

PROJECT BRIEF

1. Identifiers

Project Name:	Building Partnerships for the Environmental Protection and Management of the East Asian Seas
Duration:	Five years, 1999 - 2003
Implementing Agency:	United Nations Development Programme (UNDP)
Executing Agency:	International Maritime Organization
Requesting Countries:	Cambodia, China, DPR Korea, Indonesia, Malaysia, Philippines, Republic of Korea, Thailand and Vietnam
Other participating countries:	Brunei Darussalam, Japan, and Singapore
Eligibility:	Eligible under para. 9(b) of the GEF Instrument
GEF Focal Area:	International Waters
GEF Programme Framework:	Operational Programme No. 9: Integrated Land and Water

2. Summary

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 and of immediate concern, and are geared towards responding to environmental crises. Regional action plans have yet to be effectively implemented. This project attempts to reduce or remove the critical barriers (e.g., inadequate policy; limited investment; disparate institutional capacity) to effective environmental management. 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 sub-regional 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 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 Region where multiple international waters projects are being targeted to reverse transboundary environmental degradation of the shared waters. The global environmental benefits to be derived from the project are the cumulative environmental improvements at the site, national and regional levels that will be achieved mainly through intergovernmental, interagency and inter-sectoral partnerships.

3. Costs and Financing (Million US\$):

GEF:	-Project :	USD\$15.306 m
	-Administrative costs :	USD\$ 0.918 m

-PDF :	USD\$ 0
-Sub-total GEF:	USD\$16.224 m

Co-Financing:	--Sida :	USD\$ 3.91 m
	-UNDP :	USD\$ 3.148 m
	-IMO :	USD\$ 0.72 m
	-NOAA (in-kind) :	USD\$ 0.26 m
	-Private :	USD\$ 0.3 m
	-National Governments :	USD\$ 3.313 m
	-In Kind :	USD\$ 0.67 m

Total Project Cost	:	USD\$28.545 m
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4. Associated Funding (Million US\$): :USD\$439.899 m

5. Operational Focal Point Endorsement:

Cambodia (24 November 1997)
Name: H.E. Dr. Mok Mareth
Title: Minister
Organization: Ministry of Environment

China (06 August 1998)
Name: Mr. Chen Huan
Title: Deputy Division Chief
Organization: Ministry of Finance

DPR Korea (5 June 1998)
Name: Mr. Ri Pung Sik
Title: Secretary General
Organization: National Coordinating Committee for UNDP

Indonesia (27 February 1998)
Name: Mr. Sarwomo Kusumaatmadja
Title: Minister
Organization: State Ministry of Environment

Malaysia (14 March 1998)
Name: Mr. Hiswani Bt. Harun
Title: (for) Secretary General
Organization: Ministry of Science, Technology and Environment

Philippines (28 November 1997)
Name: Mr. Victor O. Ramos
Title: Secretary
Organization: Department of Environment and Natural Resources

Republic of Korea (2 June 1998)
Name: Mr. Choi Soek Young
Title: Director of Environment
Organization: Ministry of Foreign Affairs and Science Division and Trade

Thailand (16 February 1998)
Name: Mr. Saksit Tridech
Title: Secretary General
Organization: Office of Environmental Policy and Planning (OEPP)

Vietnam (15 December 1997)
Name: Prof. Chu Tuan Nha
Title: Minister
Organization: Ministry of Science, Technology and Environment

6. IA Contact:

Tim Boyle, GEF Regional Coordinator
Regional Bureau for Asia and the Pacific
DC1-2368, One United Nations Plaza
New York NY 10017

Tel: (212) 906-6511
Fax: (212) 906-5825
e-mail: tim.boyle@undp.org

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
BCRMF	Batangas Bay Coastal Resources Management Foundation
BOT	Build operate and transfer
CBOs	Community-based organizations
CIDA	Canadian International Development Agency
CITES	International Trade of Endangered Species of Wild Fauna and Flora
CLC	Civil Liability for Oil Pollution Damage
COBSEA	Co-ordinating Body on the Seas of East Asia
COD	Chemical oxygen demand
EIA	Environmental impact assessment
ESCAP	Economic and Social Commission for Asia and the Pacific
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
IA	Implementing agency
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	Inter-governmental Oceanographic Commission/Subcommission for the Western Pacific
ISO	International Standardization Organization
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
OECD	Overseas Economic Cooperation Fund
OPRC	Oil Spill Response and Coordination
PDF	Project Development Facility
Pos	People's organizations
PPP	Public-private partnerships
RBAP	Regional Bureau for Asia and the Pacific (UNDP)
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
UNEP
UNESCO

United Nations Development Programme
United Nations Environment Programme
United Nations Educational, Scientific and Cultural Organization

PROJECT DESCRIPTION

Background and Context

1. 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 emphasised 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.**

2. These environmental problems are further aggravated by the predicted increased population and economic pressures towards the 21st century. The region has already the world's largest population of 1.8 billion, 60% of which live in the coastal areas. Three hundred million people currently live in coastal urban areas and cities and many more in the coastal rural areas. These residents, more than half of which are women and children, largely depend on the sea for food and employment, especially those in islands of the archipelagic states. A large number of rural coastal population are still living below the poverty line.

3. The East Asian Seas are made up of five sub-regional sea areas/large marine ecosystems (LMEs) having a total area of about 5.9 million km² and producing about 40% of the world's fish catch. The region has the world's richest biodiversity and supports one-third of the world's coral reefs and mangroves. Unfortunately, these valuable resources are seriously threatened by pollution and other economic activities. The region produces about 60 million tons of hazardous waste and 30 billion tons of sewage annually, most of which are discharged directly into the sea. The region is also a major hub of maritime trade, with a significant number of international and domestic seaports situated along the 150,000 km coastline. Operational discharges and maritime accidents occur, and have resulted in oil and chemical contamination that further degrades the marine and coastal environment.

4. Environmental degradation in the region is already threatening food security, reducing employment opportunities, creating social unrest and offsetting past economic gains. This will affect the sustainable development of the coastal and marine areas, which currently contribute no less than 40% of the total GNP of the region. The situation highlights the urgent need for a collective regional programme to address marine and coastal environmental problems that have transboundary implications. Because of the significance of the threats and the globally significant biodiversity, a programmatic approach is being followed by the GEF with the project being arrayed with several others in the region for a strategic focus.

5. In the last two decades, countries in the region have set up central environment agencies; a number have developed national environment and sustainable development action plans; a few have developed national Agenda 21 action plans; and increasing numbers have ratified major international conventions. At the regional level, a number

of regional action plans have been formulated (e.g., East Asian Seas Action Plans, ASEAN Strategic Plan of Action on the Environment, ASEAN Cooperation on Transboundary Pollution, Regional Action Programme for Environmentally Sound and Sustainable Development, 1996-2000). Other regional action programs for land-based sources of marine pollution are currently being developed.

6. **Unfortunately, coastal and marine environmental problems are still not on the priority agenda of most countries. Management approaches by various resource governing and environment management agencies are still sectoral 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.

7. The major environmental problems and issues which are common to the region are listed in Annex 1 (Incremental Cost Matrix), including the baseline and the alternative courses of action proposed for this project. The corresponding analysis of proximate and root causes is indicated in Annex 6 (Root Causes and Expected Actions) and approaches to mitigating them are dealt with in greater detail in a forthcoming document entitled "The East Asian Seas: Environmental Challenges of the 21st Century", which is scheduled for publication in 1998 (Annex 7).

8. The proposed 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 improved policy 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's focus on sub-LME areas, such as the Gulf of Thailand and Bohai Sea, will provide valuable insight into the management of much 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.

9. The proposed project is designed to build upon the approaches, methodologies, networks and working models of the GEF pilot phase project. These experiences and lessons learned, and the opportunities identified for advancing inter-governmental and inter-sectoral partnerships, will be the new project's foundation. The work will promote closer collaboration among the various stakeholders, including central and local government, the private sector, non-government and peoples organizations, donors and the international community to address environmental problems of the East Asian Seas.

10. **The 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 the new GEF initiative is to consolidate the many ongoing activities in the region, providing an inter-sectoral and holistic management approach to marine and coastal resource management that is currently lacking in existing baseline initiatives (Table 1).

11. The project will mobilize external resources and effectively co-ordinate the above-mentioned national and international efforts through stronger partnerships with governments, stakeholders and the international agencies, and serve as a catalyst for enhancing marine environmental protection and management of the East Asian Seas. A functional and sustainable regional mechanism will be established as a cornerstone of environmental management of the East Asian Seas. The regional mechanism will provide the framework and instruments to assist the participating governments to continue the exemplary environmental practices developed during the project, thereby bringing together and enhancing national and regional efforts to protect the coastal and marine environment of the East Asian Seas.

12. A number of socio-economic and environmental factors favouring 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 with a number of countries having attained the status of developed economies, 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 interest. **The timely 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 phase (see 1997 annual report, Annex 8) have proven that this is possible. The proposed 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 inter-governmental collaborative programmes. The incremental but cumulative, exponential environmental benefits will contribute substantially to the global improvement of the marine environment.

13. 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 phase (Annex 8).

14. **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.** The project 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.

Rationale and Objectives

15. 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 maritime economy. For example, conventional, resource-dependent, economic development planning stops at high water mark, and thus is ineffective in addressing many marine and coastal development problems. 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.

16. The GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas (Annex 8) was designed to address a number of the above-mentioned inadequacies. The Programme 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 developed 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 Programme was able to create better awareness of the benefits, rights and obligations of international conventions.

17. The major challenge for the countries in the region is to develop the necessary management capacity to apply the tested working models, approaches and typologies of the pilot phase project for the planning and management of their coastal areas, as well as

sub-regional seas. This will, however, require stronger national commitment in terms of policy and financial allocation to strengthen the environmental management functions of the local governments, implement international conventions, create environmental investment opportunities and increase confidence and cooperation among stakeholders.

18. The GEF pilot project provided timely opportunities for developing stronger and effective inter-sectoral partnerships to address site-specific environmental issues. It further established multi-country partnerships to address transboundary issues that reinforced the GEF programmatic approach for resolving cross-country environmental problems.

19. Major international and regional initiatives in the past years have definitely contributed to increased public awareness and national attention on marine environmental problems. Most activities focused on improving the knowledge base on the ocean and ecosystems, increasing efficiency in resource exploitation, improving technologies in fish farming, as well as enhancing capacity in marine science research. Together with national efforts, over the years these initiatives have laid a sound foundation and created the opportunity for putting together the various sectoral and interdisciplinary programs to systematically and collectively address environmental challenges of the region.

20. The general objective of the project, therefore, is to enable the East Asian Seas Region to collectively protect and manage its coastal and marine environment through inter-governmental and inter-sectoral partnerships. This entails collective and systematic modes of addressing environmental challenges, and the implementation of a series of well-coordinated, thematically integrated, issue-driven programmatic activities. Through partnership building, the project will help countries to develop scientifically-based environmental management strategies and action plans to deal with land-based pollution, promote closer regional and sub-regional collaboration in combating environmental disasters arising from maritime accidents, and increase regional commitments in implementing international conventions which they ratify (e.g., Climate Change, Biodiversity, CITES, London, Basel, UNCLOS, CLC/FUND, OPRC and MARPOL). The integrated management approach also ensures that the socio-economic and cultural concerns of the coastal population are important considerations in any environmental management intervention.

Project Activities/Components and Expected Results

21. The key results of the project include: a network of various national and sub-regional integrated environmental management programs throughout the East Asian Seas; viable financing mechanisms for enhancing environmental investment from multilateral banking and financial institutions and the private sector; a critical mass of national and regional multidisciplinary technical expertise in environmental and marine and coastal management; a pool of local NGOs, religious groups and environmental journalists to champion and reinforce environmental protection initiatives; a structured, integrated information management system (IIMS) that accelerates the delivery of environmental management objectives, including EIA processes; and a sustainable and effective regional mechanism to co-ordinate and

mobilize resources for effective implementation of international conventions and promote sub-regional cooperation, especially on priority transboundary issues.

22. Project activities are centred around seven major strategic components:

1. build capacity to effectively manage the coastal areas and sub-regional sea areas;
2. increase environmental investments in coastal and marine projects and initiatives;
3. advance scientific inputs to coastal and marine environmental management decision-making;
4. establish integrated information management systems for coastal management and integrated environmental impact assessment;
5. enhance collaboration of local NGOs, community-based organizations, religious groups and environmental journalists in marine environmental protection and management;
6. facilitate the formulation or strengthening of national coastal and marine policies and strategic action programs; and
7. support a sustainable regional mechanism to augment the regional commitment for implementing international conventions, and to serve as a regional catalyst for the protection and management of the coastal and marine environment of the East Asian Seas.

23. The logical framework in Annex 2 provides an analysis of the outputs, methods used, verifiable indicators to measure impacts and the assumptions made.

Component 1 – Build capacity to effectively manage the coastal areas and sub-regional sea areas.

24. The main outputs shall be a critical mass of expertise in the participating countries, that will link-up through regional networks of local governments implementing ICM programs and multidisciplinary experts participating in environmental risk assessment and management of sub-regional seas, especially at pollution hot spots. The dual thrusts of the project, namely building regional capacity in ICM and environmental risk assessment and management, and forging cross-linkages between the practitioners and the experts in these two areas, ensure comprehensive coverage of regional land-water interaction issues, including transborder and open ocean environmental concerns. While the project will establish a critical mass of expertise and mechanisms in support of longer term national and regional programs, a regional mechanism (Component 7) will be set in place to safeguard the replicability and sustainability of such initiatives.

1. *Establish national ICM demonstration sites, ICM parallel sites and develop fast track ICM programs.*

25. Based on the working models of Xiamen and Batangas Bay, countries are encouraged to establish at least one national demonstration site for the application of ICM. ICM is recognized as a management framework that effectively addresses environmental and resource management issues of regional and global significance. In

order to maximize the regional and global benefits to be derived from the project, the selected national demonstration sites (i.e., in Cambodia (Sihanoukville), Indonesia (Java/Sumatra), Malaysia (Selangor), Thailand (Chonburi), DPR Korea (Nampo) and Vietnam (Danang/Nha Trang)) will be employed to illustrate the resolution of major, cross-cutting environmental and sustainable development issues, such as: sustainable fisheries/aquaculture development; sustainable coastal tourism; habitat protection (biodiversity); port and harbor development; transboundary marine pollution; multiple use conflicts; and sea-level rise. The project will highlight application of ICM as a technique for multiple-focal environmental issues, both within and between demonstration sites. **The sustainable development goals of ICM will also ensure the socio-cultural and economic benefits of the indigenous coastal people as essential considerations in the overall management framework.** The Xiamen and Batangas demonstration sites will be further strengthened to serve as ICM training centers for the region.

26. Based on the experience of the pilot phase, the ICM planning and information gathering processes for such activities can be shortened to about 18-24 months, instead of the conventional cycle of 5-8 years. This fast track ICM approach shall be refined for replication.

27. The project will also encourage coastal countries to develop ICM parallel sites to implement national ICM programs. At least 10 parallel ICM sites shall be developed with national funding or co-financing from other donors. With a regional mechanism in place and the establishment of a marine resource facility (Component 7), the replicability and sustainability of ICM sites will be safeguarded.

2. *Develop regional capacity to implement environmental risk assessment and management programs in sub-regional sea areas/large marine ecosystems (LMEs).*

28. Environmental risk in one sub-area (e.g., Gulf of Thailand) of an LME (i.e., South China Sea) and two national, cross-boundary pollution hot-spots (e.g., Bohai Sea; Manila Bay) will be assessed and the appropriate management programs will be developed. This approach will enable the concerned sites or the various administrative units bordering the semi-enclosed sea areas to collectively develop and implement environmental risk management measures that go beyond recognized administrative boundaries. Examples of such cooperation include implementing oil spill contingency plans, executing Port State Control, strengthening Flag State Control, enhancing aids to navigation, protecting sensitive sea areas, conserving marine and coastal habitats, promoting sustainable fisheries, coordinating pollution monitoring programs and sharing monitoring data and information on coastal and marine resources. Linkages between ICM initiatives and risk assessment and management programs will result in a holistic environmental management action program, with comprehensive coverage of human activities, both on land and in the sea.

3. *Organize a special training programme for upgrading technical skills.*

29. The programme shall include specialized short-term training courses, through co-financing, on concepts and strategy development, analytical tools and methodologies, risk assessment and good practices...all of which are related to integrated management of the coastal and marine environment. These specialized training courses complement existing environmental training efforts and are largely based on the experience and outcomes of the pilot phase. Major training courses will include Practical ICM training, Integrated Environmental Impact Assessment, Oil Spill Response and Coordination (OPRC), Port State Control, implementation of international conventions (e.g., Civil Liability for Oil Pollution Damage (CLC); Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND)), Environmental Risk Assessment and Management and Natural Resource Evaluation and Damage Assessment. In addition, special attention will be placed on the training of trainers.

