

## PROJECT BRIEF

### 1. IDENTIFIERS

**PROJECT NUMBER**

**PROJECT NAME**

Preparation and Preliminary Implementation of a Strategic Action Programme for the Yellow Sea Large Marine Ecosystem

**DURATION**

5 years

**IMPLEMENTING AGENCY**

UNDP

**EXECUTING AGENCY**

UNOPS

**REQUESTING COUNTRY**

People's Republic of China and Republic of Korea

**ELIGIBILITY**

Eligible to receive UNDP technical assistance and participation in the restructured GEF:

PRC - 16 May 1994; ROK - 3 May 1994;

**GEF FOCAL AREA**

International Waters

**GEF PROGRAMMING FRAMEWORK**

GEF Operational Strategy for International Waters, as well as for the Waterbody Based Operational Programme (#8), Large Marine Ecosystem component

### 2. SUMMARY

Among the 50 large marine ecosystems (LMEs) in the world ocean, the Yellow Sea LME has been one of the most significantly affected by human development. Today the Yellow Sea faces serious environmental problems, many of a transboundary nature, that arise from anthropogenic causes. Approximately 600 million people (nearly 10% of the world's population) live in the basins that drain into the Yellow Sea. Large cities near the sea having tens of millions of inhabitants include Qingdao, Tianjin, Dalian, Shanghai, Seoul/Inchon, and Pyongyang-Nampo. People of these large, urban areas are dependent on the Yellow Sea as a source of marine resources for human nutrition, economic development, recreation, and tourism. The Yellow Sea receives industrial and agricultural wastes from these activities.

The Yellow Sea LME is an important global resource. This international waterbody supports substantial populations of fish, invertebrates, marine mammals, and seabirds. Many of these resources are threatened by both land and sea-based sources of pollution and loss of biomass, biodiversity, and habitat resulting from extensive economic development in the coastal zone, and by the unsustainable exploitation of natural resources. Significant changes to the structure of the fisheries has resulted from non-sustainable fisheries, reducing catch-per-unit effort. A fisheries recovery plan is essential to the continuation of the exploitation of this important resource. The three littoral countries, with their massive populations living in the Yellow Sea drainage basin, share common problems with pollution abatement and control from municipal and industrial sites in the Yellow Sea basin, as well as contributions from non-point source contaminants from agricultural practices. All of the littoral countries are urgently seeking to address problems of reduced fish catch and shifts in species biomass and biodiversity (caused in part by overfishing), red tide outbreaks, degradation of coastal habitats (caused by explosive coastal development), and effects of climate variability on the Yellow Sea Large Marine Ecosystem. The objective of the project is: Ecosystem-based, environmentally-sustainable management and use of the YSLME and its watershed by reducing development stress and promoting sustainable exploitation of the ecosystem from a densely populated, heavily urbanized, and industrialized semi-enclosed shelf sea.

### 3. COSTS AND FINANCING (US\$)

<b>GEF:</b>	- Project	:	14,394,183 US\$
	[of which administrative cost is	:	1,066,236 US\$
	- PDF	:	349,650 US\$
	<i>Subtotal GEF</i>	:	14,394,183 US\$
<b>Co-Financing:</b>	Government		8,914,065 US\$
	UNDP		1,300,000 US\$
<b>Total Project Cost:</b>			24,608,249 US\$

**4. Associated Financing (US\$)-BASELINE: \$162,063,857**

**5. GEF Operational Focal Point Endorsement(s)**

People's Republic of China  
 Mr. Yang Jin Lin  
 GEF Operational Focal Point  
 Ministry of Finance  
 Dated:

Republic of Korea  
 Mr. Choi Jai-Chul  
 Director of Environment Cooperation Division  
 Ministry of Foreign Affairs and Trade  
 Dated:

**6. Implementing Agency 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

**UNITED NATIONS DEVELOPMENT PROGRAMME**

Regional Project with participation from the governments of:  
*People's Republic of China and Republic of Korea*

**Project Budget Number: RAS/00/G31**

**Project Title:**  
 Reducing Environmental Stress in the Yellow Sea  
**Project Short Title:**  
 YSLME

**GEF Implementing Agency:**  
 UNDP  
**Executing Agency:**  
 UNOPS  
**Lead National Implementing Agencies:**  
 Korea Ocean Research & Development Institute,  
 PRC State Oceanic Administration  
**Project Site:** Korea Ocean Research and  
 Development Institute

**Estimated Start Date:** Oct. 2002  
**Estimated End Date:** Oct 2007

<b>Summary of UNDP and Cost-Sharing</b>			
<b>UNDP:</b>	<u>Current</u>	<u>Previous</u>	<u>Change</u>
TRAC (1&2)	-	-	-
TRAC (3)	-	-	-
Other (GEF)	\$14,394,183	-	-
Regional Program	-	-	-
<b>Cost Sharing:</b>			
Government	-	-	-
Financial Inst.	-	-	-
Third Party	-	-	-
<b>Sub Total</b>	\$14,394,183		
<b>AOS:</b>			
Other			
<b>Parallel Co-Financing</b>			
Government	\$8,643,965		
UNDP	\$650,000		
NOAA	\$600,000		
<b>Sub-total</b>	\$9,893,965		
<b>GRAND TOTAL</b>	\$24,288,148		

**Classification Information:**

- \* ACC sector & sub-sector:
  - Natural resources
  - Water resources planning & management
- \* DCAS sector & sub-sector:
  - Natural resources
  - Water resources planning
- \* Primary areas of focus/sub-focus
  - Promoting environment and natural resources sustainability
  - Promotion of sustainable natural resources management
- \* Secondary areas of focus/sub-focus:

- \* Primary type of intervention:
  - Capacity-building
  - Institution-building
- Secondary type of intervention:
- Primary target beneficiaries:
  - Group: Target place (environmental habitat)
  - Sub-group: Natural features
  - TB code: coastal zone
- Secondary target beneficiaries:

**Brief Description:**

Three countries (Democratic People’s Republic of Korea - DPRK, People’s Republic of China -PRC, and Republic of Korea - ROK), with their massive populations living in the Yellow Sea drainage basin, share common problems with pollution abatement and control from municipal and industrial sites in the Yellow Sea basin, as well as contributing non-point source contaminants from agricultural practices. All of the littoral countries are urgently seeking to address problems of reduced fish catch and shifts in species biomass and biodiversity (caused in part by overfishing), red tides outbreaks, degradation of coastal habitats (caused by explosive coastal development), and effects of climate variability on the Yellow Sea Large Marine Ecosystem.

**The objective of the project is:** Ecosystem-based, environmentally-sustainable management and use of the YSLME and its watershed: reducing development stress and promoting sustainable exploitation of the ecosystem from a densely populated, heavily urbanized, and industrialized semi-enclosed shelf sea.

In order to achieve this objective this project will prepare a Transboundary Diagnostic Analysis (TDA), National Yellow Sea Action Plans (NYSAPs), and a regional Strategic Action Programme (SAP). This project will also initiate and facilitate the implementation of the SAP. The SAP will consist of a series of legal, policy and institutional changes and investments to address the priority transboundary issues identified in the TDA/SAP formulation process.

On Behalf of Governments of:	Signature	Date	Name/Title
People’s Republic of China	_____	_____	_____
Republic of Korea	_____	_____	_____
On behalf of:			
UNDP	_____	_____	_____
UNOPS	_____	_____	_____

## LIST OF ACRONYMS

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation Forum
CBD	Convention on Biological Diversity
CD	Compact Disc
CCRF	Code of Conduct of Responsible Fisheries
DIM	Data and Information Management
DPRK	Democratic People's Republic of Korea
EAS	East Asia Seas GEF Project
EIA	Environmental Impact Assessment
FAO	Food and Agricultural Organization
GEF	Global Environment Facility
GIS	Geographic Information System
GOOS	Global Ocean Observing System
GPA	Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
GRID	Global Resources Information Database
HAB	Harmful Algal Bloom
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IUCN	International Union for Conservation of Nature and Natural Resources
IW	International Waters
LEARN	Learning Exchange and Resource Network
NEAP	National Environmental Action Plan
NFP	National Focal Point
NGFPA	National Government Focal Point Agencies
NGOs	Non-Governmental Organizations
NYSAP	National Yellow Sea Action Plans
NOWPAP	Northwest Pacific Action Plan
PCU	Project Coordination Unit
PDF	Project Development Fund
PIP	Priority Investment Portfolio
PIR	Project Implementation Review
PPER	Project Performance and Evaluation Review
PRC	Peoples Republic of China
QA	Quality Assurance
QC	Quality Control
ROK	Republic of Korea
SAP	Strategic Action Programme
SC	Steering Committee
SGP	Small Grants Program
SMC	Strategic Management Advisory Committee
SOA	State Oceanic Administration
TDA	Transboundary Diagnostic Analysis
TOR	Terms of References
TPR	Tri-partite Review
TRADP	Tumen River Area Development Programme
UNCLOS	United Nations Convention on Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNOPS	United Nations Office for Project Services
WWW	World Wide Web
YSLME	Yellow Sea Large Marine Ecosystem

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## **I. CONTEXT**

### **A. Description of the Region and the Subsector**

For millennia the Yellow Sea ecosystem provided food and livelihood to the civilization in East Asia. Shallow but rich in nutrients and resources, it is most favorable for coastal and offshore fisheries, and its waters are the highway for vast international shipping activity. The Yellow Sea is a classic example of a semi-enclosed area, but remarkable for its massive population and increasing anthropogenic pressure.

Three countries (Democratic People's Republic of Korea - DPRK, People's Republic of China -PRC, and Republic of Korea - ROK) share the natural heritage of the Yellow Sea. Despite their political and social diversity, the people of the region express a common concern for the Yellow Sea. Today the Yellow Sea faces serious environmental problems, many of a transboundary nature, that arise from anthropogenic causes. The three countries of the region are confronting difficult economic and administrative adjustments that complicate environmental management and natural resource protection efforts. The three littoral countries share common problems with pollution abatement and control from municipal and industrial sites in the Yellow Sea basin, as well as contributing non-point source contaminants from agricultural practices. All of them are urgently seeking to address problems of reduced fish catches (caused in part by overfishing), red tide outbreaks, degradation of coastal habitats (caused by intensive coastal development), and effects of climate variability on the Yellow Sea Large Marine Ecosystem.

