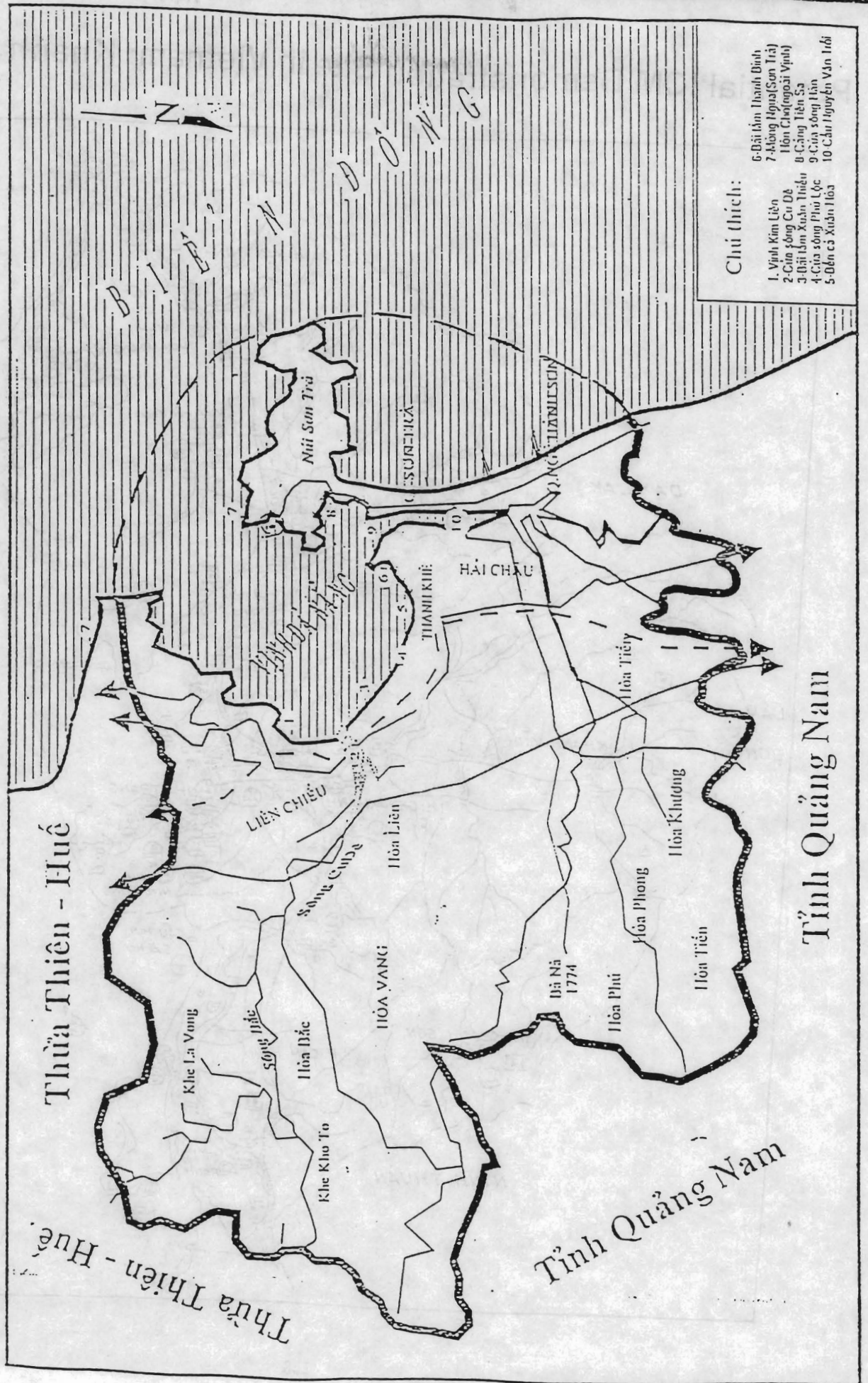
Potential ICM Demonstration Site in DPR Korea: Nampo Region



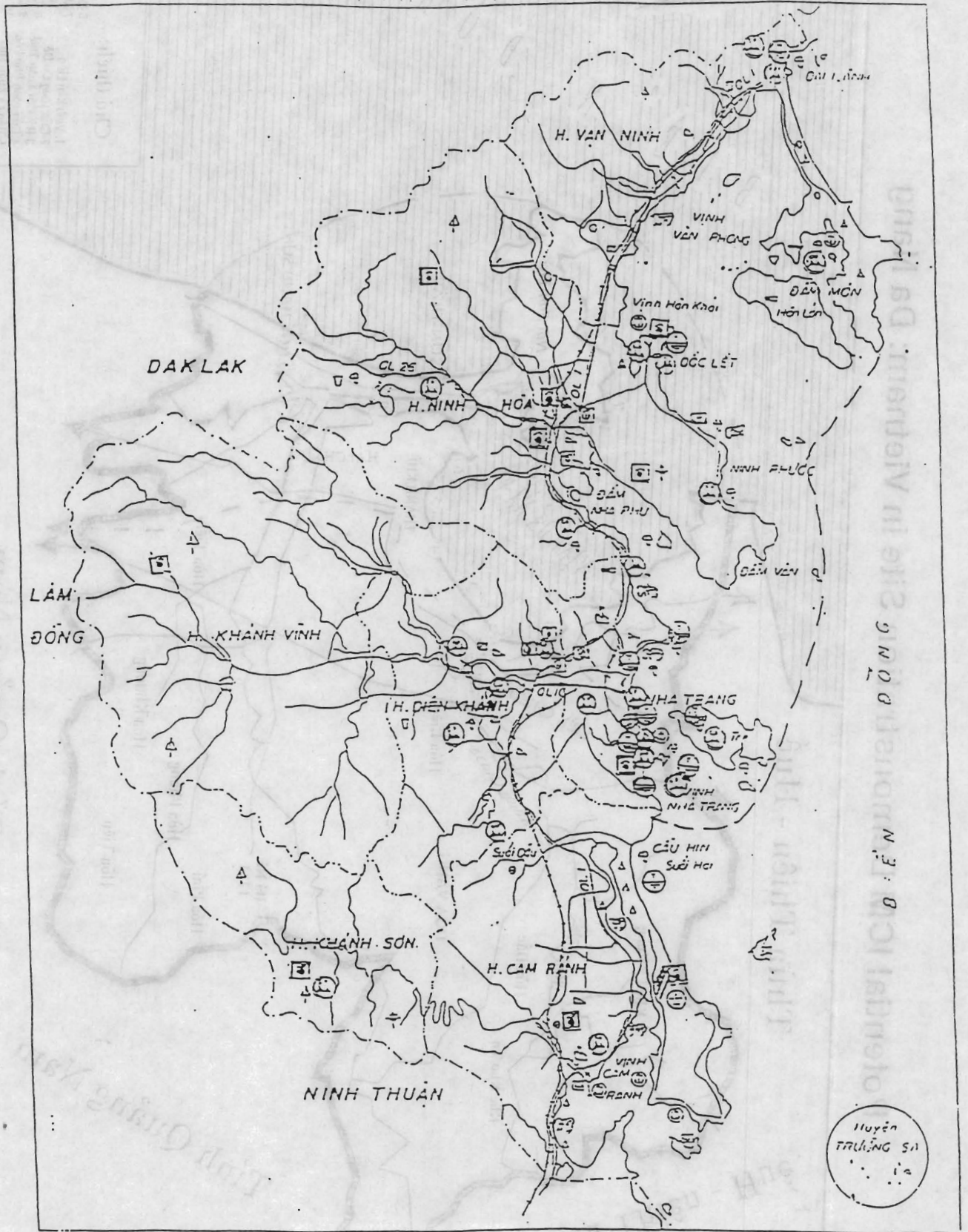
# Potential ICM Site in Malaysia: Klang Area, Selangor