30. In an effort to incorporate social and gender analysis and techniques into project planning and implementation, a workshop will be held, focused on national project and programme managers, technical personnel and stakeholders in the private sector. The workshop will draw on existing knowledge and networks within the region, including initiatives within the UNDP, ADB and CIDA/IDRC, and will adapt such approaches to the ICM context.

31. Fellowships will be awarded for internships and postgraduate degree training in essential environmental management skills, such as maritime law, resource valuation, environmental accounting and environmental management. Efforts will also be devoted to networking of centers of excellence in the region, which can contribute to human resource development, especially in the field of marine environmental management.

4. *Build capacity through regional networks and task forces.*

32. Existing regional networks established through the GEF pilot phase will be maintained and further strengthened to provide a pool of expertise to support regional activities. A multidisciplinary task force will also be established to provide prompt response to governments requesting technical assistance in environmental management.

Component Two—Increase environmental investments in coastal and marine projects and initiatives.

33. The main focus of this component is to increase environmental investment from multilateral banking and financial institutions (e.g., World Bank; ADB; IFC) and the private sector. The project shall promote regional transformation, from a highly public sector-driven environmental management regime, to a public and private sector-driven environmental industry. The private sector, which includes large, medium and small enterprises, cooperatives and associations, as well as local in-country financial institutions (e.g., rural banks), will be encouraged to invest in a wide range of facilities, services and technologies including waste management facilities, ISO certification and cleaner production technologies. A pragmatic approach will be employed, including packaging environmental management action programs into discernible, bankable projects, identifying potential opportunities for partnership, preparing profiles of appropriate partners and delineating procedures and criteria to be met in developing

and negotiating partnerships. The initiative will foster greater business linkages and technology transfer between the public and private sectors, among countries within the region, and across regions, through South-South and North-South collaborations.

1. *Promote public-private partnerships (PPP).*

34. The lessons from the GEF pilot phase will be applied in the development of PPPs within the new project. Specific activities include: delineation of environmental management options; technical and financial feasibility studies on identified options; and the preparation of “opportunity briefs” which detail the potential viability of financial mechanisms such as joint ventures, commercialization and public-private corporations. Many of the environmental facilities (e.g., sewage treatment plants), environmental services (e.g., training and certification) and information management systems (e.g., database management and distribution network) are areas where public-private partnerships can be developed. For example, the establishment of a marine electronic highway (MEH), i.e., an electronic information system for use on board ships, consisting of electronic navigational charts in combination with real-time data on a ship’s movement, other traffic, tides, currents, weather conditions, etc., contributes directly to maritime safety. Indirectly, it is a preventive measure to minimize pollution arising from vessel groundings, collisions and other mishaps. The MEH is, therefore, an investment project that can be established initially to cover a small area within a sub-regional sea, such as a port-to-port sea-lane within the Strait of Malacca. Eventually the technology may be expanded to cover both the Malacca and Singapore Straits, and then gradually covering the entire East Asian Seas Region. The MEH is a pipeline project of the World Bank. The project will complement World Bank’s efforts by setting the ground for MEH investment, contributing to the environmental aspects of the MEH during project implementation (i.e., implementation by others) and assisting in linkages with environmental agencies of the region.

35. In order to demonstrate the feasibility of public-private partnerships, efforts will be made to draw financial investments to bankable projects, as per the Batangas Bay demonstration site. Profiles of prospective partners/investors will be prepared, based upon project feasibility analyses. Because of the variety of opportunities, prospective partners in the private sector may range from large multinational companies, to medium-sized domestic enterprises, to small-scale local financial institutions, industry and associations, such as rural banks, fishermen’s cooperatives and tourism associations. Prospective partners from the public sector will include local government units, central government agencies and authorities, donors, international agencies and inter-governmental financial institutions. The GEF initiative will serve as a catalyst and broker in forging partnerships between interested parties in the two sectors, by preparing and promoting project development procedures and partnership agreements which are transparent, fair and sustainable.

2. *Package and expedite project proposals.*

36. The project shall play a strategic and catalytic role in helping participating countries to package technically sound and financially convincing proposals that will attract environmental investments from donor agencies, lending institutions and the

private sector. A pool of technical experts will be drawn from the regional networks to package such proposals in collaboration with the sub-regional resource facility of UNDP. A trust fund will be set up and sustained via revenues generated through service fees. A regional mechanism for establishing and managing the trust fund will be developed and implemented as part of Component 7 of the project.

Component Three—Advance scientific inputs to coastal and marine environmental management decision-making.

37. The main outputs will be sources of scientifically sound information that can be used to strengthen coastal and marine policies and management interventions. The component will focus on the application of scientific methods and approaches to generate reliable socio-economic, ecological, and technological information that can be used for policy and management interventions. The project shall undertake and/or package carefully designed, issue-oriented, interdisciplinary scientific investigations to resolve outstanding common information gaps which are “bottlenecks” to policy or management decision-making. Specifically, the project shall provide scientific information and tools pertaining to: (a) the determination of ecosystem carrying capacity; (b) trade-offs between development and ecological benefits; (c) impacts of maritime trade on endangered species; (d) benefit-cost appraisals and models of management interventions; and (e) socio-economic and ecological impacts of ICM. The major topical issues are included in Annex 2 (Log Frame Matrix).

Component Four—Establish integrated information management systems (IIMS) for coastal management and integrated environmental impact assessment.

38. The major output is a microcomputer-based integrated information management system within the ICM framework at each national demonstration site. By taking advantage of recent advances in information technology, an environmental knowledge base can be more effectively compiled, managed, disseminated and applied. IIMS will combine baseline information (ecological, socio-economic, geographic, legal and institutional) with environmental quality monitoring information. The IIMS will incorporate a geographic information system and a database management system, thus enabling storage, editing and retrieval and facilitate analysis and presentation of information to a mix of stakeholders within and outside of the region. The validated version of the IIMS shall be incorporated as planning and management software at each ICM demonstration site. Each site-specific database can be used for management and regulatory control functions, especially for integrated environmental impact assessment (EIA) greatly reducing the time and resources for undertaking the conventional EIA. The value added is the establishment of intra- and inter-country networking of IIMS at each ICM demonstration site, leading to a more systematic exchange of information at the ground level. The ICM/risk assessment process will be used to identify critical indicators at each site of application. By monitoring and evaluating these indicators, the effectiveness of interventions will be determined and transferred. On a regional scale, the Malacca Straits Environmental Information System, the sub-regional GIS and database developed for the Malacca Straits during the GEF pilot phase, will be employed as a working model for other sub-regional sea areas.

Component Five—Enhance collaboration of non-government organizations, community-based organizations, religious groups and environmental journalists in marine environmental management.

39. The main outcomes are more environmentally committed interest groups to work together with the local government in addressing coastal and marine environmental problems. The project shall strengthen the knowledge and technical skills in marine environmental management of the interest groups. This will enable them to be more effective in championing and advocating the cause for environmental protection, and to serve as a catalyst for affecting the government and people to work together. It also serves as an instrument for ensuring transparency and objective assessments of the project during the planning, implementation and evaluation phases of the work. Religious groups and environmental journalists will also be targeted, in recognition of their effectiveness in influencing the general public and policy-makers. The project will also provide the means for establishing a “media resource information network”, ensuring that credible information is accessible by interest groups, thereby enabling greater and more meaningful participation in the management of the coastal and marine environment by a larger number of sectors.

40. Established non-government organizations, such as the International Federation of Environmental Journalists, Global Village (China) and the Foundation for the Philippine Environment (Philippines), will be invited to participate in the planning and implementation phases of this component of the project. Their experience, particularly with regard to the operationalization and sustainability of awareness building and training programs at the local community level and the preparation and dissemination of information on coastal and marine issues for target audiences such as the general public, students and decision-makers, is a vital aspect of the planning process.

41. Annex 10 outlines the proposed involvement of non-government organizations and other stakeholders. Detailed descriptions of the identified activities will be developed during the project formulation stage, at which time a social scientist will be contracted to participate in the planning process. The social scientist will identify and assess the social, cultural, and economic issues at the selected national ICM sites and in the sub-regional sea areas, thereby ensuring that the interests of the communities are adequately considered in the project design, implementation and evaluation.

Component Six—Facilitate the formulation or strengthening of national coastal and marine policies and strategic action programs.

42. The essential policy elements in coastal and marine environmental management will be evaluated in the context of their importance and effectiveness in relation to the socio-economic, political and cultural characteristics of the countries. Critical domestic issues, such as increasing population pressures in coastal areas, migration from rural to urban centres and poverty in coastal areas, give rise to transboundary impacts as a result of pollution, destruction of marine and coastal habitats, overfishing, etc. In addition, various global ocean issues, such as exploitation of seabed resources, involve difficult and important transborder considerations. These elements, and others, shall be verified

and incorporated into guidelines that can be used for developing national policy. Strategic approaches and mechanisms to be considered in the development of generic policy guidelines include: the integration of sea-use planning into the physical framework plans at national and local levels; allocation and use of marine resources; harmonization of legislative conflicts; obligations under international conventions; seabed biodiversity and exploitation of seabed resources; monitoring and surveillance; environmental risk assessment and management responses; the role of local governments; resource management approaches; advancement of marginalized groups; retraining; and job creation. Model coastal and marine policies will be developed based on examples from the region.

43. National workshops will be organized to increase political and public awareness of the benefits of coastal and marine management, including benefits arising from international conventions related to the marine environment and a better understanding of government obligations and commitments.

Component Seven—Support a sustainable regional mechanism to augment the regional commitment for implementing international conventions and to serve as a regional catalyst for the protection and management of the coastal and marine environment of the East Asian Seas.

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

45. The major thrust of the project component 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 a regional marine environment resource facility within the context of the regional framework, to provide information and technical assistance services, to enhance public awareness, to develop and maintain regional networks, to mobilize external resources in support of national efforts in implementing global conventions and to formulate collaborative programs for addressing transboundary pollution issues; and c) to explore and develop sustainable financing instruments and administrative and operational procedures, setting in place practical tools to sustain the regional mechanism beyond the life of the project. The project will explore financial instruments, such as environmental trust funds, revolving funds and/or endowment funds, supported by donor contributions, revenues from information management services (e.g., the marine electronic highway), fees for

expert/technical assistance services, and so on. Collaboration with existing relevant regional mechanisms (e.g., APEC, ASEAN, ASEM, COBSEA, ICLARM, and SEAFDEC) is important and will be undertaken, particularly with regard to the eventual formation of a regional mechanism.

46. The regional mechanism will develop and strengthen multi-country collaboration in protecting and managing the LMEs 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), the Mekong River Initiatives (World Bank and UNDP) and other LME initiatives in the region, which constitutes GEF programmatic approach in this area. A working group, comprised of project leaders from ongoing GEF, bilateral and multilateral international waters initiatives in the region, will be created to coordinate proposed activities and to promote strategic and complementary approaches to resolve priority environment and resource management problems of the international waters. 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.

Risks and Sustainability

47. 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.

48. The project is built upon the technical achievements and methodologies developed during the GEF pilot project and other past projects and programs, thus ensuring technical soundness and reducing vulnerability during project implementation. Sustainability of the project initiatives is viewed from two premises, namely: 1) the success of the GEF pilot phase, and the lessons, networks, awareness and momentum that has been derived therefrom among the participating countries, as is evident by their endorsement of the project; and 2) the setting up of a regional mechanism, which will have the necessary support, instruments and capacities to sustain the initiatives of the GEF project. The principal risk is that the countries will not support a regional mechanism as described. However, as presented in Table 1 and Annexes 1 and 4, significant financial commitments are being made among the countries of the region for marine and coastal resources and environmental protection. The regional mechanism will provide a focus and means for coordinating national efforts, thereby enhancing the efficiency and effectiveness of individual country undertakings, and overall impact on the East Asian Seas. Annex 9 provides an overview of the GEF pilot phase achievements and limitations, which guided the evolution to this new project proposal. However, the success of implementing such a complex project depends a great deal on a strong and dynamic project leadership and flexibility given to its management. In this manner, the risks associated with political, economic, institutional and technical constraints are greatly reduced. This issue will be addressed in detail during the project design phase.

49. The GEF pilot phase project has provided proof that increased government investment can be leveraged for baseline actions, when potential opportunities and benefits to be derived are clearly defined. For example, at the two pilot phase ICM demonstration sites, local and central government units committed financing and human resource allocations to the development and eventual institutionalization of the local ICM management systems. In addition, potential capital investments identified in Xiamen (a sewage treatment facility, with an estimated investment of US\$200 million), Batangas Bay (a solid waste management/recycling facility, US\$30 million) and the Straits of Malacca (the marine electronic highway, US\$50 million) are being developed through the public-private partnership (PPP) financing mechanism. PPP involves financial commitments by local and central governments, the private sector and investors, including WB/IFC, ADB and IDRB, for the development and operation of sustainable facilities and services.

50. With the proposed GEF initiative, the methodologies, lessons learned and approaches developed during the pilot phase will be replicated at ICM sites throughout the region. The issues to be addressed will be extended beyond marine pollution, into sustainable fisheries and aquaculture, sustainable tourism, port and harbour development, multiple use conflicts and sea-level rise. The continued operation of the various regional networks shall enable the dissemination, improvement and consolidation of project results. The regional network of educational and research institutions will be able to continue the role of building national and local capacity in each participating country. Each participating country will have acquired the basic capacity to design, develop and implement ICM programs effectively. Inter-governmental co-operation at regional and sub-regional levels shall be greatly strengthened through an efficient regional mechanism, to more effectively address transboundary issues. These activities have built-in policy and sustainable financing mechanisms, such as public-private partnership arrangements, user fee schemes and integration of the ICM system into local government mechanisms, among others. The above policy, financing and capacity building arrangements, as well as the regional mechanism, will provide a strong foundation and a regional institutional framework for replicating the integrated management working models and for disseminating sound environmentally sustainable practices.

Stakeholder Participation and Implementation Arrangements

51. There have been a number of stakeholders, with a variety of interests, involved in the early conceptualization stages of this GEF regional initiative. Still, further efforts are required to involve other stakeholders as the project moves through the planning and implementation phases. It is apparent that the key stakeholders are the national governments of the East Asian Seas Region. Among the requesting countries, it is recognized that each may have (a) priority concern(s) which need to be covered in an integrated fashion when addressing environmental management and resource use in a regional sea. A few examples are:

Shipping/maritime trade: China; Japan; RO Korea; and Singapore.

Oil exploration: Brunei Darussalam; China; Indonesia; Malaysia; Vietnam.

Fisheries: China; Indonesia; Malaysia; Philippines; Thailand; Vietnam.

Tourism: all countries of the region.

52. Overall, developing countries of the region increasingly recognize the value of goods and services provided by coastal and marine resources of the East Asian Seas as a springboard to sustainable economic development. To this end, inter-governmental cooperation and collaboration is essential in a situation where sustainability will be a consequence of a number of interdependent economic activities.

53. Within each country, the scale and characteristics of stakeholders is disparate. For example, there are more than 5 million people employed in the fisheries sector throughout the region and their contributions to the economy range in scale from large commercial enterprises to subsistence family operations. Meaningful inputs by non-governmental organizations will be sought throughout the planning and implementation phases of the project to give voice to this sector, as well as to other sectors of the economy and community. These include small, medium and large-sized industry, tourism associations, academia, scientific/technical institutions and associations, community-based organizations, people's organizations and religious groups.

54. It is envisioned that the majority of project components are designed to ensure self-reliance and sustainability, through the development of policies and long-term action programs, institutional arrangements, capacity building, strengthening of local NGOs and the promotion of the involvement of civil society. More importantly, the project promotes environmental investments and encourages the private sector to share the responsibility of environmental management. A summary plan of public involvement is given in Annex 10.

55. Extensive consultation and collaboration has already been undertaken with stakeholders in the region. The draft concept brief was discussed and endorsed at an experts' workshop in Subic, Philippines in July 1997. Eminent marine scientists from 10 countries of East Asia, a number of whom are current or former members of GESAMP, attended the workshop. The concept proposal was later presented by the delegation from the Philippines at the ASOEN meeting in Cebu, Philippines in August 1997. Subsequently, a draft project brief was presented and discussed at the regional workshop on "Partnerships in the application of integrated coastal management" on 12-15 November 1997 in Chonburi, Thailand, attended by government officials, NGOs, scientists, management practitioners and representatives of international agencies. Finally, the project brief was discussed and endorsed at the 4th Programme Steering Committee of the GEF pilot phase project in Hanoi, Vietnam, in December 1997.