Approximately 600 million people live in the area that drains into the Yellow Sea. Large cities near the sea with tens of millions of inhabitants include Qingdao, Tianjin, Dalian, Shanghai, Seoul/Inchon, and Pyongyang/Nampo. People of these large, urban areas are dependent on the Yellow Sea as a source of marine resources for human nutrition, economic development, recreation, and tourism.

The present project area has been defined as agreed in the Preliminary Transboundary Diagnostic Analysis, as follows:

The Yellow Sea water body is defined by:

- to the south, the line connecting the north bank of the mouth of the Chang Jiang (Yangtze River) to the south side of Cheju ;
- to the east, the line connecting Cheju Island to Jindo Island along the coast of the ROK; and
- to the north, the line connecting Dalian to Penglai (on the Shandong Peninsula). This latter line separates the Bohai Sea from the Yellow Sea.

The coastal/upland boundary is defined as the mouths of the major rivers (as conduits of contaminant input), whereas coastal zones are defined according to existing national programs.

Although the Bohai Sea is recognized as a portion of the YSLME from a scientific perspective, specific studies and management activities are now taking place in this territorial sea. Consequently, the GEF intervention has not focused on the Bohai Sea.

In few other enclosed or semi-enclosed seas are multilateral measures for marine pollution control so deficient as in the Yellow Sea. However, there might now be opportunities for improvement. Both ROK and China acknowledge that threats to the commons from pollution and overexploitation of living resources could have serious, perhaps irreversible, economic consequences. China, DPRK, and ROK have to decide how to adjust national initiatives to be compatible with emerging international legal and technical obligations, or, conversely, the extent to which each state wishes to ignore or deviate from international practice.

There is also a lack of a formal infrastructure to bring about international collaboration and cooperation in monitoring and research activities on YSLME shared marine resource issues. The lack of a formal structure prevents the development of well-coordinated cooperative resource assessments, baseline studies, and coordination in emergencies (such as a spill of oil or of other toxic and hazardous materials). Monitoring and research programs are not as effective as they should be because they stop at some disputed governmental border, rather than at some



ecosystem or natural boundary. Effective studies of transboundary contamination and living marine resource assessments require excellent coordination, cooperation, and synchronization of sampling to enable integration of data across the region.

An objective of the project is to implement an ecosystem-based approach to reduce development stress on the ecosystem, and to initiate recovery actions leading to the long-term sustainability of the environment and resources of the YSLME.

### **B. Host Country Strategies**

The PRC, ROK, and DPRK already cooperate in many regional initiatives such as the Northwest Pacific Action Plan (NOWPAP), the Tumen River Area Development Programme (TRADP), the Asia-Pacific Economic Cooperation (APEC), Fisheries and Marine Resources Conservation Working Groups, and the GEF/UNDP/IMO East Asia Seas project. These pre-existing institutional structures will play a crucial role in the development of a SAP, by providing the umbrella agreement between the countries under which specific cooperative activities can be planned and implemented.

The countries are engaged in a number of national, donor and Implementing Agency (UNDP) financed activities that are directly or indirectly related to the Yellow Sea LME; some of these activities represent 'baselines' in the context of the current project. These activities can be summarized as follows:

#### ***People's Republic of China***

Bohai Sea GLOBEC (1997-2000)

Stock Monitoring in the Yellow Sea (1998-2000)

Yellow Sea and East China Sea GLOBEC(1999-2004)

The relationship between Japanese anchovy recruitment and environment (1999-2004)

Sino-Norway joint "Bei Dou"project (1998-2004)

Ecosystem carrying capacity of Bays and environmental optimization---China "Nine-five-year" plan project (1998-2000)

Carrying capacity and mariculture's impacts on environment of Chinese bays(1998-2002)

Carrying capacity of scallops in Jiaozhou Bay1997-1999

Five projects related to mariculture, including nutrition, hatchery, culture techniques in fish, shrimp and shellfish etc.---China National Marine Hi-tech 863 project (1998-2000)

Health culture method of shrimps---China "Torch" plan (1998-2000)

Large-scale mariculture technique in bays---China "Nine-five-year" plan project (1998-2000)

Study on food of shrimps---China "Nine-five-year" plan project (1998-2000)

Isolation technique of organisms in mariculture---China "Nine-five-year" plan project(1999-2000)

Endocrine adjustment and control and physiological function of shrimp reproduction---China national climbing-B project (1998-1999)

Biological study of shrimp mating embryo development---China national climbing-B project(1998-1999)

Key techniques of the fry and culture of red seabream and flounder---China national climbing-B project(1998-1999)

Study on nutritional physiology during early development of marine species---China national climbing-B project (1998-1999)

Developmental biology of clam larvae ---China national climbing-B project (1998-1999)

Microbiological isolation method and mechanism of organisms in shrimp ponds (1998-2000)

Shrimp and fish diseases inspection technique---China National Marine Hi-tech 863 project (1998-2000)

Prevention and cure technique of explosive epidemic disease in shrimps---China "Nine-five-year" plan project (1998-2000)

Study on virus and pathogenic diagnosis and epidemiology in shrimps and shellfishes---China national climbing-B project (1998-1999)

Fishery Biodiversity and its conservation in the Bohai Sea (1997-2000)

Establishment of Dagong Is., Changmen Is. and Yadao Is. as marine nature reserves (2000-2004)

Natural reserve establishment and management (1999-2004)

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Marine biodiversity conservation action plan (1999-2004)  
Water circulation of China Seas and its impacts on environmental resources (1999-2004)  
Bio-optic characters of the shallow sea and its relationship with primary productivity (2000-2004)  
Sino-America joint research on bio-optics in the Southern Yellow Sea (2000)  
Sino-DPRK joint research of numerical model for shallow sea tides, waves, and storms (1995-1999)  
Sino-ROK joint research of marine sedimentation dynamics (1998-2000)  
Large scale zoning of sea regions (1999-2004)  
Coastal resource conservation and environment protection project (1999-2000)  
Second environmental baseline assessment of China (1999-2000)  
Routine environmental monitoring activities and management of monitoring stations (1999-2004)  
Study on cause and inspection of virus and ecology of shrimp ---China "Nine-five-year" plan project (1998-2000)  
Fundamental research on disease occurrence and resistance of commercially important organisms in mariculture (2000-2004)  
Mechanism and treatment of red tides in typical cultivated sea regions (1999-2004)  
Mesocosm study of eutrophication's effects on marine phytoplankton community (1999-2001)  
Harmful algal bloom monitoring and study (1999-2004)  
Blue sky and clean sea action (1999-2004)  
Benthic larval bioassay in marine environmental assessment (2000-2002)  
Circulation and long term process of nutrient transport in the Yellow Sea (1998-2001)  
National Institutional Capacity-building Programme (SOA) 1999-2004  
GIS of mariculture in Miaodao Archipelago (1999-2002)  
Data management and exchange for the marine database and network (SOA) 1999-2004

### ***Republic of Korea***

Survey on the marine living resources in the Yellow Sea  
Survey on oceanographic conditions in the Yellow Sea  
Community structure of the fisheries resources in the Yellow Sea  
Changes in oceanographic conditions and ecosystem in the Kunsan Waters  
Water quality control in marine ranching  
Seed Release  
Seed (larval fish) release  
Development of polyculture system  
Survey on fan shell resources in the Yellow Sea  
Mullet culture  
Survey on the abundance and habitat of Manila clam  
Development of shrimp culture technique  
Development of culture technique of croaker  
Maintenance of marine living resources in the Yellow Sea  
Production of seed  
Kelp culture in the Yellow Sea  
Study on the habitat of Venus clam  
  
Study on the disease of shrimp in the Yellow Sea  
Impact assessment and policy after fisheries agreement  
Tidal flat ecosystem study  
Rehabilitation of a Rose in the coastal area  
Formation of habitat for migratory birds  
Restoration of degraded coastal ecosystem  
Development of seed culture  
Study on species conservation and culture species  
Seed bank of Laver and Kelp

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Development of preservation and biotechnological application technologies of marine organisms  
State of the environment of the Yellow Sea (Ship time)  
Joint study on the Yellow Sea environment between Korea and China  
Mitigation of the pollution in the coastal waters of the Yellow Sea  
Basic plan of designation and management for marine protected area  
Coastal process study for marine pollution in the Yellow Sea  
A study on contained trace metal of useful algae in the Yellow Sea  
Formation of monitoring network of marine environment in the Yellow Sea  
Monitoring of harmful algal blooms along coastal areas in the Yellow Sea  
Construction of water quality monitoring vessel  
Development of monitoring methods for mariculture farm  
A study on the development of ocean environment and meteorological remote measurement system  
Development of on-site systems for marine environmental monitoring  
Development of monitoring strategy for marine environmental radioactivity  
Yellow Sea Large Marine Ecosystem Project  
Automatic detection of red tide  
Red tide occurrence and dynamics in the coastal waters off Kunsan.  
Environmental assessment of dumping site in the Yellow Sea  
Development of monitoring technology for the wastes disposal sea areas  
A study on the environmental changes of Shihwa Lake  
A study for improvement and integrated development of Lake Shihwa  
A study on the environmental changes of Shihwa Lake by outer seawater inflow  
Hydrodynamic and sedimentary processes of suspended matter offshore of the Saemankeum dike  
Development of practical application technology for environmentally safe reduction of oil pollution  
The prior study of the *in situ* application of the bioremediation technique applied to the oil polluted environment of the coast of the Yellow Sea and Bohai Sea  
National plan for marine environmental conservation  
Simulation and validation of three-dimensional coastal currents in the western coast of Korea  
A study on marine circulation of the East China Sea  
Development of integrated model coupled with hydrodynamic and water quality for coastal development in Kyunggi Bay  
An assessment of environmental fate of contaminants in the Yellow Sea  
Integrated coastal zone management project  
A study on construction of ocean environment database  
A study on ocean environment information integration system and Korea marine database center operation  
A study for establishment of the marine scientific research data and information service system on the national basis  
Conservation of tidal flat public participation campaign  
Construction of migratory bird watching facility  
Construction of recreational fishing ground in the tidal flat  
Public relations for marine environmental protection  
Education of marine environmental protection for children  
Studies for Sustainable Use of Tidal Flats in Korea (1999-2003)