# Potential ICM Demonstration Site in Vietnam: Da Nang



# Potential ICM Demonstration Site in Vietnam: Khanh Hoa





## ANNEX VIII

### Country Strategies: Coastal and Marine Environment

Since 1992 UNCED, there has been an increased awareness in the countries of the region regarding environmental problems and management issues relating to coastal and marine environment. Many countries have put these issues on their political agenda. This is evidenced by the development of new laws and regulations addressing various aspects of coastal and marine affairs. However, most countries have yet to implement the integrated approaches to managing coastal land and water uses on the national and local levels.

Brunei Darussalam has formulated an Integrated Coastal Zone Management Plan (ICZMP) and developed several site-specific action plans. This includes the Red Tide Action Plan activated during the Red Tide occurrences in Brunei or neighbouring countries, which has been useful in protecting public health. The development of a Coastal Sensitivity Environmental Map has assisted in the creation of better strategies for oil pollution preparedness and response. Part of the ICZMP was oriented to the development of institutional arrangements, such as the National Project Steering Committee, the appointment of a National Project Coordinator, and a full time Project Assistant. Coastal resource management components of this plan have been incorporated into the existing government program fabric, which is strengthened by the use of regional experts to fill gaps where local expertise is not sufficient. Despite having a small population with less dependence on living coastal resources than many of its regional counterparts, the experience of Brunei suggests that there is a need to use precautionary or anticipated approaches to ICM, especially where there is a lack of appropriate legal and institutional framework. Under the current 7<sup>th</sup> National Plan, a new Environmental Unit is proposed. Should this eventually become elevated to Department-level status, with responsibility for the administration of an Environment Act and legislated EIA guidelines, environmental management will be greatly enhanced. This would enable longer term sustainable development, as well as provide the appropriate framework for shorter term economic diversification plans.

Before 1993, national legislation in Cambodia was developed for fisheries, forest and land uses in urbanization and construction, as well as for protected areas. In September 1994, the government began considering the development of environmental impact evaluation mechanisms and processes. The Ministry of Environment has the lead role in coastal zone planning, including preliminary master plans, local management plans for areas with intense activities, institutional arrangements, infrastructure and services, and compliance monitoring. The government is keenly aware of the urgent need for the development of human resources and infrastructure to implement strategies for sustainable economic growth.

China has established a dedicated "Ocean Agenda 21" that articulates in analytical detail, problems of the coastal and marine environment and its programming approaches. The strategy addresses strategies and countermeasures, sustainable development of marine industries, sustainable development of ocean and coastal areas,

sustainable development of islands, conservation and sustainable utilization of marine living resources, promotion of sustainable ocean development through science and technology, integrated management of coastal areas and national jurisdictional waters, marine environmental protection, natural marine disaster prevention and mitigation, international marine affairs, and public participation.

The 1992 UNCED heightened awareness of the impact of coastal development on ecosystems. The State Oceanic Administration (SOA), in collaboration with the Ministry of Finance, developed a new system for screening coastal development projects in 1993 (the Preliminary Management Rules on the Uses of National Marine Areas). Under the new system, users of coastal waters are required to apply for permits and to pay rent for their exclusive use of a certain marine space. The applications are reviewed based on marine functional zoning principles and a number of related guidelines, with a view to easing use conflicts and ensuring sustainable benefits from these uses for society as a whole.

The Rules carefully avoid touching on coastal spatial management above the high-water mark, where concerned agencies have developed their own vested interests over time. Despite their limited scope, the Rules have provided operational mechanisms and modalities for the implementation of ICM goals, and they apply market-based instruments in managing marine-resources. However, the Rules have not yet acquired the status of major national legislation; this would require their adoption either by the People's Congress or the State Council; but, again, interagency consensus is lacking. Despite the current stalemate on the Rules at the national level, they have had great impact on the local level. Thus far six coastal provincial governments have taken their own legislative or administrative actions based on the Rules. A new pattern of coastal management is emerging, with local governments taking the initiative.

The Supreme People's Assembly of DPR Korea enacted the Land Law in 1977, and the Environment Protection Law in 1986. The State Hydro-meteorological Administration is responsible for marine environmental research, monitoring and services, and managing two oceanographic research institutes and six coastal environmental observation stations. Other agencies concerned with coastal management include the Ministry of Land and Environmental Protection, Ministry of Fisheries and Maritime Administration. These agencies have expressed interest in the adoption of integrated approaches to coastal environment and natural resources management.