56. The project places also considerable emphasis on the application of appropriate indigenous and emerging technologies by local, national and regional stakeholders. The various technologies considered include information management, remote sensing and geographical information systems (GIS), which can improve project performance, user efficiency and reliability of information. An indication of how indigenous and emerging technologies may be applied in relation to the proposed component activities is given in Annex 11.

57. Many UN agencies, including FAO, WMO, UNESCO and UNEP to name a few, are operating in the East Asian Seas region. However, there is no single regional organization that provides coverage of the 12 East Asian Seas nations. IMO is a specialized UN agency that is exclusively focused on the oceans. IMO has traditionally played a critical role in developing many of the marine related international conventions that most countries of the region have ratified. IMO is the “competent technical agency” of the UN system with respect to marine matters, as identified in numerous provisions of the UN Convention on the Law of the Sea (UNCLOS). In addition, IMO has successfully executed the GEF pilot phase project and thus has demonstrated the necessary experience and technical capability to execute a very complex and multi-faceted project, as proposed herein. Over the years, IMO has collaborated extensively with other UN agencies on ocean issues, and as Executing Agency will continue this effort throughout the project.

Incremental Costs and Project Financing

58. In accordance with GEF Procedures on Incremental Cost Assessment, most of the proposed activities fall under complementary activities. The main focus of the project is to enable the region to undertake **integrated programmatic management** activities when addressing environmental problems. This will be accomplished through specialized skills training, regional networking and demonstration projects, as well as forging inter-governmental and inter-sectoral partnerships to achieve cost-effective environmental management at the local and sub-regional levels. The project does not replace or substitute baseline activities, recognizing that existing national marine environmental activities are sectoral in approach, while existing regional environmental programs remain at the planning or information gathering stage.

59. This project proposal is focused on removing or lowering policy, investment, capacity and other environmental management barriers which otherwise impede the application of innovative and pragmatic management interventions. Countries of the region have made a substantial investment to address marine pollution and other environmental problems, including combating pollution, habitat rehabilitation, cleaning of rivers, pollution monitoring, resource management, etc. With the support of donors and international agencies, they continue to undertake projects and programs to address these issues. Baseline costs that are relevant to the proposed project components are estimated to be about US\$440 million over the period from 1999 to 2003 (please see Annex 5 for details). This estimate, which is based on approved projects and programs submitted by governments as well as information from donors, is by no means absolute, but reflects the levels of effort and commitment of the participating countries and bilateral and multilateral donors. The proposed project activities which build upon the baseline efforts aim to improve efficiency and cost-effectiveness in achieving target objectives, by lowering or reducing barriers and constraints to effective environmental management. The incremental costs for the proposed project are shown in Annex 1. Brunei Darussalam, Japan and Singapore have expressed interest in participating in the regional project, but are not eligible to receive GEF funding.

Table 1. Incremental cost
(Please see Annexes 1 and 5 for details)

	Baseline	Alternative	Increment (Alternative - Baseline)
Global Environmental Benefits	150,881,971	167,105,971	16,224,000
Domestic Benefits	289,017,380	301,338,380	12,321,000
Cost: (US\$)	439,899,351	468,444,351	28,545,000

Table 2. Activity/Component Financing

Activity	GEF	Co-Funding	Total
Component 1: Building capacity	7,657,000	8,638,000	16,295,000
Component 2: Increasing environmental investments	1,263,000	789,000	2,052,000
Component 3: Advancing scientific inputs	1,378,000	909,000	2,287,000
Component 4: Establishing IIMS	2,082,000	803,000	2,885,000
Component 5: Enhancing collaboration with NGOs/other interest groups	1,273,000	309,000	1,582,000
Component 6: Formulating national coastal and marine policy	1,333,000	189,000	1,522,000
Component 7: Supporting a sustainable regional mechanism	1,238,000	684,000	1,922,000
Total	16,224,000	12,321,000	28,545,000

Table 3. Implementation Plan (endorsement only)

Activities	Amount (US\$)	Project Life (Months)									
		6	12	18	24	30	36	42	48	54	60
Completion of project activities											
1. Start up phase (6 months)	500,000										
2. Building capacity (48 months)	6,607,000										
3. Inc. environmental investments (38 months)	1,263,000										
4. Advancing scientific inputs (48 months)	1,378,000										
5. Establishing IIMS (24 months)	2,082,000										
6. Enhancing collaboration with NGOs/other interest groups (48 months)	1,273,000										
7. Formulating national policy (42 months)	1,333,000										
8. Regional mechanism (36 months)	1,238,000										
9. Wrap up of the project (6 months)	550,000										
Total	16,224,000										

Table 4. Project Financing per Expenditure Category (endorsement only)

Component	GEF	Co-funding	Project Total
Personnel:	US\$	US\$	US\$
International consultants	708,000	930,000	1,638,000
Local consultants	2,170,000	3,246,000	5,416,000
Project Management	3,480,000	0	3,480,000
Administrative	528,000	56,000	584,000
Subcontracts:	4,042,000	2,542,000	6,584,000
Workshops:	822,000	642,000	1,464,000
Training:	679,000	2,515,000	3,194,000
Equipment	1,644,000	2,010,000	3,654,000
International Travel	400,000	0	400,000
Other Travel	150,000	260,000	410,000
Evaluation mission(s)	120,000	0	120,000
Programme Steering Committee	200,000	60,000	260,000
Miscellaneous	363,000	60,000	423,000
Project sub-total US\$	15,306,000	12,321,000	28,545,000
Project Support Services:	918,000		
Total project cost (US\$)	16,224,000		

Monitoring, Evaluation and Dissemination

60. The project monitoring and evaluation plan includes milestones for each major activity to be completed within a specific timeframe. Project outputs and impacts by each component, and the project as a whole, will be evaluated in accordance with key performance indicators against each objective of the project. In addition, GEF international waters indicators will be established for each demonstration area. Consisting of process indicators, stress reduction indicators, and environmental status indicators, the array of indicators will be utilized as part of evaluation of the programmatic approach to this region. Please see Annex 2, logical framework matrix, for a more detailed description of key performance indicators.

61. The milestones and performance indicators will be evaluated each year through an annual Project Steering Committee (PSC) meeting. The PSC meeting will consist of two parts, namely a technical session to discuss the progress and achievements of the project and a tripartite review (TPR) session to assess the project performance, to approve annual work plans and budgets and to provide policy and management guidance to the executing agency. In addition to the participating governments, the technical session will be open to representatives from concerned NGOs, the academic community, and collaborators from the private sector and scientific and technical institutions. The TPR session will be attended by the participating governments and the implementing and executing agencies. The project will also participate in the annual GEF Project Implementation Review (PIR) and be subject to an independent Mid-term Evaluation and a Final Evaluation Report.

STAP Technical Review (please see Annex 3a for further details)

62. The project brief has been revised to incorporate the comments provided by the STAP technical review. To this end, the brief has been revised to increase the emphasis on transboundary pollution has been incorporated into the brief and CITES has been included as one of the key international conventions requiring regional commitment. The brief now clarifies the extent to which project activities and supporting strategies will be implemented. The brief identifies the manner in which the project will provide coverage of the major environmental and sustainable development issues of the region, as well as outlines the procedures to be applied to overcome barriers to effective management of sub-regional sea areas and environmental hot spots.

63. The brief has also been revised to emphasize the steps that will be implemented in order to identify, and gain support for “bankable” projects. The brief has been revised to clarify the objective, scope and rationale in establishing a regional mechanism and includes the critical assumptions concerning risks to investors, the existence of NGOs in participating countries and the development of coastal policy.

64. The brief has also been revised to outline the general efforts undertaken and their focus, and contains information on the various regional environmental issues and concerns. The brief has been revised to include a list of ICM sites that provide the broad spectrum of environmental issues and conflicting uses of resources that are characteristic of the region. The brief has also been revised to reflect the varying principal concerns and perspectives of participating countries.

65. The brief has also been revised to highlight elements that require backstopping by the region’s scientific institutions. Further, as part of the regional mechanism, the brief refers to a regional marine resource facility that will serve as a node for regional networks, including a network of scientific and technical institutions. To this end, the brief further clarifies the establishment and scope of the regional mechanism.

Annexes

Required:

- I. Incremental Cost Matrix
- II. Logical Framework Matrix
- III. STAP Roster Technical Review

Optional Annexes, available upon request:

- III a. Revisions to the Project Brief per STAP Reviewer's Comments
- IV. Final independent evaluation of the GEF pilot phase project
- V. Baseline activities and investments in requesting countries of the East Asian Seas Region

This annex provides further details on the environmental management projects and programmes undertaken in the region that the present project builds upon. The annex is provided in tabular form, providing information on the intervention's total budget, broken down by source of funds (whether national or international) and identifies the project component to which it relates. These baseline interventions and investments are identified by the requesting country in which they are implemented.

Annex VI: Root Causes and Expected Options

This annex outlines a number of issues and problems facing the East Asian countries, along with proximate causes and possible solutions or courses of action to help resolve these dilemmas. Symptoms, immediate root causes, scale and severity of issues and threats are described.

Annex VII: The East Asian Seas: Environmental Challenges of the 21st Century

This annex is the table of contents of a document expected to be published later this year entitled "The East Asian Seas: Economic Growth and Environmental Challenges" by Dr. T. E. Chua. This document presents an overview of the current state of the marine environment of the East Asian Seas, the pollution hot spots, environmental changes, national and regional environmental initiatives, and solutions to correct environmental problems.

Annex VIII: Pollution Prevention and Management in the East Asian Seas: A Paradigm Shift in Concept, Approach and Methodology

This annex outlines the document, "GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas 1997." This document summarizes mechanisms and instruments to help reduce and avoid further pollution of the East Asian Seas, as well as taking a look beyond 1997 and financial commitments of the Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas.

Annex IX: Identification of Project Activities for GEF Interventions Based on the Outputs and Limitations of the Pilot Phase Project

This annex describes the activities of the proposed project based on the achievements and limitations of the Pilot Phase Project. In matrix form, this table outlines how the pilot phase project will be replicated through the proposed ICM framework, capacity building activities, private-public partnership building, among others.

Annex X: Public Involvement Plan Summary

This annex defines the categories of stakeholders that will be involved in this project, and in particular on their role in the project's implementation. It also attributes performance indicators to stakeholder involvement and project implementation in a participatory manner.

Annex XI: Opportunities for Indigenous and Emerging Technologies

This annex explains the indigenous and emerging technologies, procedures and processes in environmental management. It charts out a number of the new technologies that may be applied to various components of the project.

Annex XII: GEF Pilot Phase Project Mid-term Review

This annex summarizes the formal external evaluation that the East Asia Seas GEF pilot phase project underwent and the key recommendations made to the GEF, the Implementing Agency and the participating governments.

Annex XIII: Copies of GEF Country Operational Focal Point Endorsements

Annex I:

Incremental Cost Matrix - Building Partnerships for the Environmental Protection and Management of the East Asian Seas.

Costs/Benefits	Baseline (B)	Alternative (A)	Increment (A-B)
Domestic Benefits	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.	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.	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.
	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.	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 that is highly driven by the public sector into a public-private sector environmental industry.	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.
	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.	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.	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.
	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.	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.	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.

Annex 1: Costs/Benefits	Baseline (B)	Alternative (A)	Increment (A-B)
<u>Global/Regional Benefits</u>	<ol style="list-style-type: none"> Existing coastal and marine environmental management programs in most East Asian countries provide limited consideration for transboundary issues and the potential implications of rapid industrial and economic development throughout the region. Sub-regional and regional environmental initiatives in the East Asian Seas region are limited mainly to problem assessment and planning. Little headway is being made in the development of facilities and services which address transboundary issues, due primarily to the lack of investment by government, the private sector and multilateral and financial institutions in such works and services. National governments have made large investments of time and resources in marine pollution monitoring and research, but the resulting knowledge base and expertise is having limited impact in the decision-making processes for development and management of the marine and coastal environment. National and local agencies mandated to protect, manage and monitor the coastal and marine environment do not have ready access to information on strategic, technical and financial options, experiences and lessons learned outside of their jurisdiction, for addressing similar problems. This results in duplication of effort, inefficient use of limited resources and steady deterioration of the environment. Non-government organizations and interest groups are involved in numerous environmental initiatives in the region, ranging 	<ol style="list-style-type: none"> Develop a regional capacity to address transboundary concerns, particularly marine pollution in sub-regional seas/large marine ecosystems and cross-boundary pollution hot spots. Create opportunities and initiatives that will foster greater business linkages, technology transfer between North and the South and among countries in the region, and increase investment by government, donors, financial institutions and private and foreign investors. Strengthen local, national and regional monitoring programs through a more focused, management-oriented approach, which specifically addresses bottlenecks and outstanding information gaps for policy development and decision-making in coastal and marine environmental management. Establish a region-wide integrated information management system which links ICM sites in each country via a micro-computer based network, to communicate experiences and approaches in site management and to include data on the ecological, physical, demographic and socio-economic characteristics of each participating site along with information derived from environmental quality monitoring programs. Identify non-government interest groups within the region who are dealing with coastal and marine environment issues, including socio- 	<ol style="list-style-type: none"> National ICM demonstration sites developed in 6 countries in the region. Working models for management of land-based sources of marine pollution, fisheries, aquaculture, biodiversity, ports and harbours and tourism established. Environmental risk assessment and risk management programs implemented on a sub-regional sea/LME scale. Regional training initiatives implemented. Regional networks and pools of expertise strengthened. Sub-regional and regional environmental management action programmes packaged into discernible, bankable projects, such as oil spill response centers, shore reception facilities, marine electronic highway, training and information management; benefits derived through multi-stakeholder involvement and/or investment in projects and environmental facilities and services identified. Issue-oriented interdisciplinary monitoring programs which directly support ongoing or planned management programs in marine and coastal areas undertaken/packaged, including those implemented in ICM demonstration sites, ICM parallel sites, pollution hot spots and sub-regional sea areas. Planning and management software package set up, emphasizing the use of local information for regulatory and management control functions, and especially for application in the preparation and assessment of EIAs; ICM sites linked into a regional network. Opportunities for NGOs, CBOs, religious groups and environmental journalists to participate in regional programs and environmental issues

	from biodiversity conservation to the legal aspects of marine pollution, but their contributions are neglected or downplayed by regional bodies.	economic aspects, and promote consultative and participatory mechanisms which provide a voice to these groups in regional forums and programs.	identified and promoted; training and awareness building activities for these groups implemented; reference and educational materials provided.
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Annex 1: Costs/Benefits	Baseline (B)	Alternative (A)	Increment (A-B)
Global/Regional Benefits <u>cont'd</u>	6. Few countries in the region have policies and/or action programs on the development and management of coastal and marine areas. Countries with coastal policies are somewhat constrained because of their limited capacities in integrating land, coastal and marine management into a single workable framework.	6. Adopt innovative and workable approaches to managing marine and coastal areas, such as the integrated coastal management (ICM) and risk assessment/risk management, to serve as the framework for formulation of coastal and marine policies and strategies.	6. Strategic elements of coastal and marine environmental management (e.g., integration of sea-use and land-use planning; allocation and use of marine resources) and their application under various conditions in the region evaluated. Guidance provided to national authorities on the inclusion of essential components into national policies and action programs for enhancing the management of the coastal and marine areas.
	7. Increased awareness of the objectives and benefits of international conventions has resulted in a substantial increase in the number of conventions related to marine pollution being ratified. The ability of countries to fully comply with the obligations of these conventions is constrained by the lack of capacity in individual countries and by the absence of a regional mechanism/approach to collectively addressing the requirements of the agreements.	7. Develop and enhance mechanisms for coordinating the efforts of countries in the region to implement international conventions and other baseline commitments related to the coastal and marine environment, thereby amplifying the effectiveness and impacts generated by individual country initiatives.	7. Options for strengthening and/or establishing a sustainable regional mechanism evaluated. A draft regional convention embodying the most effective and cost-efficient options drafted and promoted to serve as a catalyst for implementation of international conventions. Working models, instruments and networks for advancing regional capacity to protect and manage the coastal and marine environment of the East Asian Seas developed.