### **C. Prior and On-going Assistance Directed at the Same Subsector**

The present GEF project can contribute to and benefit from several of the UNEP Regional Seas Programme's Northwest Pacific Action Plan (NOWPAP) proposed regional activity centres, including Regional Marine and Coastal Information System; Monitoring and Assessment of Marine, Coastal and Associated Freshwater Environments; and the Biodiversity and Specially Protected Areas. The present project has little focus on Marine Pollution Preparedness and Response, so NOWPAP will have the lead here. The East Asia Seas GEF Project ("Partnerships in Environmental Management for the Seas of East Asia: PEMSEA") has two demonstration projects in or adjacent to the YSLME project area: one in the Bohai Sea of PRC, and one at Nampo in DPRK. The YSLME

GEF Project will retain close contacts with each of these existing programmes, perhaps sharing some common Steering Committee members. In addition, the present project will liaise closely with other efforts in the region, including the ROK GEF project for the "Conservation of Globally Significant Wetlands in the ROK," the GEF Project on Wetland Biodiversity Conservation and Sustainable Use in China (both currently under preparation using GEF PDF-B funds), the existing GEF Project on the Tumen River (Preparation of Strategic Action Programme (SAP) and Transboundary Diagnostic Analysis (TDA) for the Tumen River Area, its coastal regions and related Northeast Asian Environs), and the Ballast Water GEF Project (which has a Pilot Demonstration Project In Dalian, PRC, within the YSLME). The project will also continue to liaise with the World Wildlife Fund PRC-ROK Yellow Sea Eco-region activities. Other related projects include the NEAR-GOOS (North-east Asian Region Global Ocean Observing System), and other IOC/WESTPAC activities. Finally, the project will have close cooperation with the proposed Medium-sized project *Biodiversity Management in the Coastal Area of DPRK's West Sea* which has been recently approved by the GEF Secretariat.

The PDF-B for Yellow Sea LME was initiated in April 1999. The objective of the PDF-B was to prepare a full Project whose objective will be to complete a Transboundary Diagnostic Analysis (TDA) and Strategic Action Programme (SAP) for the Yellow Sea region. The SAP will identify priority actions to be taken by the participating countries to restore and preserve the YSLME. The outputs of the PDF-B included a Preliminary Transboundary Diagnostic Analysis (PTDA), a Project Brief, and a Project Document for the full GEF Project. The process for carrying out the PDF-B includes full stakeholder consultation and participation, technical analysis and review of existing conditions, decisions about governance and institutional arrangements, budgeting including incremental cost analysis and baseline cost determination, and preparation of the requisite documents for consideration by the GEF Council, after Country consensus.

More specifically the PDF project was responsible for:

1. undertaking a comprehensive review, synthesis, and analysis of existing data and information concerning the sources and fate of transboundary pollution as a building block on which to design appropriate actions;
2. identifying degraded and threatened habitats, point and non-point pollution sources, overexploited living marine resources, and exotic species of concern;
3. reviewing existing national and regional environmental legislation relating to the Yellow Sea and its surrounding environment; and
4. providing a framework to strengthen the institutional, legal and regulatory structure in the YSLME.

Financial support to-date has included GEF preparatory (PDF-B) funding of \$369,650.

The early concepts supporting the YSLME were the result of meetings held in 1992, sponsored by the World Bank and the National Oceanographic and Atmospheric Administration (NOAA). During the ensuing years, the project was approved for a PDF-B project development by the Global Environment Facility (GEF) under UNDP's implementation. In April 1999, the Chief International Consultant held his inception mission. In June and July of 1999, the countries held their first Interministerial Coordinating Meetings for this project, as well as their First National Stakeholders' Meetings. In August 1999, the 1<sup>st</sup> Steering Committee Meeting was held in Beijing, PRC. Finally, in September and October of 1999, the two countries completed first drafts of their National Reports, which are to be part of the technical basis for the PDF-B outputs. The ROK and PRC conducted their 2<sup>nd</sup> National Stakeholders' Workshops, to discuss the Preliminary TDA.

The Regional workshops to discuss the National Reports and prepare the Preliminary TDA were held in Seoul, ROK, October 1999 and Beijing, PRC, January 2000. The second Steering Committee was held in Seoul, ROK, October 1999 and the Third Steering Committee was held in Beijing, PRC, January 2000.

The outputs of the PDF-B include:

1. Report of the 2nd Regional Workshop and the Third Meeting of the Steering Committee of the Yellow Sea Large Marine Ecosystem (YSLME), held on 18-20 January 2000 in Beijing, PRC.
2. Report of the 1<sup>st</sup> Regional Workshop and the Second Meeting of the Steering Committee of the Yellow Sea Large Marine Ecosystem (YSLME), held on 26-29 October 1999 at Seoul, ROK.

3. Report on the First Meeting of the Steering Committee of the Yellow Sea Large Marine Ecosystem (YSLME), held on 10-11 August 1999 at Beijing, PRC.
4. Report on the Regional Workshop for the Project Brief of the Yellow Sea Large Marine Ecosystem (YSLME), held on 5-6 November 1999 at Qingdao, PRC
5. Report Of The Second National Stakeholders' Workshop held on 28 September at Seoul, ROK.
6. Report Of The Second National Stakeholders' Workshop-PRC.
7. Report Of The First National Stakeholders' Workshop-held on 15 July 1999 at Seoul, ROK.
8. Report Of The First National Stakeholders' Workshop-held on 10 June 1999 at Qingdao, PRC.
9. Yellow Sea LME Preliminary Transboundary Diagnostic Analysis, February 2000
10. National Report of PRC "Yellow Sea LME"
11. National Report of ROK "Yellow Sea LME"
12. Final Inception Report of the Inception Mission from 13-27 April 1999 in ROK and PRC.

## **II. PROJECT JUSTIFICATION**

### **A. The Problem to be Addressed: The Present Situation**

#### **1. The Need for a Regional Project**

The Yellow Sea is that semi-enclosed body of water bounded by the Chinese mainland to the west, the Korean Peninsula to the east, and a line running from the north bank of the mouth of the Yangtze River (Chang Jiang) to the south side of Cheju Island. It covers an area of about 400,000 km<sup>2</sup> and measures about 1,000 km (length) by 700 km (maximum width). The floor of the Yellow Sea is a geologically unique, post-glacially submerged, and shallow portion of the continental shelf. The seafloor has an average depth of 44 m, a maximum depth of about 100 m, and slopes gently from the Chinese continent and more rapidly from the Korean Peninsula to a north-south trending seafloor valley with its axis close to the Korean Peninsula. This axis represents the path of the meandering Yellow River (Huang He) when it flowed across the exposed shelf during lowered sea level and emptied sediments into the Okinawa Trough. The Sea annually receives more than 1.6 billion tons of sediments, mostly from the Yellow River (Huang He) and Yangtze River, which have formed large deltas.

The Yellow Sea is connected to the Bo Hai Sea in the north and to the East China Sea in the south, thus forming a continuous circulation system. Major rivers discharging directly into the Yellow Sea include the Han, Yangtze, Datung, Yalu, Guang, and Sheyang. The Liao He, Hai He, and Yellow River around the Bo Hai have important effects on salinity in the western Yellow Sea, whereas the Yangtze River exerts strong influence on the hydrography of the southernmost part of the Sea. All rivers have peak runoff in summer and minimum discharge in winter.

The Yellow Sea LME is an important global resource. This international water-body supports substantial populations of fish, invertebrates, marine mammals, and seabirds. Many of these resources are threatened by both land and sea-based sources of pollution and habitat loss resulting from extensive economic development in the coastal zone, and by the unsustainable exploitation of natural resources (primarily overfishing). Additionally, there is significant international shipping traffic through the waters of the Yellow Sea, with associated threats from spills and collisions with marine mammals.

Biotic communities of the south-eastern Yellow Sea are complex in species composition, spatial distribution, and community structure possibly due to the complicated oceanographic conditions of the area. Faunal communities are composed of various taxonomical groups of warm and cold-water species as well as cosmopolitan and amphipacific ones. Yet the diversity and abundance of the fauna are comparatively low. Marked seasonal variations are the main characteristics of all components of the biotic communities. Turbidity and sediment type appear to be the major parameters that affect the distribution of planktonic and benthic organisms in the coastal waters of the Yellow Sea.

Although primary productivity is important as a fundamental property of an ecosystem, no reasonable large-scale estimates are available for the Yellow Sea. Existing estimates based on local measurements vary from 68~320 g C m<sup>-2</sup> yr<sup>-1</sup> (Yang, 1985; Choi et al, 1988, Chung and Park, 1988). The primary productivity of the Yellow Sea seems to vary widely depending on the location and season.

The phytoplankton populations are composed mainly of neritic diatoms. The dominant species are Skeletonema costatum, Coscinodiscus, Melosira sulcata, and Chaetoceros. Their composition shows a distinct seasonal shift. Blooms occur in late winter to early spring, and summer to early autumn, and are concentrated to the southern coast of Liaoning and Shandong and the coast of Jiangsu. The average bio-mass in the northern region and the southern region in the sea is  $2460 \times 10^3 \text{ cells} \cdot \text{m}^{-3}$  or  $\text{cells}/\text{m}^3$  and  $950 \times 10^3 \text{ cells} \cdot \text{m}^{-3}$  or  $\text{cells}/\text{m}^3$ , respectively, lower than that of the Bo Hai and East China seas.