The Indonesian Agenda 21 National Strategy for Sustainable Development devotes one of 18 chapters to "Integrated Management and Sustainable Development of Coastal and Marine Areas". The strategy for this sector identifies the various actors, including multilateral and bilateral development assistance agencies, government agencies, universities, and NGOs. It makes a cursory identification of problems and outlines a "problem-centered" programming approach in these areas: integrated planning and resource development in the coastal zone, sustainable utilization of marine resources, enriching and empowering coastal communities, sustainable development of small islands, maintaining the security of the exclusive economic zone, and managing the impacts of climate change and tidal waves. The National Strategy also attempts to link

these programming strategies with other relevant areas, including liquid and solid waste management, water resources management, and biodiversity conservation. Indonesia's comparative advantage flows from its recognition of coastal areas and marine waters as part of its territory, vital to survival. It represents one of the countries in the region with a well developed environmental management framework. Indeed the basic legislation follows international standards. It is in the implementation of the regulations that more action needs to be taken. Efforts need to be directed towards the utilization of market-based instruments to enforce environmental standards. Moreover, the institutional framework, as described in Section A4, is unwieldy and gives rise to confusion with respect to coordination and jurisdiction.

Japan has yet to appreciate fully the Agenda 21 and related recommendations, and work towards establishing a comprehensive coastal and marine environmental management framework. At the national level, the Ocean Development Council, comprised of academic and business leaders, was established in 1961 (as the Marine Science and Technology Council) to advise the government on pertinent issues, mainly those arising out the UNCLOS. The most typical problems Japan faces are the multiple use conflicts between fisheries activities, and what are termed "new ocean uses". The latter would include subsea oil and gas exploration, breakwater construction for ports and harbours, reclamation projects, offshore installations and marine recreational activities. Under what many analysts refer to as a 'fisheries-centric' system, the fisheries sector (through cooperatives) usually receives compensation for any impingement or perceived impingement on their rights. Given the fact that Japan consumes over 15 million tons of fish and fish products per annum, the country is currently reviewing its policy towards living marine resources. A similar review is underway with respect to the development and utilization of sea-bed and sea-water resources.

Local prefectures govern coastal areas through a range of ordinances and rules, each however with a different set of priorities and, to an extent, modus operandi. This is mirrored at the national ministerial level. In order to try and streamline coastal and marine responsibilities, the national government initiated a research project to 'mitigate' these factors. Participating agencies included the five major agencies responsible for coastal and marine matters. The Ministry of Transport examined case studies in port and harbour management with respect to the environment; the Ministry of Construction and the Ministry of Agriculture, Forestry and Fisheries conducted studies on shoreline policies, the Fisheries Agency carried out studies on fishing-port construction. The study results were mixed, although some experimental initiatives have been launched, for example the construction of Kansai International Airport in Osaka Bay using a 'loose slope' design, which appears to conserve seaweed and fish populations. Japanese policy makers continue to deal with the suggestion to create a Ministry of Maritime Affairs.

Malaysia has outlined its coastal and marine environmental management framework as part of its National Development Policy Plan and the Malaysia Plan. The concept and philosophy is that of a singular law dealing with a comprehensive range of issues such as air, water, noise and land pollution. A one-agency approach is being formulated to ensure coherence and uniformity in strategies and implementation in dealing with all types of pollution and environmental problems. Policy and programmes are essentially

led by the Ministry for Science, Technology and Environment (MOSTE), and the Environmental Quality Act serves as the main legislation governing this sector, with complementary pieces of legislation dealing with the exclusive economic zone, shipping mining and oil pollution.

The Philippine Agenda 21 has, in its National Agenda for Sustainable Development for the 21<sup>st</sup> Century, one section dealing with the Coastal and Marine Ecosystem. In this section issues and concerns are described, a strategy and action agenda presented for each, targets established, with a timetable drawn, and institutional responsibility allocated. It classifies issues and concerns into the following categories: policy and legal, uncoordinated and conflicting uses of the coastal and marine ecosystems, deterioration of shore and water quality due to pollution, sedimentation and coastal erosion, socio-economic issues, and lack of capacity to effectively manage coastal and marine ecosystems. Within each category, there are subcategories and related action items. The National Agenda of the Philippines also outlines and implementation framework, and proposes an area-based scale of intervention, with specific projects targeting specific regions and subregions. The implementation framework envisions: strengthening the role of major groups, information, an education and communications plan for sustainable development, financing means and strategies, as well as local and regional action agendas.

The Philippines is among those countries that have introduced an operational EIA system as a tool in planning and management. The environmental policy provides the legal foundation for the classification of projects as those that are environmentally-critical projects (ECPs), or located in environmentally-critical areas (ECAs). It requires the preparation of EIA in these areas or projects, and the procurement of an Environmental Compliance Certificate (ECC) before any project with anticipated significant environmental impact can be undertaken (although there are exceptions). There are sanctions for non-compliance with the requirement of securing an ECC. The experience with ECCs has been mixed, and amendments to the requirements, such as the establishment of a "guarantee fund" mechanism provided by the project proponent for rehabilitation, compensation and contingency clean-up in case damages are incurred as a consequence of project construction, operation and abandonment.

As over six years have passed since the Earth Summit, countries have also had a chance to examine and assess their experiences in the implementation of their responses to Chapter 17. The Republic of Korea, to illustrate, has achieved a far greater understanding of the interrelationships between coastal and marine environment with other ecosystems and spheres of activity. Their experience to date suggests that, in view of this complexity and the manifold consequences of current patterns of development, there is a need to re-consider or re-invent its marine policy and strengthen ocean governance capabilities. Within this framework, mechanisms to address coastal and marine environmental problems are being explored. This includes the creation of the Ministry of Maritime Affairs and Fisheries in 1996, passing of new legislation such as the New Port Construction and Promotion Act in 1996, as well as modify existing legislation, such as the Prevention of Marine Pollution Act. These efforts culminated in the establishment of a working committee to draft a new Coastal Management Law.