	Baseline (B)	Alternative (A)	Increment (A-B)*
COMPONENT 1: Build capacity	• US\$ 385,970,982	• US\$ 402,265,982	• US\$ 7,657,000 (GEF) • US\$ 8,638,000 (non-GEF)
COMPONENT 2: Increase environmental investments	• US\$ 400,000	• US\$ 2,452,000	• US\$ 1,263,000 (GEF) • US\$ 789,000 (non-GEF)
COMPONENT 3: Advance scientific inputs	• US\$ 43,746,500	• US\$ 46,033,500	• US\$ 1,378,000 (GEF) • US\$ 909,000 (non-GEF)
COMPONENT 4: Establish integrated information management systems	• US\$ 948,369	• US\$ 3,833,369	• US\$ 2,082,000 (GEF) • US\$ 803,000 (non-GEF)
COMPONENT 5: Enhance NGO collaboration	• US\$ 5,112,500	• US\$ 6,694,500	• US\$ 1,273,000 (GEF) • US\$ 309,000 (non-GEF)
COMPONENT 6: Facilitate national coastal/marine policies	• US\$ 1,899,000	• US\$ 3,421,000	• US\$ 1,333,000 (GEF) • US\$ 189,000 (non-GEF)

COMPONENT 7: Support a sustainable regional mechanism	• US\$ 1,822,000	• US\$ 3,744,000	• US\$ 1,238,000 (GEF) • US\$ 684,000 (non-GEF)
TOTAL	• US\$ 439,899,351	• US\$ 468,444,351	• US\$ 16,224,000 (GEF) • US\$ 12,321,000 (non-GEF)

*Please note that the GEF contribution to the incremental cost of the proposed project is US\$ 16,224,000, to be supplemented by other sources of funding to the order of US\$ 12,321,000, for a total project cost of US\$ 28,545,000.

Annex II

Log Frame Matrix

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
Overall Objective			
To enable the participating countries of the East Asian Seas Region to collectively protect and manage the coastal and marine environment through inter-governmental and inter-sectoral partnerships.	<ul style="list-style-type: none"> □ Ground work for a regional inter-governmental mechanism developed and adopted by the participating governments; □ Multi-sectoral participation in the management of coastal areas and sub-regional seas evidenced through institutional arrangements and activities. 	<ul style="list-style-type: none"> □ Quarterly progress reports □ Annual reports □ Annual Programme Steering Committee (PSC) and Tripartite Review (TPR) assessments 	<p>Risk is minimized as a consequence of the following critical assumptions:</p> <ul style="list-style-type: none"> □ The East Asian Seas are critical to the economic development of the coastal countries, therefore mutual benefit may be achieved through cooperation; □ Countries are already investing in environmental programs indicating a willingness to address the problem; □ The GEF pilot phase established working mechanisms and regional networks which can be developed and extended to other countries in the region.
Project Development Objectives			
Build capacity to effectively manage the coastal areas and the sub-regional seas	<ul style="list-style-type: none"> □ Operationalization of national ICM demonstration sites □ Replication and adoption of ICM methodology and working model at parallel sites in each participating country; □ Operationalization of risk assessment and management in sub-regional seas □ Regional train-the-trainer programs implemented; National training programs initiated. 	<ul style="list-style-type: none"> □ same as above 	<ul style="list-style-type: none"> • Build upon the ICM working model which was verified in Xiamen and Batangas Bay during GEF pilot phase; • There are existing national investments in training; • Regional train-the-trainer programmes enhance national capacities; <p>□ The risk is limited.</p>
Increase environmental investments in coastal and marine projects and initiatives.	<ul style="list-style-type: none"> □ Replication of working models of public-private partnerships, through implementation of mixed ownership companies; □ Change in perception by the private sector, and a commitment to play a stronger role in environmental management and related investment 	<ul style="list-style-type: none"> □ same as above 	<ul style="list-style-type: none"> • Private sector exists within the country and/or is able to invest within the country; • Private sector has the resources and increasing awareness of investment opportunities in the environmental sector; • 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; • Private investors concur that financial risks and potential returns on investment are within acceptable limits.
Advance scientific inputs to coastal and marine environmental management decision-making	<ul style="list-style-type: none"> □ A suite of proven approaches, methodologies and processes, including indigenous and emerging technologies, for reducing and avoiding bottlenecks to policy and management interventions, such as ecosystem carrying capacity, economic valuation of marine and coastal resources and habitats, etc. 	<ul style="list-style-type: none"> □ Peer review of approaches, methodologies, etc.; □ Scientific and technical reports; □ Scientific workshops and seminars 	<ul style="list-style-type: none"> □ Ongoing studies and use of scientific information in participating countries imply recognition of need for scientific input to decision-making. □ Risk is limited.

Establish integrated information management systems for coastal management and integrated environmental impact assessment	<input type="checkbox"/> Integrated information management systems used by local and national agencies for environmental management and EIA, within the ICM framework	<input type="checkbox"/> Progress reports; <input type="checkbox"/> PSC and TPR; <input type="checkbox"/> Milestone reports; <input type="checkbox"/> Effective use of IIMS assessed	<input type="checkbox"/> A regional network of ICM sites is in the interest of LGUs; <input type="checkbox"/> Substantial holistic information is available on ICM sites and is being gathered for new sites; <input type="checkbox"/> There is common interest among participating countries in EIA; <input type="checkbox"/> IEIA will become an important instrument in environmental and ecosystem management.
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Annex II cont'd

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<input type="checkbox"/> Enhance collaboration of non-government organizations, community-based organizations, religious groups and environmental journalists in marine environmental management	<input type="checkbox"/> Key officials of NGOs, CBOs, POs and religious groups trained; <input type="checkbox"/> NGOs, CBOs and POs incorporated into local and national institutional arrangements and activities in ICM and sub-regional seas management.	<input type="checkbox"/> Prepare reports; <input type="checkbox"/> PSC and TPR; <input type="checkbox"/> Milestone reports.	<ul style="list-style-type: none"> • NGOs, CBOs, POs and/or religious groups exist in the country and are interested in environmental protection and management; <input type="checkbox"/> Increased understanding and interest in environmental issues by all sectors <input type="checkbox"/> Risk is limited.
<input type="checkbox"/> Facilitate the formulation or strengthening of national coastal and marine policies and strategic action programmes	<input type="checkbox"/> More countries develop coastal policies and programmes, using the guidelines and models provided during training sessions and seminars under the project.	<input type="checkbox"/> same as above	<input type="checkbox"/> Increasing recognition of use conflicts and environmental degradation warrants countries to develop national coastal policies and programmes; <input type="checkbox"/> Recognition that existing multiple use conflicts and multi-agency conflicts cannot be resolved by individual sectors and therefore there is a need for improved coordination among agencies working in the marine and coastal environment.
<input type="checkbox"/> Support a sustainable regional mechanism to augment regional commitment for implementing international conventions and to serve as a regional marine resource center for the protection and management of the coastal and marine environment of the EAS	<input type="checkbox"/> Groundwork for the establishment of a regional mechanism in place, through workshops, seminars and regional networking, focusing on policy analysis, international conventions, national enforcement, financial sustainability, public awareness and education, etc.	<input type="checkbox"/> same as above	<input type="checkbox"/> Most countries have already signed international conventions concerning marine pollution prevention; <input type="checkbox"/> Countries realize the common benefits and increased effectiveness through cooperation in implementing international conventions; <input type="checkbox"/> A number of existing regional mechanisms are in place (e.g., ASEAN; COBSEA).
Project Output			
<input type="checkbox"/> Establish national ICM demonstration sites, ICM parallel sites and develop fast track ICM programs. <input type="checkbox"/> Develop regional capacity to implement environmental risk management programs in sub-regional sea areas of LMEs. <input type="checkbox"/> Organize special training programme for upgrading of technical skills. <input type="checkbox"/> Build capacity through regional networks and task forces.	<input type="checkbox"/> 8 national ICM demonstration sites operationalized; <input type="checkbox"/> 10 national ICM parallel sites operationalized; <input type="checkbox"/> 3 sub-regional sea areas/LMEs implementing risk assessment/risk management programmes; <input type="checkbox"/> 15 regional training courses completed; <input type="checkbox"/> 500 regional personnel receive special training	<input type="checkbox"/> Training programme reports <input type="checkbox"/> Strategy management plans <input type="checkbox"/> Action plans <input type="checkbox"/> Participants' assessments of training programmes	<input type="checkbox"/> Training courses developed during GEF pilot phase will be employed; <input type="checkbox"/> Experience developed in Xiamen, Batangas Bay and Malacca Straits are transferable.
Set up a series of public-private investments. Package project proposals, especially for priority pollution "hot-spots". Create voluntary agreements and promote ISO certification.	<input type="checkbox"/> At least US\$600 million in investment opportunities identified; <input type="checkbox"/> At least 10 project proposals for parallel sites and 2 proposals for LMEs developed; <input type="checkbox"/> Voluntary agreements established as appropriate	<input type="checkbox"/> Reports, opportunity briefs, project proposals, voluntary agreements and other project milestones.	<input type="checkbox"/> Sustainable financing mechanisms developed during GEF pilot phase will be employed.

Annex II cont'd

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
□ Project Output			
Use verified scientific methods and approaches, as well as indigenous and emerging technologies, to generate reliable socio-economic, ecological and technological information for policy and management interventions.	<ul style="list-style-type: none"> □ GIS used at all national demonstration sites; □ Appropriate remote sensing technologies tested at selected sites within the region; □ Other technologies applied and tested as identified in Annex 10. 	<ul style="list-style-type: none"> □ Reports and case studies and other project milestones. 	<ul style="list-style-type: none"> □ Indigenous and emerging technologies are available and accessible; □ Emerging technologies have recognizable benefit to environmental management system.
Establish integrated information management systems (IIMS) within ICM sites.	<ul style="list-style-type: none"> □ Each national ICM demonstration site will have an IIMS; Each national ICM site will be linked to a regional network through Internet; the ICM database will be employed for EIA development and review. 	<ul style="list-style-type: none"> □ An electronic IIMS with a functional environmental database; □ Milestone reports. 	<ul style="list-style-type: none"> □ A marine pollution monitoring programme will be put in place at each ICM site in the regional network; Practitioners at ICM sites are interested and willing to share information Countries have access to Internet.
Increase the knowledge and technical skills in marine environmental management of NGOs, CBOs, POs and religious groups. Strengthen environmental advocacy through enhanced coordination of the responsible advocacy groups.	<ul style="list-style-type: none"> □ Effective participation as active members of ICM councils or similar bodies for ICM and environmental management; □ Active participation in environmental impact assessment process such as during public hearings and other deliberations including public awareness activities; □ Active participation in environmental management, serving as "environmental watchdogs" on management, monitoring and enforcement of environment-related activities, working closely with relevant agencies and the local ICM council; □ Conduct of training courses, workshops and conferences to improve such groups' skills and knowledge on environmental issues. 	<ul style="list-style-type: none"> □ Reports and other project milestones. 	<ul style="list-style-type: none"> □ NGOs are active in participating countries
Develop guidelines and framework for the formulation of coastal and marine policies and environmental management programmes.	<ul style="list-style-type: none"> □ Technical assistance through workshops, seminars and training to local and national governments on ICM and action plans, fulfilling obligations of international conventions, etc. □ Increase in the number of countries with national coastal policies and programmes over 1998 levels. 	<ul style="list-style-type: none"> □ Reports and other milestones 	<ul style="list-style-type: none"> □ Incremental benefits of national marine and coastal policies are recognized by participating countries.
Assist interested governments to realize the net benefits of implementing global instruments. Set up a regional mechanism which strengthens technical capacity of participating governments and promotes greater cooperation in implementing global instruments.	<ul style="list-style-type: none"> □ Increase in number of ratifications of international conventions over 1998 levels; □ Studies and reports on policy issues completed; □ Conduct of workshops, seminars and regional forums; □ Marine resource center established; Networks on ICM, marine pollution monitoring and legal advisors sustained □ Sustainable financing mechanisms verified 	<ul style="list-style-type: none"> □ Milestone reports 	<ul style="list-style-type: none"> □ Recognition among participating countries that it is desirable to collaborate when addressing increasing pollution and transboundary issues; □ Existing regional mechanisms can be used as starting points.

Annex II cont'd

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
Project Components			
Programme planning development and management	<ul style="list-style-type: none"> <input type="checkbox"/> Programme Steering Committee (PSC) established to oversee planning, implementation and assessment of project management and policy issues; <input type="checkbox"/> Programme Development and Management Office (PDMO) established to execute the project; <input type="checkbox"/> Annual work plan and budget prepared; <input type="checkbox"/> Programme monitoring and evaluation procedures established 	<ul style="list-style-type: none"> <input type="checkbox"/> Annual PSC technical sessions; Annual Tripartite Review; <input type="checkbox"/> Quarterly, annual and terminal reports completed by PDMO; <input type="checkbox"/> External review on performance of PDMO; <input type="checkbox"/> Annual internal and external audit of project budget 	<ul style="list-style-type: none"> <input type="checkbox"/> Countries participate on the PSC; <input type="checkbox"/> PDMO established on basis of experience and lessons learned during GEF pilot phase.
Build capacity to effectively manage the coastal areas and the sub-regional seas	<ul style="list-style-type: none"> <input type="checkbox"/> Local government units make commitments to participate in ICM at national demonstration sites; <input type="checkbox"/> Central and regional governments undertake collaborative efforts in risk assessment/risk management of sub-regional sea areas; <input type="checkbox"/> National and regional institutions and centers of excellence collaborate with donors and international agencies in the conduct of training courses 	<ul style="list-style-type: none"> <input type="checkbox"/> Progress reports; <input type="checkbox"/> PSC and TPR. 	<ul style="list-style-type: none"> <input type="checkbox"/> Local government units are interested in improving management of their coastal areas; <input type="checkbox"/> Nat'l and reg'l governments are concerned of trans-boundary pollution issues; <input type="checkbox"/> Higher academic institutions and centers of excellence are willing to play a positive role in environmental management training.
Increase environmental investments in coastal and marine projects and initiatives.	<ul style="list-style-type: none"> <input type="checkbox"/> Mixed ownership companies are established, comprised of public and private sector investors and investment and lending institutions such as World Bank, the IFC, commercial banks, etc. 	<ul style="list-style-type: none"> <input type="checkbox"/> same as above 	<ul style="list-style-type: none"> <input type="checkbox"/> Private sector realizes the investment and marketing opportunities associated with the environmental industry.
Advance scientific inputs to coastal and marine environmental management decision-making.	<ul style="list-style-type: none"> <input type="checkbox"/> National and regional scientific institutions and international expert groups collaborate on technological advances and share experiences and methodologies 	<ul style="list-style-type: none"> <input type="checkbox"/> same as above 	<ul style="list-style-type: none"> <input type="checkbox"/> Opportunity provided for interaction between North and South in order to transfer technology and effective use of resources
Establish integrated information management systems for coastal management and integrated EIA.	<ul style="list-style-type: none"> <input type="checkbox"/> Collaboration and transfer of information technologies from developed countries to the region; <input type="checkbox"/> Use of information technology to be verified and used at the local level; <input type="checkbox"/> Information technology is transferred within the region, to all operating sites. 	<ul style="list-style-type: none"> <input type="checkbox"/> Technical review and evaluation reports on information technologies 	<ul style="list-style-type: none"> <input type="checkbox"/> Information technology (IT) is accessible from developed countries and Participating countries are willing to use IT to enhance efficiency and effectiveness of environmental management programmes.
Enhance collaboration of non-government organizations, community-based organizations, religious groups and environmental journalists in marine environmental management.	<ul style="list-style-type: none"> <input type="checkbox"/> Appropriate NGOs selected to participate in training programmes; Collaboration established with the International Association of Environmental Journalists. 	<ul style="list-style-type: none"> <input type="checkbox"/> Progress reports; <input type="checkbox"/> Milestone reports. 	<ul style="list-style-type: none"> <input type="checkbox"/> NGOs and environmental journalists are interested in enhancing their capacity and network
Facilitate the formulation or strengthening of national coastal and marine policies and strategic action programmes.	<ul style="list-style-type: none"> <input type="checkbox"/> Collaboration established with concerned central agencies of participating countries; <input type="checkbox"/> Working groups/workshops organized to produce policy guidelines and to review policy and management issues; <input type="checkbox"/> Awareness building such as seminars and workshops organized. 	<ul style="list-style-type: none"> <input type="checkbox"/> same as above 	<ul style="list-style-type: none"> <input type="checkbox"/> Policy-makers in the region are concerned about sustainable development and use of coastal and marine resources

Annex II cont'd

Narrative Summary	Key Performance Indicators	Monitoring and Supervision	Critical Assumptions and Risks
<input type="checkbox"/> Project Output			
Support sustainable regional mechanism to augment regional commitment for implementing international conventions and to serve as a regional marine resource center for the protection and management of the coastal and marine environment of the East Asian Seas.	<input type="checkbox"/> Marine resource center established; <input type="checkbox"/> Workshops and seminars conducted; <input type="checkbox"/> Consultations with national governments completed; <input type="checkbox"/> Existing regional mechanisms such as ASEAN, COBSEA, APEC and ASEM consulted	<input type="checkbox"/> same as above	National governments recognize the benefits of collaborating on marine pollution and transboundary issues in the East Asian Seas Region.