The average benthic biomasses in the northern Yellow Sea Cold Water Mass and the southern Yellow Sea are  $41 \text{ g}/\text{m}^2$  and  $20 \text{ g}/\text{m}^2$ , respectively. Out of the total benthic biomass, mollusks are most important (about 50 percent), echinoderms second (about 20 percent), polychaetes third (about 11 percent), and crustaceans fourth (about 9 percent). Among these bottom animals, most are important food items in the Yellow Sea ecosystem, and some are commercially important species (e.g., fleshy prawn, southern rough shrimp, and Japanese squid).

The fauna of resource populations in the Yellow Sea are composed of species groupings associated with various ecotypes, such as warm water species, warm temperate species, cold temperate species, and cold-water species. Warm temperate species in the Yellow Sea fauna are the major components of the biomass and account for more than 70 percent of the total abundance of resource populations; warm water species and boreal species account for about 10 percent. The fauna in the Yellow Sea are recognized as a sub-East Asia province of the North Pacific Temperate Zone. Because most of the species inhabit the Yellow Sea year round, the resource populations in the fauna have formed an independent community.

Fish are the main living resource and 276 fish species are found. Of these, 45 percent are warm water forms, 46 percent warm temperate forms, and 9 percent cold temperate forms. The number of species of crustaceans is relatively small—only 54 species—of which warm water and boreal forms account for 65 and 35 percent, respectively. Because of the cold temperature, some warm water shrimps do not enter the northern Yellow Sea (e.g., Metapenaeus joyneri, Parapenaeopsis tenellus), while some cold-water shrimps are not found in the northern East China Sea (e.g., Crangon affinis, Crangon oragon).

The species structure of the fish component of the ecosystem changed during the past 30 years. Overfishing of high quality bottom fish species has led to their replacement by lower value, smaller pelagic species. The project will develop a recovery strategy for depleted fish stocks based on an ecosystem-based perspective. The cephalopods are composed of only 14 species. Warm water forms and warm temperate forms account for 65 and 35 percent, respectively; there are no cold-water species. Of the warm temperature species, Sepia andreana and Euprymna morsei, are endemic to the Yellow Sea and do not appear in the East China Sea. Of about 11 mammal species (e.g., minke whale, sperm whale, humpback whale, fin-less porpoise), most are cold temperature forms (e.g., harbor seal, northern fur seal, Steller's sea cow lion, fin whale, blue whale, right whale, and gray whale). Of these, fin whale and right whale migrate into the northern Yellow Sea to  $39^\circ\text{N}$  in winter and spring, and harbor seal migrate into the northern Bo Hai in winter and spring for reproduction.

The habitats of resource populations in the Yellow Sea can be divided into two groups—nearshore and migratory. Nearshore species include skates, greenline, black snapper, scaled sardine, and spotted sardine. These species are mainly found in bays, estuaries, and around islands, and they move to the deeper waters in winter. The migratory species (e.g., small yellow croaker, hairtail, and Pacific herring) have distinct seasonal movements and some (e.g., chub mackerel, Spanish mackerel, and filefish) migrate out of the Yellow Sea to the East China Sea in winter. The distribution of these two groups often overlap, especially in over-wintering and spawning periods.

When water temperatures begin to drop significantly in autumn, most resource populations migrate offshore toward deeper and warmer waters and concentrate mainly in the Yellow Sea depression. There are three over-wintering areas: The mid-Yellow Sea,  $34$  to  $37^\circ\text{N}$ , with depths of  $60$  to  $80 \text{ m}$ ; the southern Yellow Sea,  $32$  to  $34^\circ\text{N}$ , with depths about  $80 \text{ m}$ ; and the northern East China Sea. The cold temperate species (e.g., eel-pout, cod, flatfish, and Pacific herring) are distributed throughout these areas, and many warm temperate species and warm water species (e.g., skates, gurnard, Saurida elongata, jewfish, small yellow croaker, spotted sardine, fleshy prawn, southern rough shrimp, and cephalopods) are also found there from January to March. In the southern Yellow Sea, all

species are warm temperate and warm water species (e.g., small yellow croaker, *Nibea alibiflora*, white croaker, jewfish, *Septipinna taty*, red seabream, butterflyfish, and chub mackerel). Their main over-wintering period is from January to April. The deep-water areas of the central Yellow Sea and northern East China Sea are the over-wintering grounds for most species that migrate over long ranges.

There is still relatively little data available on the populations of seabirds supported by the Yellow Sea. Seabirds of the families Phalacrocoracidae, Procellariidae and (preferentially-pelagic) Laridae, appear not to be especially well represented. However, both the northeast Asian endemic Temminck's Cormorant *Phalacrocorax capillatus* and the northern Pacific endemic Pelagic Cormorant *Phalacrocorax pelagicus* nest on islands, largely in the northern Yellow Sea and the Bohai, and there are significant breeding populations of Streaked Shearwater *Calonectris leucomelas* and the Near-threatened Swinhoe's Storm Petrel *Oceanodroma monorhis* especially towards the southwest. Amongst the subfamily Alcidae, Ancient Murrelets *Synthliboramphus antiquus* nest in small numbers on uninhabited islands north to Dagong Island, Shandong Province, with smaller numbers of the Vulnerable Crested Murrelet *Synthliboramphus wumizusume* in the Taehuksan island chain off southwest Korea. Other preferentially pelagic Laridae include small numbers of Pacific Black-legged Kittiwakes *Rissa tridactyla* and a significant percentage of the total population of the east Asian endemic Black-tailed Gull *Larus crassirostris*, which nests on rocky islands and often forages near fishing boats through the non-breeding season. Other Larini species of note include the Vulnerable Relict Gull *Larus relictus*, which migrates from inland breeding areas to spend the non-breeding season in intertidal areas. The highest counts globally away from breeding grounds include >800 in Hebei Province, and 143 in Incheon, South Korea. The Vulnerable Saunders's Gull *Larus saundersi* is confined as a breeding bird to salt-marshes of the Yellow and Bohai Seas, with the majority of the total population (ca 7000) also spending the non-breeding season in Yellow Sea intertidal areas. Although terns appear to be very poorly represented these include the Critically Endangered Chinese Crested Tern *Sterna bernsteini*. This species was previously suspected of nesting off the Shandong Peninsula, and although it had not been recorded globally with certainty for several decades it was rediscovered nesting off Taiwan in 2000, suggesting that it might still be extant in the Yellow Sea. In total approximately 40-45 species of bird (broadly definable as seabirds) have been recorded in the Yellow Sea since 1950.

The Yellow Sea, the East China Sea, and the East Sea/Sea of Japan were seasonally occupied by some of the large whales: fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), and gray whale (*Eschrichtius robustus*). The gray whale may be part of a nearly extinct northwest Pacific population that summers in the Okhotsk Sea. If any of these species are seen in these waters now, they represent just a remnant of the pods that used to migrate and breed there. ROK has designated the gray whale as one of its national treasures. Other endangered marine mammals that live in the region are the black right whale (*Eubalaena glacialis*), whitefin dolphin (*Lipotes vexillifer*), Kuril harbor seal (*Phoca kurilensis*), and Japanese sea lion (*Zalophus californianus japonicus*). The striped dolphin (*Stenella coeruleoalba*, northwest Pacific stock) is believed exploited beyond sustainable yield.

In the western Yellow Sea, pollution sources include industrial wastewater from Qingdao, Dalian, and Lianyungang port cities; oil discharged from vessels and ports; and oil and oily mixtures from oil exploration. More than 100 million tons of domestic sewage and about 530 million tons of industrial wastewater from coastal urban and rural areas are discharged into the nearshore areas of the Yellow Sea each year. The major pollutants carried by sewage and wastewater are oils, mercury, cadmium, lead, COD, and inorganic nitrogen.

The eastern Yellow Sea has bad pollution in the shallow inlets of its southern coastline where the many islands inhibit mixing with open ocean water and red tides persist. The chaetognaths (*Sagitta crassa* and *S. enflata*) and the copepods (*Acartia clausi*, *Paracalanus parvus*, and *Centropages abdominalis*) decreased significantly in 1981 compared with 1967 figures due to an increase of marine pollution levels in Jinhae Bay. The area affected included several famous swimming beaches, tourist hotels, and places of interest. Mass mortalities of the hard clam *Meretrix lusoria* populations in the Jeonbug Farming Area of Gyewhari and Naechodo, in the western region of ROK, were coincident with high densities of the pathogenic bacteria *Vibrio anguillarum*, the parasitic cercaria *Bacciger harengulae*, and a high concentration of pesticides.

Harmful Algal Blooms (HAB) occurring in the coastal waters off southern and eastern ROK have caused loss to the aqua-culture industry and probably large-scale mortality of natural fin- and shellfish. However, the frequency and

the area of the outbreak of HABs in the coastal waters off western ROK (Yellow Sea) are lower than those off southern and eastern ROK. High turbulence intensity and turbidity caused by strong tidal current might inhibit the growth of HAB organisms.

Recently, however, the frequency and the area of the outbreaks have increased in the Yellow Sea coast, particularly, in the area where huge artificial constructions such as an underwater dam or dike were built. The constructions might restrict the circulation of water and reduce the turbulence intensity and turbidity. Under this circumstance red tide organisms grow fast and form red tide patches. The number and frequency of the trade ships between western cities in ROK and eastern cities in China have continuously increased. Therefore, the transport of red tide organisms in ballast waters might be partially responsible for the increase in the frequency and the area of red tides. Needless to say, currents can carry seeds across the basin and such transport should be appropriately monitored.

Throughout the millennia of civilization in East Asia, periods of prosperity have been those in which the nations bordering the Yellow Sea have used the Sea cooperatively and efficiently. Such was certainly the case in the Tang dynasty of China, the Shilla dynasty of Korea, and the Nara period of Japan. Conversely, when there was bad or inefficient use of this resource, all the coastal nations suffered. As the Yellow Sea coastal countries strive to develop and improve the welfare of their people, an optimal use of Yellow Sea resources could be the beginning of a new era of cooperation.

