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 tram, 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 tram 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 teamed 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.

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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 moni-toring 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 mana-gement, 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 interna-tional 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 mana-gement 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 jounalists; 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	♦ 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	♦ 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	♦ 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	♦ 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	♦ 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	♦ 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	♦ 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	♦ 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	♦ 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	♦ About 30 ratifications / accessions ♦ Regional network of legal advisors established ♦ Model legal instruments and training tools developed ♦ Legal information database established	♦ 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	♦ 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	♦ 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	♦ 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	♦ 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.

Opportunities for Indigenous and Emerging Technologies in Environmental Management

	Component 1: Building capacity to manage coastal areas and sub-regional seas			Component 2: Increasing environmental investments		Component 3: Advancing scientific inputs	Component 4: Establishing integrated information management systems	Component 5: Enhancing NGO, CBO, etc collaboration	Component 6: Facilitating national coastal policies and programmes	Component 7: Supporting a sustainable regional mechanism
Technologies / Processes	National ICM demo sites	Environment risk assessment subregional seas / LMEs	Upgrading technical skills	Public-private partnerships	Packaging project proposals					
1. GIS	U	U	U	U	U	U	U	U	U	U
2.. Remote sensing	U	U	U	U	U	U	U			
3. Physical, chemical and biological modelling	U	U	U	U	U	U				
4. Economic modelling	U	U	U	U		U				
5. Expert systems	U	U	U	U	U	U			U	U
6. Data processing and management	U	U	U	U	U	U	U	U	U	U
7. Monitoring and analytical devices (physical / chemical)	U	U	U	U		U				
8. Bio-indicators	U	U	U	U		U				
9. Cleaner production	U	U		U						
10. Waste reduction, recycling, recovery and reuse	U	U		U				U		
11. Hazardous and non-hazardous waste management	U	U		U				U		
12. Internet / email							U	U		U
13. Electronic navigational charts and information management systems		U		U						
14. Maritime safety and aids to navigation		U		U						
15. Alternative livelihood	U							U		

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.