Annex III

STAP Roster Technical Review

The following appraisal is based on the **Generic Criteria for Independent Technical Review of Project Proposals** provided by UNEP/GEF. Since the appraisal's main purpose is to draw attention to weaknesses in the proposal (to facilitate remedy) rather than to its strengths, the following observations are inevitably in a negative tone; questions are occasionally put, to draw attention to doubts (as to feasibility etc.). Overall, the project is worthwhile, and builds on the good long-term work of the UN system and other organizations in the East Asian region

1. OVERALL IMPRESSIONS

The project idea is highly desirable but very ambitious. Environmental management of any kind is hard to impose, even under the best of real circumstances, and the results are almost invariably less clear-cut than those such ambition seeks. This project proposal attempts to operate on a wide front, presumably because the objectives and the execution are complex and complicated. If nothing is ventured nothing is gained, however, and I support the principles embodied in this project, and consider the means adequate in the context of initiatives of this type in the UN system.

The importance of **transboundary** pollution is given very little importance in the proposal, although it is very difficult to think of any form of pollution, especially marine pollution, that is not, in the long run, transboundary; in any case, it would underlie the creation and effective operation of the proposed regional mechanism, which seems to be the cornerstone of the project's purpose.

Eleven countries apparently participated in the pilot phase, but in this follow-up phase only eight seem to have signed up; this tends to compromise the regional scope desired for this project.

2. RELEVANCE AND PRIORITY

a) This project falls clearly within the scope of GEF objectives in the context of International Waters, although the proportion corresponding to national activities and that corresponding to international (especially regional) activities are not really clear from the brief provided; the transboundary issue has been either fudged or left on the edge of the main thrust, whereas it is, fundamentally, central to this type of project.

b) Several of the international conventions relevant to the project have been mentioned, but it seems that, since coastal management very much includes the local flora and fauna, CITES should have been mentioned (many animals and plants that are "exotic" to Europe and North America are traded in major quantities between these two regions and East Asia). Needless to say, all the major conventions (mostly deposited with IMO) on marine pollution from shipping and offshore platforms should be

included in the scope of the project objectives aimed at promoting their application in the region.

c) The project subject area is clear relative to the regional priorities: cleaner seas, to promote the living resources, notably fisheries; better controlled shipping, to reduce illegal discharges of wastes (toxic or not, oil or not); and better managed coastal zones, to reduce discharge of land-based pollutants onto the beaches and into the sea. I doubt, however, that the very important problem of atmospheric pollution (source of one third of marine pollution) is yet being addressed effectively in the region; it should not, however, be added to this project.

3. PROJECT APPROACH

It is rather easy to think that the project has set itself all the obviously important objectives, so the approach can hardly fail to be appropriate; but the questions of coastal-zone management, marine pollution reduction and rational living marine resource exploitation really require the coastal zone to be considered in terms of its hinterland drainage basin (not only rivers, but also natural run-off and rainfall patterns), the coastal zone proper and the coastal sea out to, say, 100km. Although the concept of Large Marine Ecosystems is mentioned "en passant", it does not fit the description just given, nor has any one or more been **specifically** identified in the proposal (South China Sea is really too vague). The idea of pilot coastal-zone management areas improves the manageability of the project at the expense of the desirable holistic approach, called for in the brief, but only on the project's own terms. It seems to boil down to whether you do what you can or you do it right; and the project perhaps falls between these two stools.

The building of technical capacity and services and of popular participation through NGOs and private groups are good approaches and, to a greater or lesser degree, feasible. The idea of increasing environmental investments is more dubious: the link to the other project objectives is unclear, and investors usually have to be shown the financial advantages, first, the environmental (ie, "public") advantages, second.

4. OBJECTIVES

a) The general objective (to enable the East Asian Seas Region to collectively protect and manage its coastal and marine environment...) depends probably far too heavily on the acceptance, establishment and effective operation of the proposed regional mechanism; this is not likely to be fully achieved (it is after all, almost a mini-ASEAN that is required).

Certain of the project development objectives also tend to be over-ambitious or somewhat vague:

- build capacity to effectively manage the coastal areas and sub-regional seas: who defines "effectively manage"? And why sub-regional seas (are these to be considered the "private" domains of different subsets of the participating countries)?

- increasing investment was already mentioned; in Annex 2, the critical assumptions and risks do not include the financial risks to investors, their awareness of environmental opportunities, notwithstanding; moreover, in a number of the countries participating, the line between the public and the private sectors is very vague or there is virtually no private sector at all.
- scientific input and information management systems are always valid objectives
- the involvement of various types of non-governmental and civil bodies, religious groups and environmental journalists is laudable and necessary, but, in a number of the countries, they are very thin on the ground or carry no great socio-political weight; organizing them collectively could be difficult or ineffective.
- policy formulation or strengthening is desirable, but the implied "training" of politicians is not clearly specified; this is the policy for resolving coastal zone use conflicts, but Annex 2 says this resolution is not possible, and proposes co-ordination as a substitute: but co-ordination of what?
- supporting a sustainable regional mechanism is valid, but no appropriate one exists, apparently; it is not clear whether the support would be for an existing body (such as ASEAN, COBSEA, but ill-adapted to the task envisaged by the project) or for the creation of a new body: here we go again.

b) Are the objectives properly focused? As is often the case, [most of] the objectives are valid, but the way to achieving them is blurred (for example, there is no attempt to identify the national and regional institutions likely to be able to contribute to achieving them; nor is the "Groundwork [project task] for the establishment [second task, to be carried out by whom?] of a regional mechanisms), so the proposal seems nearly always to be one or two steps away from the real action needed to be taken. This is "usual" in proposals of this type, but still gives it a "tentative" quality falling between the wish and the feasibility. In contrast, the project output (Annex 2), notionally the farthest away, is much more specific.

c) Can the objectives be achieved through the proposed activities? Probably not entirely, because the admirable ambition has yet to face up to the realities of execution: a regional mechanism is still a long way off, and it is impossible really to say that the proposed project activities, however useful they may (and probably will) prove to be, will **ensure** the creation and subsequent effective and sustainable operation of the mechanism.

d) Opportunities or problems overlooked? Although it is hard to see how it could be fitted into this project, the role of air pollution in the coastal zone environment is not given any consideration; such pollution is "par excellence" a regional question, and , apart from the capacity-building, the overall and long-term objective is regional, more than national, in nature.

5. BACKGROUND AND JUSTIFICATION

The background is rather thin in the sense that it concentrates largely on the outcome of the preceding pilot phase, but ignores a great deal of relevant work done over the last three decades by the UN system (notably the Inter-governmental

Oceanographic Commission, UNESCO, WMO) and others in the field of marine pollution research and monitoring, and by UNEP itself through the East Asian Regional Seas programme. A number of key regional environmental concerns, such as mangroves, sea-bed mining (including offshore petroleum exploration and exploitation) are mentioned only in passing or not at all. On the other hand, the underlying reasons for the project are clear: there is a problem (of coastal-zone and marine environmental degradation) that is causing socio-economic harm or loss to local populations, and that must be addressed now by concerted regional effort.

6. CRITICAL ANALYSIS OF THE SITUATION

For a project proposal, the analysis of the situation is probably adequate; but this analysis is too light for the project itself; something more detailed is required. This finer analysis is not foreseen within the project, however. The increasing level of economic activity (intensive agriculture, industry, mining, urbanization, forestry, fishery and aquaculture etc.), due in part to population growth, hence increasing land-use conflicts, not only in the coastal zone, with the corresponding increase in international trade based still mainly on shipping, is leading to reduced environmental and economic yields in the coastal zone; but the quantitative relation between the causes and the effects is not considered in any detail at all in the proposal. The "size" of the problem is vital to the effort considered necessary to solve it, and these do not appear to measure up. The funding seems adequate for the activities envisaged, but the not for solving the main problem: marine pollution control and reduction throughout the region. Nor has the wide variety of national situations been gone into in any detail; all participating countries seem to be treated as "equals", even if reference is made to various socio-cultural and political systems. Also, the Malacca Strait seems to present a special problem within the overall problem, but this is not specifically addressed.

There seems to be no real justification for paying any attention to sea-level rise (mean sea level understood) since this is a very slow process to which adaptation is feasible over a long period of time, if indeed it occurs; the coastal-zone population is already experienced in dealing with far greater daily variations in real sea level due to tides, storm surges and typhoons. Creeping mean-sea-level increase is on a time scale rarely considered by politicians or even populations (unless they are strongly involved in land ownership or exploitation).

7. ACTIVITIES

a) The proposed activities are appropriate to the actual practical aims of the project. However, little is said about how the ICM sites are to be chosen and by whom. There seem to be two dangers: that countries designate sites to ensure "successful pilot management" limited to a very restricted area perhaps not likely to be affected by serious pollution from elsewhere nor by serious use conflicts; and that sites are chosen to deal with only one or two ICM problems, whereas, more often than not, several problems are always present, especially where the need for management is most evident. The first problem of integrated coastal-zone management is resolution of conflicting uses, so the sites perhaps ought to be chosen to deal with that, above all.

b) I would be tempted to say that the objective of increasing investment in the coastal zone is the "odd man out". If effective integrated coastal-zone management can be achieved, and so seen to be, the investment will probably flow in, but would then be obliged to take into account the management set-up already in place.

The idea of sharing pollution monitoring data is a good thing, but there are serious difficulties of inter-comparability of data from different sources, for fine analytical data (because of the need for inter-calibration, itself difficult) and for crude measurement (e.g., oil in the sea) which is necessarily imprecise.

c) The scheduling of activities seems all right, even if reality will probably decide things otherwise. The regional mechanism will be the most difficult to schedule, in practice.

8. NATIONAL PRIORITIES AND COMMUNITY PARTICIPATION

a) Is the proposed activity consistent with the present national plans etc.? There is a longstanding recognition in the region of the need to deal effectively with marine and coastal zone pollution. However, there is a very wide range of national capabilities and infrastructure in the region to address the problems. There is significant capability in the Philippines, China, Malaysia, Republic of Korea, but probably less in Indonesia and Thailand, and less still in Vietnam and Cambodia. Yet all have largely similar or comparable problems in the project's field of action. Japan's marginal role may mean that its incomparably greater experience in the field of integrated coastal-zone management and coastal-zone pollution will not be brought to bear on the project, especially the regional mechanism.

b) Are the countries proposed appropriate for the project? For the regional mechanism to be truly representative, it would have been useful to see Singapore involved, as a major port of call for shipping; and, as noted, the greatest possible involvement of Japan, especially in the capacity-building and scientific/technical aspects, would be highly desirable.

c) Although the social, cultural and livelihood concerns have been generally considered, there are two main categories of countries, which has not been stressed enough: there are the countries, such as Vietnam and Cambodia, whose main concerns are fishery and coastal zone agriculture; and the others, which have a substantial industrial component as well, including significant involvement in aquaculture. Of the latter group, Thailand and Indonesia, in particular, also have substantial tourist industries. The coastal-zone use-conflict patterns must therefore be significantly different in these various groups. Since use conflicts tend, in practice (whatever the sustainable development theory behind the project), to be resolved in favour of the financially and/or politically powerful, this "fact of life" must be addressed sooner or

later; there is nothing to indicate that the project will be able to do so; this might compromise the outcome.

d) The proposal to involve a number of the major components of the local population in the promotion of some of the ideas behind the project is a very good one. It is not practical to try to involve everybody, so careful choices of participant groups must be made. For local fishing communities, the experience of ICLARM (Philippines) and of SEAFDEC (Thailand) should be enlisted; and, more generally, so should that of the UNESCO Regional Office for Science and Technology (Indonesia). Perhaps the project should consider further the value of working with schools, at least at the secondary level. Thailand, the Philippines, Indonesia, China, Republic of Korea, Malaysia, at least, have well evolved secondary education systems.

9. INSTITUTIONAL ARRANGEMENTS

More should be done than is apparent in the proposal to involve the relevant University departments and institutions. The University of the Philippines has a very good Marine Science Centre (possibly involved in the Batangas Bay case study). Chulalongkorn University (Bangkok) has a good marine science department; China has a National Research Centre for Marine Environment Forecasting (Beijing), an Environmental Science Research Centre (Xiamen, probably already involved in the case study there), and a National Marine Data and Information Service (Tianjin), among others (perhaps including the University of Hong Kong). Korea has the excellent Korea Ocean Research and Development Institute. The Universiti Sains of Malaysia has a strong biology department that could be involved. Obviously, the relevant Japanese academic institutions could be an enormous source of scientific and technical information and data, and most Japanese Prefectures have strong integrated coastal-zone management units. The regional mechanism should be based on these and other comparable institutions in the region, with key governmental institutions.

10. TIME FRAME

Can the objectives be achieved in the time frame? Probably not, but this is "normal" in all development projects; by the same token, any practical adjustment would not change this experience. This "fact of life" explains why efforts to introduce operations research methods into this type of project in the 1970s and 1980s failed miserably. Perhaps the amount of time (24 months) assigned to establishing the IIMS is over-optimistic; in any case, the considerable experience of the IOC in international oceanographic data and information exchange should be brought to bear on this activity. The time allowed for establishing the regional mechanism might be adequate set it up in name, but not enough to ensure that it could work on a sustainable basis.

11. FUNDING

a) Is the proposed GEF funding level appropriate? Probably yes, provided the project's "coat" is cut from the funding "cloth".

b) Are proposed co-financing contributions realistic? Overall, yes; but it is surprising to see that the co-funding, which I take to include national "contributions", is inexistent for international travel. If such travel includes travel of national experts and others within the region, particularly in the promotion of the regional mechanism, there should be more national support for it. If it means only for travel (but of whom?) between the region and elsewhere, the foregoing argument is less weighty, but not negligible if national experts are involved in the interest of achieving project objectives. As a general observation, the \$400,000 for international travel means \$80,000 per year (of project life) or about 250-300 travels per year: this seems on the high side. Likewise, for the regional travel. Who is travelling, where to and what for? Such questions are never raised in project proposals.

12. INNOVATIVE FEATURES/REPLICABILITY

What aspects of the project are innovative? There is not much that can be called strictly innovative; the idea to involve the local populations in some way, although a good idea, is not new. Training, scientific input, data management, institution-building, case-studies etc. are all commonplace, however necessary. The most nearly innovative aspect is the idea to increase investment in "environmental" projects, but it is probably also the aspect with the unsurest basis; as noted, it might be more likely to happen if the basic objective of the project is achieved: to establish working integrated coastal-zone management and an effective regional mechanism. It is less likely to happen simply as a result of encouragement, if the likelihood of financial gain is not clear.

13. SUSTAINABILITY

Does the project provide for sustainability after GEF funding has ended? It is hard to say whether any institutional structure will survive once the impulse from the project ceases to apply. The capacity-building achieved will fade away, or turn into other channels, if the framework for its application is not maintained by national governments. The public, even if well involved in promoting the aims of the project, will not maintain its involvement, much less any enthusiasm, if the coastal zone problems are kept below a certain level of seriousness; in that sense, even partial success may be enough to seriously weaken public concern, which is why an attack through the schools seems desirable at as early a stage (in time, if not in age of pupils) as possible. The compromises necessary to solve multiple-use conflicts must be shown to bring substantially increased general public benefit, if old local "power wars" are not to return to the surface. The aim is sustainability, and that is worthy enough in itself.

14. DEVELOPMENT DIMENSIONS AND RATIONALE FOR GEF SUPPORT

Any change in social structures that effectively increase well-being in general and over the long term is a viable objective of development. Changes that merely add to

"bureaucracy", public costs and administrative inefficiency obviously represent failure. GEF is pursuing the former, and this project is following. Nevertheless, it is proposing, among other things, the creation of a regional mechanism (without saying clearly what the nature of that mechanism is). If it works, the aims of development will have been served; but has the success of other regional mechanisms, in general (eg, ASEAN, SEAFDEC, COBSEA), been evaluated. The region is a culturally and socio-economically diverse one, so are such mechanisms a reasonable bet? On the more restricted level of the mechanism proposed by this project, can any comparison be made with a similar type of body in this region or in another? Apparently not; in any case, the more restricted the field covered, the more restricted is the number of population components that can become effectively involved. To achieve the multiple aims set for the project, a regional mechanism qualitatively comparable with ASEAN, perhaps, may be necessary; this goes well beyond what is envisaged by the project or by GEF. Yet, the idea of a highly technical mechanism providing a very specific service, as a small but useful part of a wider development matrix, also seems excluded by the project and by GEF. Development may therefore be both served, partially, and disserved, partially. I regret I do not have any easy answer to this dilemma.