The commercial utilization of the living resources in the Yellow Sea dates back several centuries. With the introduction of bottom trawl vessels in the early twentieth century, many stocks began to be intensively exploited by Chinese, Korean, and Japanese fisherman and some economically important species such as the red seabream declined in abundance in the 1920s and 1930s (Xia 1960). The stocks remained fairly stable during World War II. However, due to a great increase in fishing effort throughout the entire Yellow Sea, nearly all the major stocks were being heavily fished by the mid-1960s. Since then, the composition of the fish catch has changed greatly, and the catch-per-unit-square kilometer has decreased to 2.3 MT in recent years.

The Yellow Sea is one of the most intensively exploited areas in the world. The number of species commercially harvested is about 100, including cephalopods and crustacea. The abundance of most species is relatively small, and only 23 species exceed 10,000 MT in annual catch. These are the commercially important species and account for 40 to 60 percent of the annual catch. Demersal species used to be the major component of the resources and accounted for 65 to 90 percent of annual total catch. The resource populations of demersal species such as small yellow croaker, hairtail, large yellow croaker, flatfish, and cod declined in bio-mass by more than 40 percent when fishing effort increased threefold from the early 1960s to the early 1980s.

Overfishing has also caused a decline in stock abundance for searobin, red seabream, Otolithoides mijuy, Nibea albiflora, and white croaker. However, under the same fishing pressure, the abundance of some species such as cephalopods, skates, and daggertooth pike-congers appears to be fairly stable. This may be due to their scattered distribution or their tolerant nature.

Shifts in species dominance in the Yellow Sea are outstanding. The dominant species in the 1950s and early 1960s were small yellow croaker and hairtail, whereas Pacific herring and chub mackerel became dominant during the 1970s. Some smaller-bodied, fast-growing, short-lived, and low-value fish (e.g., Setipinna taty, anchovy, scaled sardine) increased markedly in about 1980 and have taken a prominent position in the ecosystem resources thereafter. As a result, some larger-sized and higher trophic level species were replaced by smaller-bodied and lower trophic level species, and the resources in the Yellow Sea declined in quality. About 70 percent of the bio-mass in 1985 consisted of fish and invertebrates smaller than 20 cm, and the mean body length in the catches of all commercial species was only 12 cm while the mean body length in the 1950s and 1960s exceeded 20 cm. The trophic levels in 1985 and in the 1950s were estimated to be 3.2 and 3.8, respectively. Thus it appears that the external stress of fishing has affected the self-regulatory mechanism of the Yellow Sea ecosystem.

Aquaculture is a major use of the coastal waters of the Yellow Sea. Mariculture is commonly practiced in all coastal provinces of China, and it is most advanced in Shandong and Liaoning provinces. In both the Qingdao and Dalian regions the same fishery communes that culture invertebrates also cultivate seaweed. The major species of



invertebrates cultured are oysters, mussels, razor clams, cookies, short-necked clams, pearl oysters, scallops, and hard clams. The area in mariculture in 1978 was  $1.48 \times 10^5$  ha, and  $5.4 \times 10^5$  ha in 1997. The yield of fresh flesh from bivalves was  $2.0 \times 10^5$  t, 44 percent of the total mariculture yield in 1978; in 1997 it was  $3 \times 10^5$  t. Sea cucumbers (*Stichopus japonicus*) live below *Laminaria* and/or *Mytilus* and are harvested by divers after two years' growth. *Meretrix meretrix*, *Macra antiquata*, *Brachydontes senhousei*, and *Aloidis* sp. are also cultured in some regions, and the large Chinese shrimp (*Penaeus orientalis*) also grows successfully in the coastal regions of the Yellow Sea.

The total yield of invertebrate mariculture of ROK in 1997 was 301,873 metric tons (MT) representing 29.7% of ROK's total mariculture production (1,015,134 MT), including 200,973 MT of oysters (20 percent) and 63,572 MT of mussels (6.3 percent) (Ministry of Maritime Affairs & Fisheries, 1998, Annual Report of Fisheries Trend. 286p.) Major species of mariculture include oyster, mussel, abalone, hard clam, short-necked clam, *Cyclina*, *Macra*, ark shell (*Anadara broughtonii*), pen shell (*Atrina pectinata*), and hen clam (*Macra sulcataria*). Various abalones (*Haliotis discus hannai*, *H. discus*, *H. sieboldi*, *H. gigantea*, *H. japonica*) are in high demand.

Seaweed is an important crop in the Yellow Sea. Seaweed grows naturally on the lower rocks of the intertidal/sub-intertidal region; most prefer subtropical conditions. *Sargassum pallidum* is dominant and *Plocamium telfairiae* is common in the west Yellow Sea. There, *Pelvetia siliquosa* is locally abundant. *Bryopsis plumosa* is a minor species, and *Dictyopteris undulata* is rare. *Pelvetia siliquosa* is found on the Shandong Peninsula, the Liaodong Peninsula, and the Korean Peninsula. The seaweed grows more luxuriantly in the Korean waters, and for hundreds of years the Koreans have exported large quantities of this seaweed to China. It was sold in North China markets under the name of deer-horn vegetable. The seaweed's availability has declined, and now the seaweed *Ishige okamurai* and seaweed *Sargassum* (*Hizikia*) *fusiforme* are marketed as substitutes—also called *Lujiaocai*.

The most important cultivated seaweed in China is the brown *Laminaria japonica* introduced from Hokkaido, Japan. The cold water kelp is now grown in more than 3,000 ha of China's coastal waters, with a production of 10,000 dry tons/year. Half of this is consumed directly and half is used for extraction of alginates. There are 15 hatcheries on the north China coast, and the young plants are transferred to the growing frames in the sea when the seawater temperature drops below 20°C. *L. japonica* grows 3-m fronds at Quingdao and 5-m fronds at Dalian where the water cools down more quickly in fall and the growing season is longer. The respective yields are 30 and 50 dry tons/ha/year.

Oil exploration has been successful in the Chinese and DPRK portions of the Yellow Sea. In addition, the sea has become more important with the growth in trade among its bordering nations. The main Chinese ports are Dalian and Qingdao; the main ROK port is Inch'on, the outport of Seoul; and that for DPRK is Namp'o, the outport for P'yongyang.

Tourism is an industry in its infancy in both China and Korea. Several sites of picturesque beauty around the coastlines of these countries could be promoted as tourist attractions. As access to China and Korea becomes easier for foreign visitors, the tourist industry will expand. The karst coast near Dalian, the granite mountains of the western Liaoning coast in China, and the islands and swimming beaches of ROK, in particular Cheju Island, will be in even greater demand.

The Yellow Sea is a major source of income and food supply for the local communities on both shores. As such, the progressive and rapid deterioration of the Yellow Sea natural resources is having a serious impact on the livelihoods of these communities, obliging the community members to look for alternative means of income and endangering both family and community structures. Not only the livelihoods of the fishermen would be affected, but women, as the most vulnerable group will be more severely affected. If not reverted, this deterioration will have increasingly critical impact.

The Yellow Sea is an international water-body and many of its problems can be solved only through international cooperation. The management of the Yellow Sea is especially complicated in that it is surrounded by nations that share some aspects of their historical and cultural background, but differ in internal political systems, external political and economic alignment, and levels of economic development.

For the future of the Yellow Sea, it is thus imperative for the coastal nations to realize the importance of regional cooperation. There are currently several agreements for bilateral regulation or development of the Yellow and East China Seas, but none of them are binding on all the coastal nations. This means that there are insufficient consultations among the coastal nations. In addition, many of the existing national management policies or bilateral management programs for the Yellow Sea have been designed and carried out with insufficient attention to the transnational nature of the resources and industries that the Yellow Sea harbors and supports.

Of course, cooperation among the countries in the region is possible only when each nation in the region is convinced that it will be at least no worse off by cooperating than by going its own way. In the case of the Yellow Sea, it would appear that all nations bordering it would gain more from cooperation than they would without it.

## **2. The Yellow Sea Preliminary Transboundary Diagnostic Analysis**

During the project preparation phase, the Yellow Sea countries, with GEF support, agreed on the priority transboundary issues that should be considered under the YSLME Project. The final priority setting will be determined through the TDA formulation process. The final list is expected to include several of the following issues identified in the PDF-B phase:

- Decline of commercial fisheries;
- Degradation of biodiversity, loss of coastal habitats, loss or imminent loss of endangered species and their genomes;
- Water quality deterioration;
- Unsustainable mariculture;
- Poor or unsatisfactory human health quality, unsanitary conditions in many beaches and bathing waters, contaminated fish and sea products;
- Harmful algal blooms (HAB's) emerging disease; and
- Inadequate capacity to assess ecosystem.