By recognizing the rapid degradation of coastal resources and responding to Agenda 21, the Government of the Republic of Korea launched a series of initiatives to apply the concepts of integrated coastal management (ICM). In the Marine Development Basic Plan of 1996, the government proposed to establish a national mechanism for implementing ICM principles through the Coastal Management Act, and development of the Coastal Management Plan. To support national level efforts, an ICM pilot study was carried out by the Korean Ocean Development Research Institute (KORDI) since 1994, in one of the most severely impacted estuarine systems on the south coast, Chinhae Bay. The goals of the study were to develop an ICM model that would be implementable in the Korean coastal governance system, and to identify area-specific solutions for the sustainable development of coastal resources. The need for a framework to resolve multiple use conflicts is among the more important factors to consider. The Ministry of Construction and Transportation, Ministry of the Environment, and Ministry of Science and Technology are among the leading agencies in implementing the proposals that emerge from this experimental initiative. The Republic of Korea has yet to consolidate a vision, development effective coordination mechanisms, and integrate information and decision-making processes. Their coastal and marine environmental management experience is evolving.

The Republic of Singapore has paid significant attention to environmental protection and conservation, symbolized by the establishment of a well-endowed, strongly empowered Ministry of Environment. Traditionally, economic development and growth have taken precedence over environmental management, although there has been a decided shift in recent years. The Singapore coastal zone has undergone a complete transformation through land reclamation, construction of sea and airports and other structures, amalgamation of small islands, removal of coastal vegetation and coral reefs and the heavy use of coastal waters for port operations. While the current trend at the level of government is to conduct 'discretionary' EIAs, there is a concern among an increasingly better informed public that mandatory EIAs, at least in environmentally fragile areas, should be standard practice. Singapore has moved away from the single sector approach that typifies traditional coastal management practice, and has recently created the Maritime and Port Authority (MPA) coupled with a system of interagency consultation through the Master Plan Committee, as well as ad hoc consultations with the private sector. There is a belief, however, that the MPA does not go far enough to recognize the inextricable link between land and water, and that given the small size of Singapore natural coastal environment, more proactive approaches towards conservation should be taken.

Thailand's sustainable development challenges (post-UNCED) are outlined in its 8<sup>th</sup> National Plan (1997-2003). Elements of the plan that are relevant to this subsector include: integrated approach to the planning and management of land resources, combating deforestation, conservation of biological diversity and sustainable use of biological resources, management of solid and sewage-related wastes, management of toxic substances and hazardous wastes, and protection and management of ocean and coastal resources. Within each sector there is a statement of the problems, issues and concerns, with supporting data. This is followed by an assessment of the progress

achieved to date in addressing these problems. With respect to the protection of ocean and coastal resources, the plan calls for:

1. The enhancement of management and development; at the policy level, on coastal resources and water quality, on coral reef and seagrass, on small scale fisheries;
2. Local and public participation; under the new Environmental Quality Promotion Act local administrations can declare effluent standards governing the sources in its jurisdiction at levels above the national or provincial standards. Local authorities are also empowered to conduct inspections and issue operating permits. Public participation in monitoring and collaboration through NGOs is encouraged;
3. Integrated resource management to balance biodiversity conservation and resource development;
4. Coastal environmental management strategies and techniques, such as basic requirements for EIA reports and the promotion of central waste treatment plants. Highlights include the promoting decentralization of management systems, close cooperation between public and private sectors in specialized areas, and possible ratification of two relevant international conventions;
5. Sustainable use and conservation of marine living resources, with emphasis on fisheries.

In 1991, the National Plan for Environment and Sustainable Development (NPESD)(1991-2000) in Vietnam, was developed, in conjunction with a Tropical Forest Action Plan (TFAP), by the State Committee for Sciences. The NPESD identified the need for a clear law on the environment, and outlined Vietnam's policy for conservation with special emphasis on priority action areas. The Law on Environmental Protection, passed in 1994, defined institutional responsibilities and paved the way for a series of actions in related fields, including some aspects of the MARPOL and UNCLOS. Sectoral programmes include those related to population, agricultural development, fisheries development, forestry, land restoration, protection of indigenous culture, power generation and development of the Mekong River. It also provided the rationale for the formation of the Ministry for Science, Technology and Environment (MOSTE), ratification of the Convention on Biological Diversity and the establishment of a Biodiversity Action Plan (BAP). Marine conservation represents one part of the BAP. Institutional responsibilities for various elements of Vietnam's marine conservation strategy, span across the State Planning Committee, National Environment Agency, the MOSTE, the Ministry of Forestry, the Ministry of Agriculture and Food Industries, the Ministry of Fisheries, the Ministry of Education and relevant law enforcement agencies. The central Government recognizes the threats to the coastal and marine environment and the need for local or community participation in definition and execution of programmes. It has initiated a marine and coastal conservation programme which consists of: the protection of marine areas, control of fisheries industries and the creation

of an integrated coastal zone management strategy. This is supported by a series of complementary actions related to biodiversity conservation.

of an integrated coastal zone management strategy. This is supported by a series of  
complementary actions related to biodiversity conservation.



## ANNEX IX

### Prior and Ongoing Assistance

The International Maritime Organization (IMO) has promoted the implementation of international conventions such as MARPOL 73/78, OPRC 1990, and the London Convention 1972. It is also recognized as a "competent international organization" with respect to the United Nations Convention on Law of the Sea (UNCLOS). The IMO has executed programmes to strengthen oil spill countermeasures in the Lombok/Makassar Strait and the Sulawesi Sea. It has developed an aerial remote sensing surveillance capability for detecting marine pollution in the ASEAN region, and ASEAN computer network data bank for marine pollutants and incidents, and an ASEAN Oil Spill Response Action Plan. It has also developed a monitoring and surveillance system for marine pollution along China's coastline. Under the Oil Spill Preparedness and Response (OSPAR) Project, IMO has co-sponsored activities with Japan which provided equipment to the original six ASEAN countries for combating oil spills in the region. An Information Network System for oil spill preparedness and response will also be established under the programme. IMO has co-sponsored two Environmental Impact Assessments (EIA) on port development in conjunction with the World Bank and ESCAP, and has also helped develop and EIA handbook on Port Development. More recently, the IMO produced the Global Waste Survey, which assesses issues related to the management of hazardous and industrial waste in 17 countries.