15. ADDITIONAL COMMENTS OR QUESTIONS

I have nothing else to add at this stage, except to stress the view that, from the standpoint of experience in integrated coastal-zone management and of the relevant science and technology, the involvement of Japan seems essential, even if there are other reservations as to its participation.

Annex 3a: Revisions to the Project Brief per the STAP Reviewer's Comments

The STAP reviewer's comments contained a number of helpful observations concerning the project brief. The following additions and modifications have been made to the brief as a result of the comments.

1. Overall Impression

The suggestion concerning increased emphasis on transboundary pollution has been incorporated into the brief. Components 1 and 7 of the new project have been revised to specifically include activities (paragraphs 25, 28 and 45) to cover this issue.

All eleven countries involved in the GEF pilot-phase project have expressed their willingness to participate in the new project. All nine countries that are eligible for GEF-support have now officially endorsed the new project (please see section 5 of the cover page). Three additional countries not eligible for GEF funding (Brunei Darussalam, Japan and Singapore) have expressed interest in participating in the regional project.

2. Relevance and Priority

As suggested, CITES has now been included as one of the key international conventions requiring regional commitment (paragraphs 20 and 44).

3. Project Approach

Noting the reviewer's concern about the adequacy of coverage of the many and various environmental issues and concerns in the East Asian Seas, the revised project brief clarifies the scale at which the project activities will be implemented, and the supporting strategies (paragraphs 8 and 12). Paragraph 25 identifies the manner in which the project will provide coverage of the major environmental and sustainable development issues of the region. Paragraph 28 outlines the procedure to be applied to overcome barriers to effective management of sub-regional sea areas and environmental hot spots.

Regarding the investment component of the project, paragraphs 33, 34 and 35 have been revised to emphasize the steps that will be implemented in order to identify, and gain support for "bankable" projects. A linkage between the financial advantage of projects, and the environmental benefits available, is achievable through feasibility analyses (paragraph 35), which include both financial and economic (direct and indirect) assessments.

4. Objectives

The STAP reviewer provided a number of perspectives on the general and specific objectives of the project. Sections of the brief have been revised to clarify the objective, scope and rationale in establishing a regional mechanism (paragraphs 11, 44, 45 and 46). In addition, Annex 2 has been revised to include the critical assumptions noted by the STAP reviewer concerning risks to investors, the existence of NGOs in participating countries and the development of coastal policy.

5. Background and Justification

Because of space limitations, the project brief does not go into detail on the historical and ongoing work in the region as a consequence of bilateral and multilateral initiatives, as noted by the reviewer.

Paragraph 19 now refers to the general efforts undertaken, and their focus. Paragraphs 2, 3 and 4 and Annexes 1, 6 and 8 contain information on the various regional environmental issues and concerns.

6. Critical Analysis of the Situation

The reviewer recognizes that the amount of funding for the project is not adequate for solving the problem of marine pollution reduction and control throughout the region. As stated in revised paragraph 12, it is the incremental but cumulative exponential benefits of the project that will contribute substantially to the regional and global improvement of the marine environment. This will take time, certainly beyond the life of the project, and is part of the rationale for establishing a sustainable regional mechanism.

7. Activities

The selection of representative ICM sites is an important step in the project, as noted by the reviewer. Paragraph 25 has been revised to include a list of ICM sites that provide the broad spectrum of environmental issues and conflicting uses of resources that are characteristic of the region. Further, as noted by the reviewer, environmental investment and sharing of monitoring data do raise some very practical problems. The fact that each of these activities will be implemented at the local level (paragraphs 35 and 38) improves the manageability of the problem, and demonstrates successful working models that others can then replicate.

8. National Priorities and Community Participation

The principal concerns and perspectives of participating countries does indeed vary, as stated by the reviewer. Paragraph 51 has been modified to reflect this point, as has the selection of ICM demonstration sites (paragraph 25) and sub-regional sea areas (paragraph 28).

Paragraph 40 has been modified to include the reviewer's suggestions concerning building awareness among the student population. In paragraph 46, it is noted that a working group of key players in the region will be organized to ensure linkage of projects and sharing of expertise.

9. Institutional Arrangements

The role of existing scientific institutions in the development and sustainability of the regional mechanism is of paramount importance, as noted by the reviewer. Components 1, 2 and 3 have been revised to highlight elements that require backstopping by the region's scientific institutions. Further, as part of the regional mechanism, paragraph 45 refers to a regional marine resource facility which will serve as a node for regional networks, including a network of scientific and technical institutions (paragraph 50).

10. Time Frame

The time frame for the project is limited, as noted by the reviewer. However, the experience of the GEF pilot phase and the support of the participating countries does reduce the risk of failure to achieve the stated objectives (paragraph 48).

11. Funding

A detailed budget for the project will be developed and presented in the project document, as requested by the reviewer.

12. Innovative Features/Replicability

As stated by the reviewer, there is nothing really “new” in the project, if considers the initiative from the perspective of seven individual components. The innovative aspect of the project is the setting up and packaging of a regional mechanism (Component 7); a mechanism in which all participating countries are able to provide input and add value to the regional objectives of marine and coastal resource and environmental management. Looking at the project as an integrated, comprehensive, step-wise evolutionary process leading to a sustainable regional mechanism, involving both the public and private sectors of society, the innovativeness becomes apparent.

13. Sustainability

As noted by the reviewer, the sustainability of the project depends on the national government commitment. National government commitment to improving marine and coastal resource and environmental management is already evident in Table 1 and Annexes 1 and 5. The regional mechanism, Component 7, provides a focus and means of coordinating national efforts, thereby enhancing the efficiency and effectiveness of individual country undertakings. In addition, as noted in paragraph 49 and 50, the involvement of the private sector, inter-governmental financial institutions, investors and commercial banks is also a key element of sustainability, as demonstrated during the GEF pilot phase.

14. Development Dimensions and Rationale for GEF Support

Paragraph 45 has been upgraded to reflect the comments of the reviewer concerning the establishment and scope of the regional mechanism.

Annex 4. Final independent evaluation of the Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas (RAS/92/G34)

The final evaluation was undertaken by Angel Alcala, Brian Davy and Olof Linden from 3 to 16 August 1998. The team visited the project sites at Xiamen People's Republic of China and Batangas Republic of the Philippines. Staff from the Straits of Malacca project visited Manila to brief the evaluation team. Full briefings were given by the PDMO in Manila including provision of all relevant project documents.

Demonstration Projects

The evaluation team found that this project has demonstrated the practical application of ICM at the two sites in the region. Strategically, the evaluation team felt that China and the Philippines were the best initial country choices. In both countries, the chosen sites had put in place functional management structures, including the Marine Management Coordination Group of Xiamen Government and Batangas Bay Integrated Coastal Management Council.

The final evaluation determined that capacity building has been effectively undertaken through training courses, internships, study tours, etc. The demonstration sites provided clear models of ICM in operation for managers, technical staff and decision-makers. PDMO has played a catalytic role in the design of this capacity building in the programme by effectively utilizing the advantages of integrated management structures in the demonstration sites ("The ICM approach").

The strong political will and awareness of the value of ICM evident in both demonstration sites impressed the evaluation team. The fact that the local government leaders have taken ownership of these activities should ensure long-term sustainability of this approach.

The ICM concept is already replicated in China (Hainan, Guangdong, Guangxi) and soon in the Philippines (Masinloc Bay, Luzon; Ormoc Bay, Visayas; and Macajalar Bay, Mindanao). This will provide an important base for expansion in the follow-on Phase reflecting the different socio-economic, political, cultural and ecological features of the region.

Concerns were voiced regarding the financial limitation of the existing and future ICM sites especially in the case of Batangas. The evaluation team considers that this problem will require a stronger proactive approach, including awareness building at higher government levels and the application of the "polluter pays" principle on polluters. It is essential that the local government which will normally bear the cost of environmental management be adequately compensated and supported by central government or resources obtained from local sources.

Presently there are a few minor staffing problems at the project sites but the evaluation team expects that these problems will increase in the future as the project expands to other sites using mainly staff under local government compensation schemes. Continued emphasis on further capacity building coupled with specific incentives to keep high quality staff working in the demonstration sites will be necessary.

The evaluation team also determined that most of the projected activities, as outlined in the work plan should be completed on schedule particularly as the programme has been extended for another six months.

The Malacca Straits project has an inherently different approach and it covers land-based and ship-based pollution risk assessment and risk management including oil spills. These are transboundary issues that concern the three littoral states. The development of a fully functional interactive database will likely extend to the June 1999 programme completion date. The development of the electronic highway concept looks promising but details will only be available after the conference planned for April 1999 in Malaysia.

Pollution Monitoring and Information Management

Pollution monitoring programs are already operational in Xiamen and Batangas (the two ICM demonstration sites) and the evaluation team was impressed that the results were being used for management purposes. The database development and inter-calibration activities both nationally and regionally have made important progress in improving the quantity and partly the quality of the available data. However, more effort is required to produce cost-effective high quality data sets focused on specific management goals. The evaluation team also noted that the development of databases with longer than 10-year time frames will likely be required for many management purposes. National governments will need to give careful thought to the requirements for establishing and maintaining such databases.

According to the evaluation team, some progress has already been made in the development of the pollution monitoring information management network but regional sharing of data is still somewhat problematic for a number of participating countries.

The evaluation team also reported that capacity building is critically important, and training workshops and inter-calibration exercises have been effectively used to improve the quality of pollution monitoring; however, they suggest that this will require continuing priority support.

International Conventions

The evaluation team concluded that the project has been successful in increasing the awareness (among the 11 nations) of the importance of the marine related international conventions. They noted that several countries have now ratified an increasing number of conventions based on the guidance of the programme. This is noteworthy considering the difficulties in dealing with the higher levels of government. In addition, the programme has played an important role in assisting legal staff in the participating countries in the process of national legislation review including preparation of national guidelines on model legislation.

Sustainable Financing

The team also noted that the project has made progress in developing concepts and approaches for sustainable financing mechanisms involving private sector-public sector partnerships focusing on solid waste, agricultural waste, industrial waste and ship-borne waste. Particularly in Batangas, private sector involvement has been effectively developed with promising modular initiatives underway for treatment of some of this waste. China presents a special case where the public sector-private sector partnership is blurred but waste treatment programs have effectively been put in place by the Xiamen authorities.

Progress since the Mid-term Evaluation

In general, the evaluation team believes that the recommendations of the Mid-term Evaluation are being effectively implemented and should be completed within the scheduled extension period of June 1999, if not earlier. Similarly, the activities of the specified 1998 work plan appear to be on schedule. Financial delivery as of June 1998 was 80.03%. The evaluation team understood that the remaining budget is already programmed and will be expanded before the end of June 1999.

General Conclusions

The evaluation team concluded that this programme has made substantial progress towards meeting its objectives and should complete all projected activities on schedule. The evaluation team also emphasized the critical importance this programme played in operationalizing the ICM concept in the region. However, given the diversity of conditions in this region, the evaluation team believes that continued

support will be required to further test this concept in the differing mix of socio-economic, political, cultural and ecological setting of the region.

Recommendations

The evaluation team made the following recommendations:

(a) *To the participating governments*

The Programme has developed useful working models on ICM application for addressing land-based pollution resource use conflicts. In addition, effective risk assessment methodologies and risk management approaches for addressing marine pollution in the Straits of Malacca has also been developed.

The evaluation team recommended that the participating countries adopt ICM approaches for marine pollution prevention and management and replicate the working models by establishing national and parallel sites and take advantage of the legal network and technical expertise in the project for ratification and implementation of the marine-related international conventions. In addition, countries should actively participate in the activities of the regional networks developed or being developed by the project, especially the regional network on environmental monitoring and its related database development.

(b) *To GEF and UNDP*

There is a clear need for the development of adequate national and regional capability for effective management of the coastal areas. The evaluation team agreed that this capability needs to build on the existing governmental and non-governmental organizations but in a new mode of inter-sectoral partnerships. This is the ICM approach, the foundation for which has been effectively laid by the present project. They also recommended that GEF and UNDP examine how to make ICM activities key for the wider Asian region and then globally for all related ICM projects supported by GEF.

(c) *To IMO*

In view of the successful implementation of the pilot phase programme by PDMO and the demonstrated management capability of the project staff, the evaluation team recommended that the executing agency allow more operational flexibility to the PDMO especially in terms of increasing the maximal limits for contracts, subcontracts, other service contracts and purchase orders. In addition, the evaluation team recommended that IMO provide timely administrative support to ensure smooth operation of the programme until its completion in June, 1999. Finally the evaluation team suggest that IMO review the present personnel compensation scheme for both international and local hired staff to determine whether a competitive package is being offered to meet the needs of all staff.

(d) *To Host Government/Institution*

The evaluation team determined that the host institution has provided critically important office space, facilities, local counterpart staff and logistic support, all of which have enabled the smooth operation of the PDMO. In meetings with the Secretary of Department of Environment and Natural Resources, full support was promised for a follow on programme. The evaluation

team also recommended that the host government/institution confirm in writing its intention to continue this support at an expanded level in the follow on project. The evaluation team noted the planned three-fold expansion of project activities, staff and budget of the follow on project.

(e) To PDMO

In addition to its role in implementing action of this complex programme, the evaluation team highlighted:

1. The need to put in place a continued support programme for demonstration sites moving from programme support to national operation. This support should include continued capacity building as well as access to back-up technical support such as conference/workshop attendance, consultant guidance, publications, etc.
2. As the programme moves from a focus on marine pollution to a wider series of critical issues impacting on coastal and marine development, a more broadly based approach will be needed and planning for this should start soon. This shift should include the development of a comprehensive staffing plan with emphasis on hiring certain staff with backgrounds in the social sciences.
3. As noted in several parts of the final evaluation report, considerable funding has been allocated to training and capacity building. The evaluation team recommended a detailed review of the impacts (and problems) of this capacity building support, subject to the availability of funding. Suggested components could include tracer studies, trainee-trainer and awareness building components.

Annex 5. Baseline activities and investments in requesting countries of the
East Asian Seas Region.