### a) Root Causes of the Identified Problems

1. Rapid growth in coastal population and urbanization
2. Poor or ineffective legal instruments at the regional level, inadequate implementation of national regulatory instruments; lack of regional harmonization of regulations
3. Inadequate knowledge and infrastructure base
4. Inadequate planning and management practices
5. Poor or insufficient public involvement
6. Insufficient financing mechanisms and support
7. Lack of political will

### b) Priority Areas of Future Interventions

1. Fisheries, including Mariculture
2. Biodiversity Protection
3. Reduce Stress to the Ecosystem
4. Improve Water Quality and Protect Human Health
5. Regional Institutional and Capacity Building

## **B. End of Project Situation**

The end of the project situation can be summarized as with the following series of improvement of knowledge, enhanced capacities and legal, policy and institutional reforms:

- Strong regional institutional framework to enhance stakeholders' communication, cooperation and coordination to address transboundary environmental impacts;
- National Yellow Sea Action Plans and Regional Strategic Action Programme, with countries and donor commitments and incremental interventions identified;

- Increased public awareness and support for regional environmental issues. Enhanced overall effectiveness of environmental awareness programmes through the organisation of concerted region-wide activities, and exchange of lessons learned through an active regional network of NGOs and community groups;
- Summary of existing state of knowledge of fisheries and mariculture; and identification of knowledge and legislative gaps and uncertainties in fisheries management
- Draft fisheries management plans, based on carrying capacity analysis and regional stock assessment; Draft regional agreement for fisheries management; and Drafts of strengthened national fisheries laws and regulations.
- Improved fisheries management in the YSLME; regional communication of mariculture improvements; and regional agreement enforced.
- Regional biodiversity assessment; list of existing legal and regulatory framework for biodiversity, including identification of gaps; and understanding of the state-of-knowledge of introduced species in the YSLME.
- Regional Biodiversity Action Plan including investment strategy; and proposals for regulation and control of exotic species.
- Implementation of Biodiversity Action Plan; control of exotic species and protection of vulnerable species.
- Solid understanding of regional contaminant sources, flows, and levels built into TDA; and high quality data collected and broadly disseminated.
- Proposals in NYSAP/SAP for national commitments and donor support to upgrade regional monitoring network.
- Actions taken to improve water quality; reformed and enforced legal and regulatory basis; and regional emergency planning and preparedness strategies agreed.
- Final Transboundary Diagnostic Analysis with broad stakeholder participation.
- A strategy for stakeholder and institutional participation, regional and national coordination, and public awareness.
- A working network at the local, national, and regional level of involved stakeholders and institutions, and an aware public; National Yellow Sea Action Plans; and endorsed Strategic Action Programme.
- An ongoing programme of regional and national intersectoral cooperation, and financial mechanisms to sustain public awareness and participation.
- Improved knowledge and assessment of the status of the Yellow Sea ecosystem.
- Implementation of the SAP commenced and sustainable funding secured for ongoing implementation.

### **C. Target Beneficiaries**

The primary target beneficiary of this project is the population of the Yellow Sea countries, in particular the fishing communities with the emphasis on women. The coastal zone population should benefit from each of the success criteria, which are expected to be improved water quality, rehabilitation of the fishery resources, sustainable mariculture, and improved biodiversity protection. Successful implementation of the YSLME should have direct benefits in terms of the improvement and protection of public health, of livelihoods of the local communities, and of the general quality of the coastal zone. Through these achievements, tourists in the region will enjoy clean and aesthetically pleasing recreational facilities. In the short-term, governments and institutions will benefit from institutional strengthening as a result of networking, training programmes, the provision of key items of equipment, and in particular from the development of NYSAPs. Proper environmental assessments and pre-investment studies should facilitate the release of vital credits for improving waste management and for stimulating the development of key sectors.

The direct recipients of the project objectives will be:

- Governments of the region;
- National Focal Points;
- regional scientific and technical organizations
- national, local and municipal governments in cooperating countries;
- technical organizations, universities, research institutes and private sector organizations (tourism, agriculture, fisheries, oil and gas industry, environmental consultancy firms, etc. in coastal states); and

- non-governmental organizations concerned with environmental management and conservation of natural resources.

The target beneficiaries will be:

- the resident population, and especially women, of the Yellow Sea coastal zone, who will benefit from improved water quality, enhanced fishery resources (both as food and income supply), recreational opportunities (both at personal as well as income generating levels) and strengthened protection and management of natural habitats, improved basic access to food, sustainable income and livelihoods, and enhanced condition of and opportunities for women;
- fishermen whose livelihoods will benefit from the improved environmental quality as the result of the reduced transport of pollutants to the sea following implementation of new policies and investments; in addition, they will benefit from the sustainable management of the YSLME fisheries.
- regional tourists who visit the Yellow Sea coastal zone and adjacent areas for a wide range of purposes;
- future generations of the human population both within and beyond region who will benefit from the opportunities created by the conservation of biodiversity in the region - the present project enables the present generations to respect the rights of future ones instead of transferring the consequences of irrational development to them; and
- the world population at large will benefit through the direct contribution made to the improvement of an important international water body and the demonstration effect which this project will have for other regional seas.

## **D. Project Strategy and Sustainability**

### **1. Strategy**

The basic strategy of this project is to complete enabling activities for the Preparation and Preliminary Implementation of a Strategic Action Programme for the Yellow Sea Large Marine Ecosystem.

The Activities of the project are divided into three phases:

- I. Assessing stress to the ecosystem/TDA: This phase leads directly to the TDA, and is comprised of capacity building, assessments, and reviews of existing knowledge, combined with judicious and limited filling-in of the major gaps in knowledge. Data should be assessed from a gender-disaggregated approach.
- II. Reducing stress to the ecosystem/NYSAP & SAP: This phase leads to definition of actions that will be undertaken as part of the NYSAPs and SAP formulation. This phase will include development of management plans, agreements, strategies, and demonstration projects, and will also look at solutions from a gender-disaggregated perspective.
- III. SAP Implementation: This two-year final phase of the project is focused on facilitation of the implementation of the SAP, including demonstration projects and coordination. The segue from SAP approval to SAP implementation is a critical juncture: one that if not facilitated may lag in time, reducing effectiveness, government commitment, and urgency to address the environmental issues. The decision to include a post-SAP implementation phase to this GEF project was made based on lessons learned from other IW GEF Projects which suffered such a lag (e.g., Black Sea Environment Programme). The SAP implementation phase, therefore, is a bridging period to assist the countries and the region to implement the activities of the SAP. In other words, the SAP implementation will assist legal, policy and institutional changes and investments to address sectoral causes of transboundary issues, by establishing an operational institutional mechanism already established. The project strategy will also promote active multi-stakeholder participation, particularly empowering women in fishing/coastal communities.

The project strategy will also include development of the institutional framework; enhanced technical capacity for dealing with pollution in each of the YSLME countries; effective regional network of Governmental representatives, scientific and other experts and non-governmental organizations; and willingness of the international community to assist in the efforts to rehabilitate and protect the Yellow Sea.

This strategy could be successful only if all major players (Governments of the region, the Project Coordination Unit, donors, and NGOs) work together in a concerted effort. Therefore, the Project will ensure close consultations with local governments and communities, both in the analysis phase and in the identification of options and solutions. To this effect, special attention will be given to ensuring that a gender sensitive approach is taken.

## **2. Sustainability**

The explicit commitment made by PRC and ROK and actions they have already undertaken are the best indication of the sound foundation for this Project.

The countries bordering the Yellow Sea already cooperate in many regional initiatives such as UNEP Regional Seas Programme's Northwest Pacific Action Plan (NOWPAP) and the Environmental Memorandum of Understanding between the five member countries of the Tumen River Area Development Project (TRADP), the Asia-Pacific Economic Cooperation Forum (APEC), Fisheries and Marine Resources Conservation Working Groups, and the GEF/UNDP/IMO East Asia Seas project. The East Asia Seas project (known as PEMSEA) has developed a Strategy for Sustainable Development in Seas of East Asia. As the Yellow Sea is a very important component of the East Asia Seas, the Strategy developed by PEMSEA may provide the framework to help ensure the sustainability of the YSLME project. The PEMSEA project which started in 1999 has in addition accumulated a wealth of information, experience, know-how and training capacity which can be tapped on by the YSLME project and enhance its effectiveness (both substantive and cost wise). As part of regional integration process, it is critical that the YSLME establishes clear linkages with the PEMSEA initiative. Further cooperation between YSLME and PEMSEA projects will be initiated during the inception phase of the project. The PEMSEA project has provided useful comments to strengthen the implementation of the YSLME project, and these will be considered by the CTA in his Inception Report.

In addition, the present project will liaise closely with other regional efforts, including the proposed GEF Project on Wetland Biodiversity Conservation and Sustainable Use in China (one site of which, Yancheng Coast, is on the Yellow Sea), the existing GEF Project on the Tumen River (Preparation of Strategic Action Programme (SAP) and Transboundary Diagnostic Analysis (TDA) for the Tumen River Area, its coastal regions and related Northeast Asian Environs), and the Ballast Water GEF Project (which has a Pilot Demonstration Project In Dalian, PRC, within the YSLME). Contact has already been made with the Programme Coordination Unit for the GEF/UNDP/IMO Global Ballast Water Management Programme, and suggestions have been made for collaboration in the Yellow Sea. These links will be strengthened during the inception phase.

Other related projects include the NEAR-GOOS (North-east Asian Region Global Ocean Observing System), and other IOC/WESTPAC activities. Finally, the project will have close cooperation with the proposed Medium-sized project *Biodiversity Management in the Coastal Area of DPRK's West Sea* which has been recently approved by the GEF Secretariat. These pre-existing institutional structures will play a crucial role in the development of a SAP, by providing the umbrella agreement between the countries under which specific cooperative activities can be planned and implemented.

As a further demonstration of the national commitment, the third meeting of the Steering Committee of YSLME, held in Beijing (PRC) in January 2000, provided agreement on the following:

1. The Meeting accepted the conclusions and recommendations of the 2nd Regional Workshop, including the Project Brief, PTDA, and the Project Budget, as modified during the Workshop and Meeting, and based on comments provided in writing to the CIE by 2 February 2000.
2. The Meeting requested a one-page summary of the Interministerial Coordination process within each country.
3. The Meeting encouraged all parties to continue to contribute to helping the DPRK to eventually join the YSLME Project.

4. The Meeting suggested describing activities in all associated seas (e.g., East China Sea, DPRK's West Sea, Bohai, etc.) as part of the Project Brief.
5. The Meeting agreed that this GEF project will provide a basis for a sustainable Regional Coordination Mechanism, for which the countries agreed to take financial responsibility at an appropriate time.
6. The Meeting agreed that the Countries should proceed expeditiously towards a decision on the location of the PCU and the Chairs of the Working Groups.

The countries' ownership of the project is also shown by the endorsement of the GEF Project Brief. PRC and ROK have committed significant financial resources in support of the project, including in-kind contributions. The governments will also provide necessary scientific expertise to the YSLME Project from the national organizations, at-sea facilities for data collection, ship time, and meeting space as required.