In response to the UNCED Agenda 21, IMO has provided a framework for consideration of additional measures to address degradation of the marine environment from sea-based activities. Such measures are focussed on marine pollution identification and protection of particularly sensitive and high risk sea areas, environmental impact assessment, mitigation of adverse consequences of port development and operation, and offshore oil/gas activities. Of particular relevance are the following activities:

1. Assessing the state of pollution caused by ships in particularly sensitive areas identified by IMO and taking action to implement applicable measures where necessary, to ensure compliance with generally accepted international regulations;
2. Taking action to ensure respect of areas designated by coastal states, within their exclusive economic zone and consistent with international law, in order to protect and preserve rare or fragile ecosystems, such as coral reefs and mangroves; and
3. Assessing existing regulatory measures and standards related to safety and emissions from offshore oil and gas platforms.

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has supported a programme on coastal environmental management plans (CEMP) in Thailand and the Philippines. This programme focussed on generating multidisciplinary studies in such areas as marine pollution, environmental health,

forestry, fisheries, water resources, among others, that lead to the preparation of guidelines for respective national governments. The UNESCAP has also supported programmes on coastal management for tourism, environmental impact of coastal development, the management of non-living resources in coastal areas and the application of geoscience to coastal management. The Economic and Social Commission for Asia Pacific (ESCAP), which covers a wide area in the Indian and Pacific Oceans, has supported several initiatives related to marine and coastal environments. Coastal environmental management plans have been prepared for several Asia and Pacific Rim countries. Moreover, ESCAP supports training on marine and coastal resource issues and publishes guidelines for management of hazardous industrial waste.

The East Asian Seas Region represents one of 13 functional regions within the United Nations Environment Programme (UNEP) Regional Seas Programme. The East Asian Seas Regional Action Plan, initiated in 1981, has been endorsed by 10 countries. The Coordinating Body on the Seas of East Asia (COBSEA), based in Bangkok, serves as the focal point for management and administration of this Action Plan. The UNEP has facilitated the establishment of the Regional Seas Programmes for most of the original ASEAN nations, and the North-West Pacific (China, DPR Korea, Japan, Republic of Korea and Russian Federation). The former is implemented by the Coordinating Body for the Seas of East Asia (COBSEA) through an adopted Action Plan. To date, the many programmes implemented by COBSEA have dealt with oil spill contingency planning, examination of mangrove ecosystems, seminars of EIA, studies of marine pollution. COBSEA also established a Regional Coordinating Unit for managing of these activities.

The Intergovernmental Oceanographic Commission (IOC), associated with UNESCO, has been active in marine research, ocean services, training, education and mutual assistance in the region. Through the Sub-Commission for the Western Pacific Region (WESTPAC), the IOC has developed a programme on marine pollution research and monitoring. This project consists of three sub-projects, including assessment of river inputs, implementation Mussel Watch, and assessment of atmospheric pollutants. WESTPAC, in assessing their response to UNCED, supports multidisciplinary studies in the Gulf of Thailand, the Gulf of Tonkin and the Straits of Malacca. IOC/UNESCO has also been active in this area, providing support to the Mussel Watch programme in Indonesia through training and laboratory upgrading. UNESCO through its Regional Office for Science and Technology in East Asia (ROSTEA) in Jakarta, has also supported the laboratory network.

The World Bank, through its Environment Department has in the past five years, financed over 50 projects that contain significant coastal and marine components. These projects are valued at approximately USD 10 billion, of which thirty per cent represent loan financing. Asian Development Bank loan projects targetting the coastal and marine environment, on a sectoral basis, total about USD 600 million over the past five years, or 12% of the Bank's total lending operations in this period. Technical assistance projects for the same period account for 15% of total technical assistance operations, over USD 18 million.

Three major projects funded by bilateral donors have been undertaken in cooperation with the ASEAN Subcommittee on Marine Science, part of the Committee on Science and Technology (COST). The first, a coastal resources management project (USCRMP) funded by the USAID focussed on: analyzing trends in coastal resources development, increasing awareness of coastal resource management policies, strengthening management capabilities, providing technical solutions to resource-use conflicts, and promoting institutional arrangements for multisectoral planning. The second project, supported by the Australian Agency for International Development (AUSAID, formerly AIDAB) has two elements; living coastal resources - which deals with stability and interdependence of ecosystems, and regional ocean dynamics - which produces data on tide patterns for coastal and marine applications, as well as oceanographic data for understanding climate change. Similarly a series of linked projects on marine science, funded by the Canadian International Development Agency (CIDA) has focussed on establishing criteria for protection of marine resources and coastal enterprises, such as capture fisheries, aquaculture, tourism and recreation. The programme also enhances capabilities of marine science institutions in areas related to quality and standards for marine environment, measurement tools and methods, establishment of a regional network for exchange of information on red tide and marine pollution, training of marine scientists, and preparation of technical guidelines and materials. These activities have been added to the formation of the ASOEN's Working Group on ASEAN Seas and Environment and the ASEAN Council of Petroleum Plan for the Control and Mitigation of Marine Pollution.

The Malacca Straits Revolving Fund was set up in 1981 to deal with oil pollution from ships in the Straits of Malacca and Singapore. Signatories to this Memorandum of Understanding (MoU) are Indonesia, Singapore, Malaysia, and the Malacca Straits Council (MSC), a Japanese non-government organization. Under this MoU, a fund, initially in the order of USD 3.3 million, is used to facilitate immediate clean-up operations in the event of an oil spill. The Revolving Fund is available to any member of the three littoral countries. Funds used are returned based on prescribed guidelines. The Revolving Fund Committee, made up of one member from each littoral country, is managed by one country for a period of five years.

At the bilateral level, the Regional Marine Science Programme of the Swedish International Development Agency (SIDA) has supported many relevant initiatives in South East Asia. This includes support for the Coastal Management Center (CMC), which is a multi-country operation involved in the packaging and dissemination of scientific and technical information, among other things. SIDA has also been an active participant and funding partner in activities related to the Pilot Project, as well as related support for marine science projects at the national level in several East Asian countries. SIDA is expected to be a significant partner in the proposed Phase II project.