Project/Program	Total Budget 1999-2003 (US\$)	Budget Breakdown		Relation to Project Component
		National (US\$)	Donor (US\$)	
Cambodia				
1 Resource inventory of mangroves (1999)	204,369		204,369	Component 4
Sub-Total	204,369		204,369	
People's Republic of China*				
1 Nation-wide baseline marine pollution investigation (1997-2000)	1,500,000	1,250,000	250,000	Component 1
2 Large-scale marine functional zonation program (1998-2000)	610,000		610,000	Component 1
3 Total pollutant load control program (1998-2000)	800,000	60,000	740,000	Component 1
4 Promotion of institution on sea utilization (1998-1999)	130,000		130,000	Component 6
5 Key technologies for utilization and forecast on environment and resources (1998-2000)	2,200,000	1,590,000	610,000	Component 3
6 ICM parallel sites (1998-2000)	550,000		550,000	Component 1
7 Marine pollution monitoring, SOA (projected 5 years from 1999)	16,500,000	16,500,000		Component 3
8 Coastal and marine policy development, SOA (projected 5 years from 1999)	1,500,000	1,500,000		Component 6
9 ICM, SOA (projected 5 years from 1999)	7,500,000	7,500,000		Component 1
10 Sustainable development of coastal resources (1999-2004) with WB	16,667,000	8,333,500	8,333,500	Component 1
11 ICM and development in Bohai Sea and Yellow Sea (1990-2010) with ADB	15,000,000	7,500,000	7,500,000	Component 1
12 Marine environmental survey of Yalu River estuary (1999) with UNDP	1,300,000	650,000	650,000	Component 3
13 Marine pollution monitoring system (1999-2001) with Norway	18,000,000	9,000,000	9,000,000	Component 1
14 Oil prevention, SOA (projected 5 years from 1999)	600,000	600,000		Component 1
15 Ocean dumping management, SOA (projected 5 years from 1999)	4,600,000	4,600,000		Component 1
16 Marine environmental research, SOA (projected 5 years from 1999)	1,150,000	1,150,000		Component 3
17 Implementation of international conventions, SOA (projected 5 years from 1999)	750,000	750,000		Component 7
Sub-Total	89,357,000	60,983,500	28,373,500	

Annex 5 cont'd

Project/Program	Total Budget 1999-2003 (US\$)	Budget Breakdown		Relation to Project Component
		National (US\$)	Donor (US\$)	
Indonesia				
1 Collaborative environmental project, CEPI (1998-2000)	789,000		789,000	Component 1
2 Marine resource management and planning (1999-2003)	50,000,000		50,000,000	Component 1
3 Optimization of coral reefs management and sustainable use (1999-2001)	35,000,000	6,000,000	29,000,000	Component 1
4 OSPAR equipment maintenance and exercise (projected 5 years from 1999)	408,000	408,000		Component 1
5 Hazardous waste treatment, operation and maintenance (1999-2003)	37,500,000	37,500,000		Component 1
6 Coastal resources management project (1996-2003) with USAID	8,600,000		8,600,000	Component 1
Sub-Total	132,297,000	43,908,000	88,389,000	
Malaysia				
1 Pollution monitoring program (projected 5 years from 1999)	1,184,000	1,184,000		Component 3
2 Maintenance of oil spill equipment (projected 5 years from 1999)	1,914,000	1,914,000		Component 1
3 Environmental impact assessment (projected 5 years from 1999)	109,000	109,000		Component 4
4 Hazardous waste treatment (projected 5 years from 1999)	12,755,102	12,755,102		Component 1
5 Implementation of international conventions (projected 5 years from 1999)	222,000	222,000		Component 7
Sub-Total	16,184,102	16,184,102		
Philippines				
1 ASEAN-Australia CZ environmental and resource management (1995-1999)	17,000		17,000	Component 6
2 Natural resources management program II (coastal) (1996-2003) with USAID	7,858,000		7,858,000	Component 1
3 Southern Mindanao ICZM project (1999-2004)	24,250,000		24,250,000	Component 1
4 Fisheries sector programme Phase II (1999-2003) with ADB	86,000,000		86,000,000	Component 1
5 Bais Bay development (1994-1999)	26,000		26,000	Component 1
6 Coastal environment program (projected 5 years from 1999) with DENR	9,675,000	9,675,000		Component 1
7 Marine pollution monitoring (projected 5 years from 1999) with DENR (EMB)	4,070,000	4,070,000		Component 3

Annex 5 cont'd

Project/Program	Total Budget 1999-2003 (US\$)	Budget Breakdown		Relation to Project Component
		National (US\$)	Donor (US\$)	
8 Philippine Environment Endowment Fund; NGO support	5,112,500		5,112,500	Component 5
9 Environmental impact assessment (projected 5 years from 1999) with DENR	635,000	635,000		Component 4
10 Marine environment research (projected 5 years from 1999) with DENR	150,000	150,000		Component 3
11 Integrated regional management of Sulu-Sulawesi LME (1997-1999)	252,000	252,000		Component 6
Sub-Total	138,045,500	14,782,000	123,263,500	
Thailand				
1 Agenda 21 (1994-1999)	850,000		850,000	Component 7
2 Anti-pollution vessel, operation and maintenance cost HD (1999-2003)	1,141,000	1,141,000		Component 1
3 Training on oil pollution, HD (1999-2003)	56,000	56,000		Component 1
4 Marine pollution monitoring, OEPP and HD (projected 5 years from 1999)	2,799,500	2,799,500		Component 3
5 ICM, OEPP (projected 5 years from 1999)	421,880	421,880		Component 1
6 Marine environment research, DOF (projected 5 years from 1999)	14,393,000	14,393,000		Component 3
7 Hazardous waste management, DIW (projected 5 years from 1999)	40,000,000	40,000,000		Component 1
Sub-Total	59,661,380	58,811,380	850,000	
Vietnam				
1 Industrial and urban pollution prevention for coastal cities of Vungtau and Haiphong, World Bank (1998-2007)	3,750,000		3,750,000	Component 1
Sub-total	3,750,000		3,750,000	
Regional Programs				
1 Revolving fund for the Malacca Straits	400,000		400,000	Component 2
Sub-Total	400,000		400,000	
Grand Total (US\$)	439,899,351	194,668,982	245,230,369	

*estimate by the Global Waste Survey Report (IMO 1995) for China is 48.84 mt of treated hazardous waste, about 6.34 million tons are generated from the coastal zone (assume CZ is 13% of total land area) amounting to about 1.5 billion USD at 250 USD per ton.

Annex 6. Root Causes and Expected Options

Issues/Problems	Proximate Causes	Root Causes	Baseline Course of Actions	Alternative Course of Actions
Over exploitation/decline of coastal fisheries.	Population growth; Weak enforcement of fishing regulations; High profits.	Free- access; Economic marginalization of small-scale fishers; High consumption rate; Inadequate policies and/or legal framework at the national and local levels; Low institutional capacity and arrangements of fisheries resources.	Implement sectoral fisheries development programs; Strengthen institutional capacity in fisheries management; Implement projects on alternative livelihood projects among fishing communities.	Apply integrated coastal management (ICM) approach; Coastal and marine policy to include open access issues; Increase knowledge base on fisheries resources; Integrate fisheries as part of subregional sea management.
Degradation and destruction (conversion and modification) of coastal and marine habitats (e.g., mangroves; coral reefs; and seagrass beds).	Inadequate regulations; Weak enforcement of existing regulations; Absence of integrated water and land use zone plan; Population growth with spatial/economic marginalization; High profits.	Low public awareness; Inadequate policies and/or legal framework at the national and local levels; Inadequate or poor institutional capacity and arrangements in the management of natural resources; High consumption rate such as for export.	Regulatory control and protection of some habitats; Some countries implement community based management; Set up protected areas and nature reserves; National commission on mangroves to provide guidance to government; reforestation and buffer zone; Enhance public awareness on the importance of the coastal and marine environment	Implement national programs and projects on biodiversity conservation; Develop coastal and marine policy; Promote community-based management among coastal populations; Strengthen institutional capacity and arrangements in ICM; Implement habitat restoration programs.
Loss or imminent loss of endangered (e.g., endemic and rare species) and threatened species.	High profits; Inadequate regulations; Weak enforcement of existing regulations; Destruction or degradation of habitats; Overexploitation of resources; Deforestation and land degradation.	High consumption rate, particularly for exotic species; Demand for biotechnology; Unsustainable land use practices, especially upland agriculture and logging; Inadequate policies and/or legal framework at the national and local levels; Inadequate or poor institutional capacity and arrangements; Low public awareness.	Establish legislation to protect endangered species; Public awareness campaign; Establish protected areas.	Ratify and implement international conventions on biodiversity; Implement national programs and projects on biodiversity conservation; Increase knowledge base on trades on endangered species; enhance public awareness on the importance of the coastal and marine environment.

Annex 6 (Continued)

Issues/Problems	Proximate Causes	Root Causes	Baseline Course of Actions	Alternative Course of Actions
Degradation of the coastal and marine environment due to marine pollution from land-based activities.	Unsustainable watershed or upland activities; Sedimentation; High profits; Inadequate regulations and/or weak enforcement and compliance of existing regulations; Absence of integrated water and land use zone plan; Unregulated discharge of waste; Coastal mining, reclamation and development.	Inadequate policies and legal framework on watershed or upland management; Deforestation and loss of vegetation cover due to logging and agriculture; High consumption rate, especially for forestry products; Inadequate or poor institutional capacity and arrangements in the management of the coastal and marine environment; Ineffective land use zone plan; Population growth; Low public awareness; Discharge of untreated waste; Emission of toxic and persistent pollutants.	Regulatory control on waste discharge; some pollution monitoring activities; Most countries have EIA requirements; Some ratified international conventions; Establish waste treatment facilities.	Ratify and implement pollution related international conventions (e.g., London, Basel) including the provisions of the Washington Conference on Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities; Implement national Agenda 21 programs; Implement integrated waste management program; Adopt Integrated Environmental Impact Assessment; Strengthen information management system; Enhance public awareness; strengthen institutional capacity and arrangements in ICM including enforcement; Develop coastal and marine policy; Promote private sector investment and public-private sector partnership.
Degradation of the coastal and marine environment due to marine pollution from sea-based activities.	Unregulated coastal and marine activities; Sedimentation due to coastal mining and development; Deliberate and accidental discharge of waste, particularly oil and grease; Dumping of waste; Introduction of alien species.	Accident oil and chemical spills; Discharge of oil and grease from normal shipping operations; Discharge of ballast water; Lack of shore reception facilities; Non-uniformity in flag state/port state control, the ratification of marine pollution related conventions, their implementation, enforcement and compliance. as well as the availability of shore reception facilities among countries in the East Asian Region.	Some countries implement IMO conventions, especially MARPOL, CLC, FUND, London Convention, but few on OPRC; Port State Control not efficiently implemented.	Ratify and/or implement the marine pollution-related international conventions (e.g., UNCLOS, MARPOL, CLC/FUND, OPRC); Strengthen institutional capacity and arrangements in control of navigational safety such as implementation of marine electronic highway project; Promote environment investments; Increase public awareness and support
Global change (climate and sea level rise).	Emission of greenhouse gases; Destruction and degradation of ecosystems; Intensification of agriculture and expansion of settlements.	High consumption rate; Population growth; Spatial and economic marginalization of more than 50% of the population in the developing countries; Low public awareness; Inconsistencies in the implementation of national policies on sustainable development at the local level.	National action programmes to address sea-level rise have yet to be developed; Some studies and estimation of the impacts of sea level rise undertaken but no strategic proactive response.	Ratify and/or implement climate change convention and regional agreements; Enhance public awareness on the impacts of sea level rise on the coastal and marine environment; Strengthen institutional capacity and arrangements in ICM; Coastal policy to include response to sea level rise.

Annex 6.(Continued)

Issues/Problems	Proximate Causes	Root Causes	Baseline Course of Actions	Alternative Course of Actions
Low institutional capacity in the management of the coastal and marine environment.	Inadequate and/or inefficient manpower resources, facilities and funding for institutions or agencies mandated to manage the coastal and marine environment and/or its resources at national and local levels.	Absence or inadequate policies and legal framework on the management of the coastal and marine environment and its resources; Absence of an integrated water and land use zone plan, especially at the local level; Low awareness among political leaders as well as political regime bias; Lack of sustainable financing mechanisms.	Existing skills are for conventional sectoral management primarily focus on command and control measures; Specialized skills on specific technology available at central level; Existing institutions generate specialized skills for resource exploitation and use but not on resource management; Some institutions begin to undertake ICM training programs.	Improve national programs on education, especially related to environmental sciences at all levels; Strengthen institutional capacity and arrangements in ICM through demonstration projects; Strengthen local government in coastal planning and management.
Inadequate and inefficient enforcement and compliance of legal instruments in the management of coastal and marine environment.	Inadequate and/or inefficient manpower resources, facilities and funding for institutions or agencies mandated to manage the coastal and marine environment and/or its resources at national and local levels; Absence of or inadequate legal instruments and implementation mechanisms pertaining to the management and protection of the coastal and marine environment and its resources.	Absence or inadequate policies and legal framework on the management of the coastal and marine environment and its resources; Absence of an integrated water and land use zone plan, especially at the local level; Absence of or inefficient operational procedure and protocol in the management and protection of the coastal and marine environment; Inadequate or poor institutional arrangements; Low awareness among political leadership as well as political regime bias; Lack of sustainable financing mechanisms.	Sectoral resource management continue despite limited effectiveness; Implement regulations; Public awareness programme.	Adopt integrated management approach to increase law enforcement; Involve law enforcement agencies in environmental management programme especially at local level; Apply public pressure to increase enforcement of environment legislation; Develop incentives through management program.

Annex 6.(Continued)

Absence of or inadequate legal instruments pertaining to the sustainable development of the coastal and marine resources.	Vague and/or inadequate regulations pertaining to the use of coastal and marine resources; Sectoral bias on the use, management and protection of the coastal and marine resources.	Low awareness among political leadership on the coastal and marine environment and principles of sustainable development; Environmental courses among educational systems are limited and not considered as basic subjects comparable to mathematics, grammar and writing; Inadequate institutional capacity on the legal aspects of environmental management and protection.	Implement national and local legislation related to sectoral development; Some countries have developed national legislation for implementation of international conventions.	Develop sustainable development and marine environmental protection policy and legislation at national and local level; Develop national legislation for ratifying international conventions; Harmonize legislation and policies.
Absence of or inefficient institutional arrangements among agencies mandated to manage and protect the coastal and marine environment.	Vague and/or inadequate regulations pertaining to the use of coastal and marine resources; No clear operational mechanisms pertaining to multi-sectoral approach to managing and protecting the coastal and marine environment; Traditional governance patterns.	Low awareness among political leadership on the coastal and marine environment and principles of sustainable development; Inadequate institutional capacity on the legal aspects of environmental management and protection; Absence of or ineffective integrated management mechanisms for the coastal and marine environment; Lack of sustainable financing mechanisms.	Environmental management issues continued to be addressed at central government level; Sectoral management will continue but with greater possibility for interagency cooperation; Government continues to use existing sectoral management mechanism.	Develop and implement coastal and marine policy; Implement ICM programs at local level; Promote interagency cooperation through joint management actions in conflicts resolution; Develop environmental advocacy.

Annex 6 (Continued)

Issues/Problems	Proximate Causes	Root Causes	Baseline Course of Actions	Alternative Course of Actions
Dissonance between national policies on sustainable development and environmental protection at the local level.	National economic priorities often have inadequate or vague policies on environmental protection, especially pertaining to high investment projects; Operational aspects of national economic policies often override environmental protection programs and plans at the local level.	Policy and decision makers at the national level are generally unaware of the economic, social and environmental conditions at the local level; Low environmental awareness among political leadership and policymakers; Lack of local government empowerment; Inadequate local capacity on environmental protection and management.	Concerned central government agencies continue to play a dominant role in coastal and marine environmental management; Some devolve environmental management functions to local authority; Marine environment continues to be addressed separately by various sectoral activities.	National coastal / marine policy shall address national priority; Strengthen institutional capacity and arrangements in ICM including enforcement at national and local levels; Local government empowerment through legislation, especially on matters of the environment and natural resources; Enhance awareness on integrative planning and management approaches in addressing environmental and sustainable development problems.
Lack of alternative economic paradigm in the sustainable use of coastal and marine resources.	Valuing the environment, its goods and services is an emergent field during the last 2 decades; High profits under existing systems.	Absence or improper valuation of environmental goods and services in investment decisions; Traditional practices.	Conventional sectoral planning and management of coastal and marine resources; Some countries, such as the Philippines, begin to use environmental accounting in national economic planning and development programs.	Enhance awareness on integrative planning and management approaches in addressing environmental and sustainable development problems by considering trades offs; Undertake resource valuation and environment accounting.
Low public awareness on environmental management and protection.	Environmental sciences are not an integral part of primary and middle school curricula; Low emphasis on environmental subjects among current educational systems.	Low awareness among political leadership on the coastal and marine environment and principles of sustainable development; Environmental courses among educational systems are limited and not considered as basic subjects comparable to mathematics, grammar and writing; Inadequate capacity for most existing educational institutions on environmental management and protection.	Enhance public awareness on the importance of the coastal and marine environment.	Enhance awareness on integrative planning and management approaches in addressing environmental and sustainable development problems; Strengthen collaboration with NGOs, religious groups and environmental journalists; involving local authority in environmental management; Promote participation of all stakeholders
Lack of regional cooperation in addressing transboundary issues.	Countries are preoccupied with national environmental problems; Low priority of national governments.	Inadequacies in national policy and national legislation for addressing transboundary environmental problems; Lack of regional program to holistically address subregional sea's problems.	Ratify environment related international conventions; Participate in regional programs.	Regional mechanism to strengthen the effectiveness of international conventions implementation; Mobilize external resources to address transboundary issues; Develop regional capacity to collectively prevent and manage the coastal and marine environment.