#### **E. Reasons for UNDP Assistance**

The present project is consistent with the GEF Operational Strategy of April 1996, specifically with the GEF's strategic emphasis on International Waters and Biodiversity, as well as April 1997 GEF Operational Programme for water-body based large marine ecosystems. The project will incorporate the priorities delineated in the relevant environmental agreements to which any or all of the participating countries are involved.

The proposed project will help the riparian countries of the YSLME to overcome institutional and other barriers to collaboration and help them to identify and resolve the priority transboundary environmental concerns identified in the TDA and SAP process. The proposed project coordinates among implementing agencies, regional development banks, countries, and other stakeholders, and generates programmatic benefits for the global environment that would not otherwise be achievable.

GEF funds will support the identification and ultimate mitigation of transboundary issues that would be neglected if addressed only from a national perspective. The TDA and SAP will involve international donors, national and local governmental institutions, industries, and other key stakeholders that have important actions to take in restoring and protecting the YSLME environment.

The GEF International Waters Operational Programme referred to above emphasizes "institutional building ... and specific capacity-strengthening measures so that policy, legal and institutional changes can be enacted in sectors contributing to transboundary environmental degradation." This project supports institutional capacity building for long-term regional cooperation as well as helping to strengthen regional capacities in environmental management, monitoring of priority pollutants, public awareness, and preservation of transboundary living resources.

The development of the TDA and SAP for YSLME will further GEF goals for waterbody-based international waters operational programmes by:

- Providing a conceptual and planning framework within which enabling activities consistent with national and regional priorities may be implemented;
- Designing a sustainable institutional structure that is regional or supranational in scope, thereby ensuring global, local, and national environmental benefits
- Promoting a rigorous scientific monitoring and assessment programme in the YSLME in order to reduce the uncertainty involved in management and policy making
- Utilizing collaborative TDA and SAP formulation, and
- Stakeholder analysis and involvement.

The principal reason for UNDP involvement in this project is that this project falls under two of the key UNDP mandates i.e. regional cooperation and environmental protection. The project, involving People's Republic of China and Republic of Korea brings the countries closer together in achieving common goals. Currently there is a need to protect the environment in the Region since economic growth is bound to accelerate in the coming years, and there will be high possibility of environmental degradation if effective protective measures are not taken.

Another reason for UNDP assistance is the comprehensiveness and neutrality UNDP can play in the Region. UNDP has offices in all three countries, and as a multi-lateral organization, it can work disinterestedly for the benefit of the participating countries. UNDP is currently supporting a large number of National Projects in all Yellow Sea countries. There is a regional recognition that the UNDP should work diligently to include the Democratic People's Republic of Korea (DPRK) into the Project.

Considering UNDP's mandates, its comprehensiveness and neutrality, and experience in the region, UNDP has a comparative advantage in supporting this project.

#### **F. Special Consideration**

For the sustainability of the project, special consideration will be given in following each country's national practices. For example, when the project introduces new methodologies, the project will make sure that it is adapted to each country's practices.

In addition, the project will also give special consideration to having broad coverage of people participating in meetings and workshops. In particular, the project encourages involvement of the private sector, NGOs, and women.

#### **G. Counterpart Support Capacity**

Driven by the governments of the PRC and ROK, this project is a regional and national priority in the PRC and ROK, and is consistent with their national environmental policies. The countries have fully demonstrated their willingness to cooperate in the area of regional environmental protection and management by endorsing NOWPAP, initiating various national marine environmental programmes, and participating in regional GEF environmental projects such as the TDA and SAP for the Tumen River Area and UNDP/GEF/IMO East Asian Seas Project.

DPRK has demonstrated its willingness to cooperate in regional environment initiatives through their active involvement in the TDA and SAP for the Tumen River Area project, East Asian Seas Project, and NOWPAP. Protection of the Yellow Sea is also a priority to DPRK and the government has indicated DPRK may participate in the project at a later date.

Representatives of numerous institutions from PRC and ROK have actively participated and greatly contributed to the success of the PDF-B phase of the project. All of them strongly endorsed the present project proposal and will cooperate and contribute to the implementation of the full phase of the project. Among many some of the participating institutions are:

##### **People's Republic of China:**

- UNDP/PRC
- State Oceanic Administration, Beijing
- First Institute of Oceanography (SOA), Qingdao
- Yellow Sea Fisheries Institute, Bureau of Fisheries, Ministry of Agriculture, Qingdao
- National Marine Environmental Monitoring Center (SOA), Dalian
- Bureau of Fisheries, Ministry of Agriculture
- State Environmental Protection Administration
- Ministry of Communication

##### **Republic of Korea:**

- UNDP/ROK
- Korea Ocean Research and Development Institute (KORDI)
- Korea Maritime Institute (KMI)
- Ministry of Maritime Affairs and Fisheries (MOMAF)
- Ministry of Foreign Affairs and Trade (MOFAT)
- Ministry of Environment
- National Fisheries Research and Development Institute

- Various NGOs
- Various Universities

This wide participation of stakeholders will ensure that they not only understand and support the SAP, but that they will ensure their commitment to its implementation.

### III. DEVELOPMENT OBJECTIVE

The Yellow Sea LME Project is being developed as a comprehensive response to the key environmental problems facing the region with GEF helping to address the priority transboundary issues. The long-term objective of the project is: **ECOSYSTEM-BASED, ENVIRONMENTALLY-SUSTAINABLE MANAGEMENT AND USE OF THE YSLME AND ITS WATERSHED: REDUCING DEVELOPMENT STRESS AND PROMOTING SUSTAINABLE DEVELOPMENT OF THE ECOSYSTEM FROM A DENSELY POPULATED, HEAVILY URBANIZED, AND INDUSTRIALIZED SEMI-ENCLOSED SHELF SEA.**

In order to achieve this objective this project will prepare a Transboundary Diagnostic Analysis (TDA), National Yellow Sea Action Plans (NYSAPs), and a regional Strategic Action Programme (SAP). This project will also initiate and facilitate the implementation of the SAP. The SAP will consist of a series of legal, policy and institutional changes and investments to address the priority transboundary issues identified in the TDA/SAP formulation process.

The preparation of the TDA will be based on the preliminary TDA undertaken during the preparatory phase of this project. The TDA will be used as a basis for focusing on the threats, their root causes and the sectoral activities that endanger the critical ecosystem of the YSLME to implement selected components of the SAP, as appropriate. The SAP will identify priority actions to be taken by the participating countries to restore and preserve the YSLME. The SAP will adopt a comprehensive approach and will address land and sea-based sources of marine pollution, degradation of critical habitats, and over-fishing.

The SAP will be developed in cooperation with the National Yellow Sea Action Plans which will be the National Plans focusing on Yellow Sea issues, both national and transboundary. The SAP and NYSAPs will be developed concurrently.

The SAP will fully assess the impact of economic growth in the region, map out alternative development scenarios that protect global environmental resources, and enable the three member states to reach a consensus on priorities, targets, programmes, and projects to protect the shared resources of the YSLME. The SAP will include an estimation of the required financial resources and a strategy to mobilize these resources. GEF project proposals to implement selected transboundary elements of the SAP will be prepared using the incremental cost approach. The SAP is expected to play a key role in ensuring that global environmental benefits are provided in tandem with facilitating sustainable and environmentally sound economic development in the area over the coming decades.

The preparation of the SAP will be carefully designed to ensure that the SAP is action-oriented, locally owned, government supported, sustainable, and responsive to the local conditions. This, and the close attention to be paid to mobilizing resources to the SAP, will assure that it is implemented and not stored on shelves. As a first step for the formulation of the TDA and SAP, the project will strengthen existing mechanisms for regional cooperation in regional, national, and local bodies and develop their capacity for project identification, formulation, and management. It will also immediately compile, from existing sources, a comprehensive database on international waters and biodiversity in the region and support an in-depth study on environmental research systems and information systems in the area.

The project will rely on a strong participatory approach to formulate the SAP and NYSAPs. A series of consultation meetings will be held at the local and grassroots levels to identify environmental priorities, generate and validate information and assure widespread support to the approaches proposed in the SAP and NYSAPs. An



awareness-raising programme on transboundary environmental issues will be carried out to prepare the TDA and this will foster local support for the preparation and implementation of the SAP and NYSAPs.

In addition to providing global environment benefits and shaping the development of the region into the next century, the capacity built under the project will be of general use to development and environmental management in the region. In particular, the capacity to cooperate effectively on a regional level will be useful for all future environmental initiatives involving two or more of the concerned countries. Moreover, the databases developed under the project will be of use to many local, national and regional initiatives in both the environmental and economic spheres.

Following completion of the TDA, NYSAPs, and SAP, this Project will initiate and facilitate the Implementation of the SAP. Previous experience in IW GEF Projects has shown that a Project focusing solely on TDA, NYSAP, and SAP will likely leave a significant time lag between formulation of the SAP and its implementation, thereby reducing regional ownership and government commitment. To avoid this problem the present project also proposed to initiate and facilitate the SAP implementation process in the Region.

#### **IV. IMMEDIATE OBJECTIVES, COMPONENTS, OUTPUTS AND ACTIVITIES**

The immediate foci of the overall GEF Project are:

- Objective 1     Develop Regional Strategies for Sustainable Management of Fisheries, and Mariculture
- Objective 2     Propose and Implement Effective Regional Initiatives for Biodiversity Protection
- Objective 3     Propose and Implement Actions to Reduce Stress to the Ecosystem, Improve Water Quality, and Protect Human Health
- Objective 4     Develop and Pilot Regional Institutional and Capacity Building Initiatives

Consistent with the GEF Operational Strategy, such an initial strategic project is often necessary to gain agreement among cooperative countries in identifying priorities for future GEF funded activities. Following such an initial process, GEF would expect to support the agreed incremental costs of measures to address the priority transboundary issues.