The United States Agency for International Development (USAID), as mentioned, provided early support for the Coastal Resource Management Projects in Indonesia and the Philippines. Since then (1993 onwards), it has also supported related projects in the area of industrial environment improvement for small and medium enterprises in these two countries. This project focussed on promoting the use of pollution management

appraisals for industrial firms, many of which are located in coastal zones. USAID has also approved financing for a new project of about USD 15 million for the Philippines, designed to institutionalize cleaner production among industries located in coastal areas. The effort is aimed at using the ISO 14000 series on environmental management systems as one tool to encourage companies to minimize waste and prevent pollution.

Canada has supported several national programmes that have a bearing on coastal and marine environmental management. In addition to the project mentioned above, CIDA has funded a series of linked projects to promote environmental management and development in Indonesia (EMDI). The latest tranche of about USD10 million, is designed to promote collaborative relationships. A significant portion of this project deals with the coastal and marine environment, particularly with respect to capacity-building, policy and implementation. In the Philippines, CIDA has just set in motion a USD 6.2 million project that will promote local government initiatives in watershed management in the provinces of Cebu and Davao. The International Development Research Centre (IDRC) through its Asia Regional Office (ASRO) in Singapore has historically provided support to the South East Asia Programme on Ocean Law, Policy and Management (SEAPOL) in conjunction with CIDA. The SEAPOL is a non-governmental network of scholars, government officials, private sector and those interested in ocean affairs in South East Asia. SEAPOL has principally been concerned with issues related to the implementation of the UNCLOS. The IDRC-ASRO programme on Sustainable Technologies funded several projects promoting public-private partnerships in areas related to coastal and marine environment, including partial support for the GEF/UNDP/IMO Pilot Project regional conference on sustainable financing mechanisms. IDRC-ASRO has ongoing programmes of relevance in the area of community-based natural resource management and biodiversity that provide support to build capacity for research and development, as well as the Pan Asia Networking (PAN) programme which provides Internet linkages between research communities and potential partners in the sharing of knowledge and application of research results. IDRC is also the lead agency in the Economy and Environment Program for South East Asia (EEPSEA), which is a multi-donor effort that promotes training and capacity-building to apply valuation techniques for application in environmental monitoring and policy activities.

There are a number of planned initiatives by each participating government that are relevant and complementary to this proposed Phase II project. Cambodia will undertake a resource inventory of mangroves in 1999 with donor funding of about USD 200,000. The People's Republic of China has a battery of projects slated to take effect between 1998 and 2000. These include a nation-side baseline marine pollution investigation, a large scale marine functional zonation programme, a total pollutant load control programme, the promotion of an institution on sea utilization, key technologies for utilization and forecast on environment and resources, ICM parallel sites, marine pollution monitoring, coastal and marine policy development, sustainable development of coastal resources (with World Bank), ICM and development in the Bohai and Yellow Seas (with Asian Development Bank), marine environmental survey of Yalu River estuary (with UNDP), marine pollution monitoring system (with Norway), oil spill prevention, ocean dumping management, marine environmental research,

implementation of international conventions. National funding for these pipeline projects is in the order of USD 61 million while USD 28.3 million will come from international donors.

Indonesia has set into motion the collaborative environmental project (with Canada), marine resource management and planning, optimization of coral reefs management and sustainable use, oil spill prevention and recovery (OSPAR) equipment maintenance and exercise, hazardous waste treatment, operation and maintenance, and coastal resources management project (with USAID). National funding of USD 44 million is planned, with USD 95 million from international donor sources. In Malaysia several projects are planned including, a pollution monitoring programme, maintenance of oil spill equipment, environmental impact assessment, hazardous waste treatment, and implementation of international conventions. Total funding from national sources is expected to be USD 16.2 million.

Initiatives in the Philippines include: the ASEAN-Australia coastal zone environmental and resource management programme, natural coastal resources management programme (with USAID), Southern Mindanao Integrated Coastal Zone Management project, fisheries sector programme Phase II (with ADB), Bais Bay development, the DENR coastal environment programme, marine pollution monitoring, the Philippine Environment Endowment Fund (with NGO support), environmental impact assessment, marine environment research, and integrated regional management of Sulu-Sulawesi LME. Funding from international donor sources is expected to be about USD 123.3 million, supplemented by USD 14.3 from national sources.

Projects planned in Thailand will address: their response to Agenda 21, anti-pollution vessel operation and maintenance costs, training on oil pollution prevention and management, marine pollution monitoring, ICM, marine environment research and hazardous waste management. The bulk of funding (about USD 58.8 million) will be drawn from national sources, with about USD 850,000 from international donors. Vietnam is planning to implement a project for industrial pollution prevention for coastal cities Vungtau and Haiphong with USD 3.75 million from the World Bank.

implementation of international conventions. National funding for these projects is in the order of USD 51 million while USD 28.3 million will come from international donors.

Indonesia has set into motion the collaborative environmental project (with Canada) marine resource management and planning, optimization of coral reef management and sustainable use, oil spill prevention and recovery (OPAR) equipment maintenance and exercise, hazardous waste treatment, operation and maintenance and coastal resources management project (with USAID). National funding of USD 44 million is planned, with USD 25 million from international donor sources. In Malaysia several projects are planned including a pollution monitoring programme, maintenance of oil spill equipment, environmental impact assessment, hazardous waste treatment and implementation of international conventions. Total funding from national sources is expected to be USD 163 million.

Initiatives in the Philippines include the ASEAN-Australia coastal zone environmental and resource management programme, natural coastal resources management programme (with USAID), Southern Mindanao Integrated Coastal Zone Management project, fisheries sector programme Phase II (with ADB), Bas Bay development, the DENR coastal environment programme, marine pollution monitoring, the Philippine Environment Endowment Fund (with NGO support), environmental impact assessment, marine environment research and integrated regional management of Sulu-Sulawesi IZM. Funding from international donor sources is expected to be about USD 123.3 million, supplemented by USD 14.3 from national sources.

Projects planned in Thailand will address their response to Agenda 21, air-pollution vessel operation and maintenance costs, training on oil pollution prevention and management, marine pollution monitoring, ICM, marine environment research and hazardous waste management. The bulk of funding (about USD 58.8 million) will be drawn from national sources, with about USD 850,000 from international donors. Vietnam is planning to implement a project for industrial pollution prevention for coastal cities Vungtau and Hai Phong with USD 3.75 million from the World Bank.