Annex 7. The East Asian Seas: Environmental Challenges of the 21st Century

1. The East Asian Seas: Economic Growth and Environmental Challenges (T.E.Chua)

Part One: State of the Marine Environment of the East Asian Seas

2. Marine Pollution (G. Jacinto)
3. Marine Biodiversity (Chou Loke Ming)
4. Sea Level Rise (K. Hotta)
5. Red tides and fish kills (Patsy Wong)

Part Two: Pollution Hot Spots

6. Bohai Sea (Fan Zhijie)
7. Manila Bay (Gil Jacinto)
8. Jakarta Bay (R. Dahuri)
9. Masan Chinhae Bay (Jiyhun Lee)
10. Gulf of Thailand (Voravit Cheevaporn)
11. Malacca Straits (A. Ross, and T.E. Chua)
12. Victoria Harbor, Hong Kong (Kathie Kueh)

Part Three: Environmental Challenges

13. Shipping Traffics and Marine Trades (Chia L.S)
14. Coastal Tourism (Wong P.P)
15. Fisheries Resources and Food Security (Veravat Hongskul)
16. Waste generation and management (A. Ross)
17. Coastal and Marine Development (Huming Yu)

Part Four: National and Regional Environmental Management Initiatives

18. Review of national initiatives in coastal and marine environment management in the East Asian Seas region.(Mario de la Reyes and T.E. Chua)
19. Review of regional and international initiatives in integrated coastal management and marine environmental and resource management (Mario de la Reyes and T. E. Chua)

Part Five: Fixing the Environmental Problems

20. Risk assessment and risk management (P. Calow)
21. Pollution monitoring (G. Jacinto)
22. Integrated Management of the Coastal Areas and the Large Marine Ecosystem (T.E. Chua and Ken Sherman)
23. Public sector and private sector partnership (Beckman and A. Ross)
24. International conventions and protocols (B. Beckman)
25. Environmental Advocacy and roles of ngos (S. Timpson)

Note: This document is scheduled to be published in 1998

Annex 8. Pollution Prevention and Management in the
East Asian Seas: A Paradigm Shift in Concept, Approach and Methodology

GEF/UNDP/IMO Regional Programme for the Prevention and
Management of Marine Pollution in the East Asian Seas
1997

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Annex 9. Identification of Project Activities for GEF Interventions Based on the Outputs and Limitations of the Pilot Phase Project

GEF Pilot Project Activities	Achievements	Limitations	Proposed Actions in New Project
1. Develop ICM application for marine pollution	<ul style="list-style-type: none"> ◆ ICM framework process verified under two different political and economic systems ◆ Pilot sites operationalized (Batangas Bay Region, Philippines and Xiamen, China) ◆ A regional ICM training program conducted annually on a regular basis in the Philippines, Xiamen and Singapore 	<ul style="list-style-type: none"> ◆ ICM framework was applied to marine pollution issues and needs to cover sustainable coastal tourism, fisheries, port and harbor, among others ◆ Pilot sites in two countries out of the 11 participating countries ◆ Time constraint to cover more sites ◆ Capacity transfer was limited, especially ICM training programs at national and local levels due to time and resources constraints ◆ National and regional sustainability of ICM initiatives need to be ensured 	<ul style="list-style-type: none"> ◆ ICM framework needs to be applied to sustainable coastal tourism, fisheries/aquaculture, port and harbor, marine pollution, habitat protection, multiple use conflicts and sea-level rise ◆ Need to establish national demonstration and parallel sites in participating countries ◆ Conduct regional/national training on fast-track ICM, IEIA, Port State control, damage assessment, project development and management, OPRC and risk assessment ◆ Formulate new partnerships such as Private-Public Sectors Partnerships in environmental facilities and services including information management systems
2. Risk assessment/risk management in the Malacca Straits	<ul style="list-style-type: none"> ◆ Methodology on regional risk assessment developed using information from the Malacca Straits Environmental Profile and subsequently verified with updated information ◆ Consensus achieved among scientists of the three littoral States on regional risk assessment methodology including resource valuation and benefit cost appraisal ◆ Operating instruments established such as GIS, management atlas and database ◆ Packaged lessons learned from risk assessment/management of subregional seas such the Malacca Straits 	<ul style="list-style-type: none"> ◆ Time constraints in verification of the developed methodology, in building consensus among scientists and in the implementation of project activities in general ◆ Political acceptance and awareness were limited to a number of government agencies in the three littoral States ◆ Capacity transfer within the littoral States of the systems and methodology developed by the project was limited due to time and resources constraints ◆ Cooperative mechanisms on marine pollution risk assessment and risk management among countries are not well developed ◆ There is obvious international reaction to the project because part of the Malacca Straits is international waters but so far, there is minimal awareness and reaction on the activities of the project by other countries using the Straits ◆ Very limited involvement of the private sector in the activities of the project, except in marine electronic highway 	<ul style="list-style-type: none"> ◆ Building planning and management capacity ◆ Promote policy options ◆ Formulate new partnerships such as Private-Public Sectors Partnerships in environmental facilities and services including information management systems ◆ Promote and facilitate environmental investment in facilities and information services ◆ Catalyze cooperative monitoring and enforcement of actions for subregional seas ◆ Link risk management options with economic instruments

Annex 9 (Continued)

GEF Pilot Project Activities	Achievements	Limitations	Proposed Actions in New Project
3. Marine pollution monitoring and information management	<ul style="list-style-type: none"> ◆ ICM management-oriented monitoring programmes established ◆ Established a regional marine pollution monitoring network in participating countries including the ICM sites ◆ laboratories for marine pollution monitoring were equipped (Batangas, Philippines - 1, Vietnam - 2, DPR Korea - 1 and Cambodia - 1) ◆ In-service (hands-on) training conducted in Vietnam and Cambodia on field measurements and sampling techniques 	<ul style="list-style-type: none"> ◆ Not enough time to expand the monitoring activities to cover all 11 participating countries ◆ Network established but its effectiveness needs to be verified at the national and regional levels ◆ Communication among countries participating in the network is not very efficient and effective ◆ Not many relevant agencies and research institutions are aware of the regional network ◆ There was limited sharing of information among network members, particularly monitoring data ◆ Monitoring program is science focused and needs to oriented towards addressing management issues 	<ul style="list-style-type: none"> ◆ Expand building planning and management capacity activities and link up with ICM sites ◆ Formulate new partnerships such as Private-Public Sectors Partnerships in environmental facilities and services including information management systems ◆ Established and strengthen NGOs, CBO participation in marine environmental management and advocacy ◆ Establish sustainable integrated information management mechanism in all network members
4. International conventions	<ul style="list-style-type: none"> ◆ About 30 ratifications/accessions ◆ Regional network of legal advisors established ◆ Model legal instruments and training tools developed ◆ Legal information database established 	<ul style="list-style-type: none"> ◆ Not enough time and resources to expand network and its membership to cover all participating countries and of different political regimes and sociocultural characteristics. ◆ Verification of the effectiveness and linkages of the network at the regional, national and local levels ◆ Limited transfer of experiences and outputs ◆ Limited sharing of information among members ◆ Lack of capacity for some participating countries 	<ul style="list-style-type: none"> ◆ Conduct capacity building through regional network ◆ Formulate national policy options ◆ Catalyze monitoring and compliance networking ◆ Draft regional/protocol/declaration/convention

Annex 9 (Continued)

GEF Pilot Project Activities	Achievements	Limitations	Proposed Actions in New Project
5. Sustainable financing	<ul style="list-style-type: none"> ◆ Methodologies and mechanisms on sustainable financing were developed, especially for two ICM demonstration sites (Batangas and Xiamen) ◆ Public-private sector partnerships established, especially in waste management ◆ Verification of local government mechanisms for financing projects, especially on waste management and shore reception facilities ◆ Investment opportunities for environment-related projects confirmed 	<ul style="list-style-type: none"> ◆ Case studies generated were limited in geographical scope (Batangas and Xiamen) and political coverage (type of governments) as well as in time and resources ◆ Political will at the local level with respect to entry of environment-related investment through public-private sector partnerships is not strong ◆ Public sector capacity to attract investors is very limited ◆ Lack of capacities among SMEs at the local level to engage in public-private sector partnerships on environment-related investments ◆ Issues covered, especially the case studies were limited due to time and resources constraints 	<ul style="list-style-type: none"> ◆ Build issues coverage and related investment opportunities ◆ Implement capacity building for public and private sectors ◆ Expand geo-political coverage to local, national and regional levels ◆ Establish working examples of partnership

Annex 10. Public Involvement Plan Summary

Categories of stakeholders who will be involved in the project include the national and local governments in the participating countries, the private sector, the scientific community, nongovernment organizations, environmental advocacy groups and people's organizations.

The specific involvement of stakeholders throughout the project is given below.

STAKEHOLDER	INVOLVEMENT
National governments	Consultation, implementation, steering committees, international conventions, policy, legislation, investment, capacity building, public-private partnerships
Local governments	Consultation, implementation, coastal management, capacity building, investment, public-private sector partnerships, national steering committees
Private sector	Consultation, technology and financial investment, ISO certification, public-private partnerships, steering committees
Scientific community	Consultation, research, information technology, ICM, risk assessment, monitoring, training
Nongovernment organizations	Consultation, implementation, public awareness, steering committees, training
Community-based organizations, youth and women	Consultation, ICM. Monitoring, training, community mobilization
Environmental advocacy group	Workshop, training, seminars, public awareness
People's organization	Community mobilization, habitat protection

Since the purpose of the project is to build partnerships, relevant stakeholders will need to be integrated into the project formulation and implementation activities as early as possible. The idea is to identify and develop the role and specific contribution to be made by each interest group within the project framework. Establishment of indicators of success and sustainability follows, and these may be either generic, (i.e., for application at a variety of sites or circumstances within the region), or exclusive, (i.e., for use at a specific site or situation), depending on the level of activity and the stakeholder's interest and capacity.

The ICM framework developed and demonstrated during the GEF pilot phase has proven to be a most effective mechanism for establishing and institutionalizing stakeholder participation. Indicators of success and sustainability span a broad range of markers as the ICM program matures. Some generic examples are highlighted below.

The participatory approach is the guiding principle to ensure transparency in the planning and execution of project activities. The stakeholders are the direct beneficiaries of the project. The replication of the working models for management of the coastal and marine areas through these stakeholders is the final measure of success, and will have far reaching impacts on the coastal

populations whose livelihoods and aspirations in life are inextricably linked with the seas of East Asia. A large part of the coastal populations is comprised of women and children and any environmental improvement will have a positive impact on their health and security. At the same time, benefits will be extended to coastal communities, a major segment of which includes the poor who are dependent on the marine resources for food and employment.

LEVEL	STEP	PERFORMANCE INDICATORS
I. Problem Identification and Program Formulation	1	environmental profile prepared, environmental and management problems identified and prioritised; management boundary finalised.
	2	program planning undertaken, stakeholders consulted
	3	primary data related to program formulation gathered
	4	public awareness created
	5	strategic management plan formulated and adopted
	6	issue or special area plan developed and adopted
II Program Implementation	1	interagency, intersectoral council/ committee/ group established
	2	co-ordinating agency/ office for program implementation identified/ established
	3	prioritised agenda for management actions undertaken
	4	financial mechanism for program implementation established
	5	environmental monitoring mechanism established and operational
	6	concerned ordinance/legislation developed and approved
	7.	law enforcement mechanism established
	8.	program monitoring and evaluation protocols implemented
III. Program sustainability	1	perception and attitude changes amongst stakeholders detected
	2	major stakeholders participated in program implementation
	3	human and financial resources by government and stakeholders for continuation of program committed
	4.	continue implementation of prioritised agenda of the action plan
	5	modification and refinement of program activities undertaken

IV. Program impacts	1	environmental quality shows sign of improvement
	2	interagency conflicts reduced or resolved
	3	use conflicts minimised or resolved
	4	evidence of ecological improvement
	5	evidence of socioeconomic benefits

Annex 11. Opportunities for Indigenous and Emerging Technologies

The seven tasks outlined in the project document provide a unique framework for the advancement and application of indigenous and newly developing technologies, procedures and processes in environmental management. Indigenous and emerging technologies can play a critical role in the development of environmental programs in the East Asian Region. However, with few exceptions, countries in the region have not developed a "technological culture", that is they have not developed a strategic plan identifying why and how technologies can be developed, accessed and applied to the betterment of their environment and society in general. By building emerging technologies into an environmental management framework as proposed, and applying that framework in a variety of operational situations, the resulting benefits and constraints may be determined on local, national and regional scales, while providing hands-on experience to the actual practitioners.

In the past, the promotion and utilization of emerging technologies has been very much piecemeal and short term, with access to and utilization of emerging technologies being more a reflection of the particular initiative of an ODA or international program, rather than a clear expression of need or benefit derived to local and national entities in developing regions. The following table identifies some of the potential opportunities that may be available to develop, demonstrate and verify indigenous and emerging technologies over the course of the project. Obviously, the listing of specific technologies is limited at this point in time, and will further depend on capabilities and constraints at selected sites and within national jurisdictions.

The identified technologies and processes cover a range of applications and users. Each component of the proposed project has been evaluated with a view to the potential requirements and possible advantages of employing newly developing technology. For instance, the application of newly developing technology for information management and transfer has positive effects on all components of the proposed project. The benefits to be derived from an electronic information highway vary on the basis of user needs, and range from fast-tracking the development and implementation of ICM sites, to enhancing the cost-effectiveness of environmental impact assessments (EIA), to ensuring the reliability and accuracy of information being transferred to decision-makers and the general public.

Overall, the proposed project provides a stimulating environment for developing and verifying indigenous and emerging technologies where they are most needed and have the greatest impact, in the hands of local users.

Annex 12. GEF Pilot Phase Project Review

The GEF pilot project underwent a formal review by three external experts contracted by UNDP in 1997. The review, although identified as a mid-term evaluation, took place nearly three and a half years into the implementation of the five-year project, and therefore represented a rather meaningful assessment of the project as its achievements.

The results of the 1997 review are contained in a document entitled, *Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas (RAS/92/G34), Mid-Term Project Evaluation*, April/May 1997. This document is available from UNDP Manila and the IMO Programme Management and Development Office, Manila. Overall, the Review Team concluded that the Regional Programme, with one and a half years remaining to termination, “...has already gone a long way towards achieving the Development Objective and the four immediate objectives and that it can be expected to achieve its objectives in full.” The Review Team further emphasized that the Regional Programme has left a legacy to the East Asian Seas Region, by demonstrating workable solutions to coastal and marine pollution problems through interventions that can be replicated by participating countries themselves, especially in such areas as policy-formulation, coastal planning, institutional arrangements, pollution monitoring for management, sustainable funding schemes and capacity building.

The Review Team concluded that the Regional Programme comprised a “good fit” with the directions and philosophies of the current GEF Operational strategy, even though the project had been initiated before the strategies had been adopted by GEF. In other words, the project had developed and successfully implemented strategies and approaches that were cutting edge. A principal conclusion regarding the GEF pilot initiative was “*The Programme has been a most cost-effective investment by GEF. It has been able to leverage substantial additional financing, thus extending the work that was possible through the GEF finds alone. It has established a framework for regional cooperation for the protection of an international water environment. It has also demonstrated the successful application of the integrated coastal management approach in a manner which can be replicated elsewhere to protect other coastal and marine areas of global significance.*”

The Review Team made a number of key recommendations to GEF, the Implementing Agency and the participating governments. Among other items, the Review Team recommended that:

1. GEF undertake follow-up work to the project to include a mixture of in-country institutional strengthening, application of the successful ICM model and fostering of improved coordination among countries through investment in the establishment of an effective regional mechanism;
2. UNDP country offices discuss with respective governments the desirability of developing model sites for the application of ICM in-country, using the UNDP country IPF as a source of funds; and
3. Participating countries initiate consultations to identify a successor to the Programme well before closure to ensure a smooth hand-over of tasks and no loss of corporate expertise and memory.

At the 4th Programme Steering Committee of the Regional Programme, December 1997, the governments of the eleven participating countries noted the positive assessment of the Regional Programme's performance by the Review team, and agreed with the observation that the project had made significant headway in achieving its objectives. Thereafter, the Meeting unanimously supported the new GEF proposal, considering that the new initiative provided opportunities to build on the pilot phase achievements by: a) replicating ICM demonstration sites for various environmental concerns which were not yet tested in the pilot phase; b) adopting the innovative approach and methodologies developed during the pilot phase for planning and management of coastal areas; c) enabling the region to deal with coastal and transboundary problems especially at the local and subregional levels; and d) strengthening regional commitment through a sustainable regional mechanism.

These recommendations, and others made by the Review Team, have been considered and incorporated into the new GEF initiative.

In addition to the UNDP-initiated review, the pilot phase project was one of nine International Waters projects included in a GEF review in 1997. The results of the review are contained in the document, *"Project Implementation Review 1997"*, which is available from the GEF Secretariat. The document highlighted the progress made by the Regional Programme with regard to effectively engaging the private sector as a partner in controlling and limiting pollution of the marine environment. It further noted that the incentive provided by the project within the ICM framework was the opportunity for direct involvement by the private sector with government agencies in decision-making on issues that affect them. The Regional Programme's approach to building partnerships was cited as helping to "...remove unproductive labels and stereotypes that can cloud communication and understanding between business and government."

The two reviews that the GEF pilot phase project underwent in 1997 resulted in highly satisfactory ratings from the two review teams. The strategies, procedures and networks that were developed, implemented and tested during the project form the foundation of the new initiative in the East Asian Seas Region.