**ANNEX X**  
**Institutional Framework for Subsector**

<b>COUNTRY</b>	<b>KEY INSTITUTIONS</b>	<b>MAIN FUNCTIONS</b>
Brunei Darussalam	<ul style="list-style-type: none"> <li>a. Council on Environment</li> <li>b. Ministry of Industry and Primary Resource</li> <li>c. Ministry of Development</li> <li>d. Others</li> </ul>	<ul style="list-style-type: none"> <li>a. Interagency committee with technical secretariat; planning and coordination; monitoring and evaluation; integrated zonation; EIA; transnational collaboration; human resource development; facilities upgrading;</li> <li>b. Fisheries and aquaculture management; red tide contingency; coral/artificial reef management; mangrove management; coastal land forest management;</li> <li>c. Water quality management;</li> <li>d. Public awareness; formation of Coastal Zone Management Act; research; island management.</li> </ul>
Cambodia	<ul style="list-style-type: none"> <li>a. Ministry of Environment</li> </ul>	<ul style="list-style-type: none"> <li>a. Develop a coastal zone master plan with delineation and zoning of critical sections of coastline where intensified activity in planned or expected; local area management plans; define the institutional means for implementing requirements; liaison with government agencies; provide appropriate local infrastructure and services including wastewater management and solid waste, for areas undergoing tourism development; provide regulatory surveillance; develop local institutions for maintenance of infrastructure, compliance with environmental criteria, and surveillance of coastal zone activities;</li> </ul>
China	<ul style="list-style-type: none"> <li>a. National Environmental Protection Agency</li> <li>b. State Council Environmental Protection Committee</li> <li>c. State Oceanic Administration (SOA)</li> </ul>	<ul style="list-style-type: none"> <li>a. Formulate national standards for environmental quality and discharge of pollutants; overall freshwater systems and marine environmental management;</li> <li>b. Interministerial committee to coordinate environmental policy - primarily a consultative role;</li> <li>c. Lead agency for coastal and marine environmental affairs, including research, monitoring and assessment;</li> </ul>

COUNTRY	KEY INSTITUTIONS	MAIN FUNCTIONS
Democratic People's Republic of Korea	<ul style="list-style-type: none"> <li>a. Ministry of Land and Environmental Protection</li> <li>b. Ministry of Fisheries</li> <li>c. State Hydro-Meteorological Administration</li> <li>d. Ocean Research Institutes</li> </ul>	<ul style="list-style-type: none"> <li>a. Planning of land use and environmental policy;</li> <li>b. Fisheries and aquaculture production;</li> <li>c. Hydrology and oceanography research, monitoring and services in conjunction with the State Environment Commission;</li> <li>d. Research and development.</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>a. State Ministry for Environment</li> <li>b. Environmental Impact and Management Agency (BAPEDAL)</li> <li>c. Agency for Assessment and Application of Technology (BPPT)</li> <li>d. Indonesian Institute for Sciences (LIPI)</li> <li>e. Indonesian National Aeronautics and Space Institute (LAPAN)</li> <li>f. Pertamina</li> <li>g. Navy Hydro-Oceanographic service</li> <li>h. Directorate of Navigation and Directorate General of Sea Communication</li> </ul>	<ul style="list-style-type: none"> <li>a. policy formulation;</li> <li>b. policy implementation, monitoring and regulation, in conjunction with its three regional offices;</li> <li>c. development, adaptation and evaluation of technological interventions in environmental management, operates several laboratories for studying coastal zone processes and establishing water treatment facilities, conducting oceanographic research and mapping, creating GIS for marine resources, oceanographic applications of remote sensing data and physical modeling of ship construction.</li> <li>d. Hosts the Research and Development Centre for Oceanography (PPPO-LIPI), which conducts research programmes in marine sciences.</li> <li>e. Development and application of remote sensing technology for marine environmental monitoring;</li> <li>f. Trains and prepares for accidental oil discharges and related emergencies;</li> <li>g. Provides oceanographic information (such as navigational charts, tidal patterns) to both the Army and the public;</li> <li>h. provide navigational and safety information, with the Coast Guard to take up action as required.</li> </ul>



COUNTRY	KEY INSTITUTIONS	MAIN FUNCTIONS
Japan	<ul style="list-style-type: none"> <li>a. Ministry of Construction</li> <li>b. Ministry of Transport, Port and Harbour Authority</li> <li>c. Fisheries Agency, Department of Fishing Ports</li> <li>d. Ministry of Agriculture, Forestry and Fisheries, Structural Improvement Bureau</li> </ul>	<ul style="list-style-type: none"> <li>a. Protection from erosion and disaster;</li> <li>b. management of designated port areas;</li> <li>c. management of designated fishing areas;</li> <li>d. management of agricultural uses of coastal areas; any development, for example the building of an offshore power plant, would have to take into consideration the rules and regulations pertaining to all jurisdictions that are implicated in the development, including the local prefectures.</li> </ul>
Malaysia	<ul style="list-style-type: none"> <li>a. Ministry of Science, Technology and Environment, Department of Environment</li> <li>b. Ministry of Transport</li> <li>c. Ministry of Agriculture, Department of Fisheries (DoF)</li> <li>d. Resource Management and Protection Division of DoF</li> <li>e. National Coastal Erosion Council, Prime Minister's Office</li> </ul>	<ul style="list-style-type: none"> <li>a. General policy environmental affairs, including marine pollution and water quality monitoring, and oil spill prevention and management;</li> <li>b. Operations of ports and harbours;</li> <li>c. Management of marine fisheries;</li> <li>d. Sustainable management of fisheries resources;</li> <li>e. Technical assistance for erosion control projects;</li> </ul>
Philippines	<ul style="list-style-type: none"> <li>a. Department of Environment and Natural Resources (DENR)</li> <li>b. Environmental Management Bureau of DENR</li> <li>c. Philippine Ports Authority</li> <li>d. Maritime Industry Authority (MARINA) of Department of Transport</li> </ul>	<ul style="list-style-type: none"> <li>a. environmental policy development and coordination;</li> <li>b. environmental monitoring, compliance and enforcement;</li> <li>c. regulation and management of ports and harbours;</li> <li>d. regulation and licensing of maritime transportation and navigation activities;</li> </ul>

COUNTRY	KEY INSTITUTIONS	MAIN FUNCTIONS
Republic of Korea	<ul style="list-style-type: none"> <li>a. Ministry of Maritime Affairs and Fisheries (MOMAF)</li> <li>b. Maritime Police Administration (MPA)</li> </ul>	<ul style="list-style-type: none"> <li>a. management of shipping, ports, commercial transportation; and fisheries;</li> <li>b. industry siting plans, shipbuilding;</li> <li>c. land use planning, manage marine national parks, hydrographic surveys, public waters reclamation;</li> <li>d. establish marine development policy and plan;</li> <li>e. marine pollution monitoring, control, research, development and education; establishment of quality standards of coastal waters;</li> <li>f. monitoring, control and enforcement of fisheries affairs and marine pollution.</li> </ul>
Singapore	<ul style="list-style-type: none"> <li>a. Ministry of the Environment</li> <li>b. Maritime and Port Authority of Singapore</li> <li>c. Primary Production Department, MoE</li> <li>d. Jurong Town Corporation</li> <li>e. PSA Corporation</li> </ul>	<ul style="list-style-type: none"> <li>a. Pollution control, environmental health, control of land-based pollution and waste disposal;</li> <li>b. Harbour authority for navigation and control of marine pollution in territorial waters; port planning and regulation; maritime industry regulation; shipping matters, administration of Prevention of Pollution of the Sea Act; training;</li> <li>c. Marine Fisheries Section concerned with marine fisheries and aquaculture;</li> <li>d. Controls siting of polluting industries;</li> <li>e. Provision of commercial port services;</li> </ul>

COUNTRY	KEY INSTITUTIONS	MAIN FUNCTIONS
Thailand	<ul style="list-style-type: none"> <li>a. Office for Environmental Policy and Planning (OEPP) in Ministry of Science, Technology and Environment</li> <li>b. National Environmental Board</li> <li>c. Department of Environmental Quality Promotion of OEPP</li> <li>d. Pollution Control Department of OEPP</li> <li>e. Harbour Department, Ministry of Transport and Communications</li> <li>f. Department of Fisheries</li> </ul>	<ul style="list-style-type: none"> <li>a. policy development and coordination;</li> <li>b. overall interministerial policy development function; includes a subcommittee on coastal resource management policy and related ministerial activities (e.g. forests, transport etc.);</li> <li>c. water quality control monitoring and control;</li> <li>d. control and management of pollution;</li> <li>e. management of ports, harbours and shipping activities;</li> <li>f. management of fisheries industries and resources;</li> </ul>
Vietnam	<ul style="list-style-type: none"> <li>a. Ministry of Science, Technology and Environment (MOSTE)</li> <li>b. Ministry of Transport, Telecommunications and Post</li> <li>c. Ministry of Construction</li> </ul>	<ul style="list-style-type: none"> <li>a. overall development and management of environmental policies and programmes ; the National Environmental Agency (NEA) is responsible for national action plan and related strategies, pollution monitoring and control, EIA, training etc; provincial counterparts manage regional monitoring stations;</li> <li>b. monitoring and regulation of shipping, port authority, maritime safety and marine pollution; Vietnam Maritime Administrator develops and manages shipping policy and law;</li> <li>c. infrastructure implementation, water supply and sewage;</li> </ul>

ANNEX XI

Matrix 2: Baseline and Incremental Costs

Costs/Benefits	Baseline (B)	Alternative (A)	Increment (A-B)
<p><u>Domestic Benefits</u></p>	<p>1. National initiatives on coastal and marine resource and environmental management are implemented on a sectoral basis and under a variety of management strategies that have marginal impact and limited sustainability.</p> <p>2. Competing priorities of the governments of the region represent a barrier to the extent and effectiveness of existing national programs addressing pollution issues in coastal and marine areas. Available financial resources are being further stretched to cover an ever-increasing number of other priorities as a consequence of rapid population growth and economic development in the coastal and marine areas of countries.</p> <p>3. Non-government organizations are frequently perceived by government agencies as antagonists in many national and local projects. The value-added qualities of non-government organizations, particularly with regard to building consensus and awareness at the community and national levels, are largely lost as a result of this perception.</p> <p>4. There is increased awareness of the need and benefits of global instruments, especially related to marine pollution prevention and management, but ratification and implementation are constrained by inadequate national capacities.</p>	<p>1. Build capacity at national and local levels to undertake a more holistic and integrated management approach to the development and use of the coastal and marine environment and resources.</p> <p>2. Create opportunities for partnerships with the private sector by shifting national policies and strategies in environmental management and sustainable development, thereby transforming an environmental management regime which is highly driven by the public sector into a public-private sector environmental industry.</p> <p>3. Enhance collaboration between non-government organizations, community-based organizations, religious groups and environmental journalists and local and national levels of government to collectively address marine environmental management by strengthening the knowledge and technical skills of the interest groups and institutionalizing participatory measures throughout the planning, development and implementation stages of a project.</p> <p>4. Strengthen national and local capacities to appreciate and fulfill the obligations of international conventions by providing the necessary combination of institutional arrangements, legal framework, technical know-how and financing mechanisms at the local and national levels.</p>	<p>1. Ten ICM parallel sites established; training on fast track ICM programs, integrated EIA, damage assessment and project development and management conducted and postgraduate degree training activities to upgrade national capabilities in ICM supported.</p> <p>2. Working models of public-private partnership at ICM parallel sites replicated by developing bankable project proposals and by implementing national environmental management projects, such as environmental facilities and services at ICM parallel sites.</p> <p>3. Training of non-government organizations and interest groups on coastal and marine environmental management implemented; consultative and participatory processes for project review, approval, implementation and monitoring formulated among the various stakeholder groups at the local and national levels, and especially in the affected communities.</p> <p>4. National capacities and bottlenecks in ratifying and implementing international conventions assessed; national workshops to build national awareness, technical and legal capacities conducted; and ministerial and senior officials meetings organized to garner support for action plans to strengthen national efforts to address the obligations of international conventions.</p>