The Activities of the project are divided into three phases:

1. Assessing stress to the ecosystem/TDA
2. Reducing stress to the ecosystem/NYSAP & SAP
3. SAP Implementation

The Activities were derived from a series of meetings and consultations with the Region. During a Regional Stakeholders' Workshop, held in October 1999, in the ROK, the Preliminary Transboundary Diagnostic Analysis was discussed and improved. During this process, the Major Perceived Problems of the Yellow Sea were identified. Though there were discussions on some items, the list of Problems was derived on the consensus principle. Once the Major Perceived Problems were identified, the Root Causes were agreed upon. Associated with each Root Cause was a list of specific features of the root cause that clarified the different aspects that contribute to the Perceived Problem. Finally, based on this list of Perceived Problems and Root Causes, the Priority Areas for Future Intervention were developed, grouped into five major categories. Following this process, the Steering Committee then ranked each of the Intervention areas in terms of their priority within the region, and in terms of their transboundary importance.

Once the above process was completed, a second meeting identified specific Activities that could be implemented as part of the GEF Intervention, to assist the Region in addressing the Perceived Problems and Root Causes. These Activities are presented below, and form the basis for the GEF Intervention.

The following pages provide a summary list of activities for each objective, with Responsible Parties and Associated Partners. It should be noted that the list of activities is not exhaustive. In some cases the project budget provides more detail of the activities that are expected to be required. Furthermore, in a small number of cases (see Component IIIA) there are multiple Responsible Parties.

Detailed workplans for each component, including a complete list of activities, detailed budgets, and clear lines of responsibilities will be prepared by the Chief Technical Advisor (CTA), in consultation with relevant parties, as part of the Inception Report. These workplans will be submitted to the Steering Committee for endorsement before work commences on the components. After that, the component workplans will be incorporated into the workplans of the Regional Thematic Working Groups.

**OBJECTIVE I. Regional Strategies for Sustainable Management of Fisheries, and Mariculture**

This component will summarize knowledge of the status of fisheries stocks, including legislation and regulatory mechanisms; create common regional methodologies and database for fisheries, including pilot projects; develop regional agreements, national laws and regulations, and fisheries management plans; develop and demonstrate sustainable mechanisms for effective fisheries management. Particular attention will be given both in the analysis phase as well as in proposals for remedial actions (legal, policy, etc.) to reflect impacts on and perspectives from both gender groups, respectively, using gender disaggregated data and statistics.

**Outputs:**

**TDA**

- Summary of existing state of knowledge
- Identification of legislative gaps

**SAP**

- Draft fisheries management plans
- Draft regional agreement for fisheries management
- Drafts of strengthened national fisheries laws
- Fisheries database
- Pilot projects

**SAP Implementation**

- Regional agreement

**Component IA. Stock assessment**

**Success Criteria:** Increased baseline information and strengthened national capacity for sustainable fisheries management. Regional Stock Assessment. Sustainable use of transboundary stocks, building on sound stock assessment and region-wide monitoring. Effective mechanism for regional annual stock assessment.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review of existing data and diagnosis of condition of stocks.	Fisheries WG	FAO
Activity 2. Perform demonstration of a Regional Survey.	Fisheries WG	FAO
Activity 3. Develop common methodology for joint regional stock assessment and perform initial joint regional stock assessment.	Fisheries WG	FAO
Activity 4. Perform initial joint regional stock assessment	Fisheries WG	FAO
Activity 5. Create mechanism for regional annual multi-species stock assessment, by introducing legal/policy changes to overcome existing barriers.	Fisheries WG	FAO

*Note: The regional survey should cover environment, ecosystem and biodiversity aspects besides fishery.*

**Component IB. Carrying capacity**

**Success Criteria:** Increased baseline information on carrying capacity. State-of-the-art-knowledge on carrying capacity analysis. Performed re-iterative series of regional analysis of carrying capacity. Mechanism for annual regional carrying capacity determination.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review of existing state-of-knowledge and preliminary carrying capacity analysis (retrospective) and define gaps	Fisheries WG	FAO Contaminant Control WG Ecosystem Management WG
Activity 2. Fill the knowledge gaps for carrying capacity analysis.	Fisheries WG	FAO Contaminant Control WG Ecosystem Management WG
Activity 3. Perform iterative series of analysis of carrying capacity	Fisheries WG	FAO Contaminant Control WG Ecosystem Management WG
Activity 4. Annual carrying capacity determination	Fisheries WG	FAO Contaminant Control WG Ecosystem Management WG

**Component IC. Mariculture Production**

**Success Criteria:** The activities will increase baseline information on status and trends in mariculture. New mariculture techniques will be developed. Pilot demonstration projects in place. Joint applied research programme for mariculture adopted.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review existing status and trends of mariculture.	Fisheries WG	FAO
Activity 2. Develop joint applied research program for sustainable mariculture.	Fisheries WG	FAO
Activity 3. Pilot demonstration projects in mariculture	Fisheries WG	FAO
Activity 4. Assist region to implement mariculture techniques.	Fisheries WG	FAO

**Component ID. Disease in Mariculture**

**Success Criteria:** Increased baseline information of disease in mariculture, particularly on emerging diseases. Regional early-warning system about new diseases to reduce transboundary implications will be established.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review existing state of knowledge of disease in mariculture, particularly emphasizing emergent diseases.	Fisheries WG	FAO Contaminant Control WG Ecosystem Management WG
Activity 2. Joint development and demonstration of new methods for diagnosis, prevention, and control.	Fisheries WG	FAO Contaminant Control WG Ecosystem Management WG
Activity 3. Facilitate communication about new diseases, diagnoses, and control techniques.	Fisheries WG	FAO Ecosystem Management WG

**Component IE. Regional Agreements and National Laws**

**Success Criteria:** National fisheries laws and regulations strengthened and enforced. Developed and endorsed bilateral or regional agreement for sustainable use of fisheries resources.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review existing national laws and regulations on fisheries and mariculture, and pertinent international agreements	Fisheries WG	FAO
Activity 2. Develop regional agreement for sustainable use of fisheries resources.	Fisheries WG	FAO
Activity 3. Propose measures for strengthening laws and regulations,	Fisheries WG	FAO

**Component IF. Management Plan**

**Success Criteria:** Strengthened national capacity for effective fisheries management. Improved fisheries management in the YSLME. Sustainable use of transboundary stocks building on management plans.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Development of Regional fisheries management/implementation plans, including regional recovery programme.	Fisheries WG and PCU	FAO Ecosystem Management WG
Activity 2. Implementation of Regional Fisheries and ecosystem Management/Implementation Plans, including regional recovery programme.	Fisheries WG and PCU	FAO Ecosystem Management WG

**OBJECTIVE II Effective Regional Initiatives for Biodiversity Protection**

This objective will summarize status of biodiversity in the YSLME, and laws and regulation addressing biodiversity; develop regional strategy for Protection of Biodiversity in the YSLME; prepare and implement regional Biodiversity Plan and investment strategy.

**Outputs:****TDA**

- 2.1 Regional biodiversity assessment.
- 2.1 List of existing legal and regulatory frameworks for biodiversity in the YSLME.

**SAP**

- 2.2 Regional Biodiversity Action Plan, including Regional Strategy for Conservation Areas, regional strategies for protection of vulnerable species, and regional consensus on the conservation of gene pool.
- 2.2 Investment strategy.
- 2.2 Proposals for regulation and control of exotic species.

**SAP Implementation**

- 2.2 New laws for regulation and control of exotic species identified.
- 2.3 Funded biodiversity projects responding to the priority actions of the Regional Biodiversity Action Plan.

**Component IIA. Habitat Conservation**

**Success Criteria:** Increased baseline information on existing national status and practices of coastal habitat use, conservation, and restoration. National biodiversity conservation programmes in accordance with NEAPs. Institutional strengthening through training. Implemented Regional Strategy for Conservation Areas, including identification of priority locations for the creation of new protected areas. Conservation of habitats of global significance. Regional network of protected areas as a part of global scenario.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review existing national practices of coastal habitat use, conservation, and restoration.	Biodiversity WG	
Activity 2. Develop regionally coordinated strategies of conservation and restoration of habitats.	Biodiversity WG	
Activity 3. Implement Regional Strategy for Conservation Areas.	Biodiversity WG	

### **Component IIB. Vulnerable Species**

**Success Criteria:** Increased baseline information on existing status of vulnerable species and vulnerable tropic linkages. National biodiversity conservation programmes in accordance with NEAPs. Institutional strengthening through training. Implemented regionally coordinated strategies for protection of vulnerable species. Conservation of species of global significance.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Conduct national review of status of vulnerable species and vulnerable trophic linkages.	Biodiversity WG	CBD, IUCN
Activity 2. Develop regionally-coordinated strategies for protection of vulnerable species.	Biodiversity WG	CBD, IUCN
Activity 3. Implementation of regionally coordinated strategies for protection of vulnerable species.	Biodiversity WG	CBD, IUCN

### **Component IIC. Genetic Diversity**

**Success Criteria:** Increased baseline information of genetic degradation of important bio-resources. Implemented recommendations for conservation of specific gene pool.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Determine situations of genetic degradation of important bio-resources.	Biodiversity WG	
Activity 2. Develop regional consensus on the requirements for conservation of gene	Biodiversity WG	CBD
Activity 3. Prepare recommendations for conservation measures	Biodiversity WG	CBD

### **Component IID. Introduced Species**

**Success Criteria:** Increased baseline information on introduced exotic species and their pathways, assessment of impacts and risks. National rules for regulations and control of exotic species. Identified actions to mitigate threats from possible introduction of exotic species to the YSLME transboundary biodiversity.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Document introduced exotic species and their pathways, assess impacts and risks.	Biodiversity WG	IMO, CBD
Activity 2. Develop proposals for regulation and control of exotic species.	Biodiversity WG	IMO, CBD
Activity 3. Implement strategies for regulation and control of introduction of exotic species, including necessary legal, policy, and institutional reforms at national and regional levels.	Biodiversity WG	IMO, CBD

### **Component IIE. Regulations**

**Success Criteria:** Reviewed national regulations and effectiveness of protected measures. Strengthen existing laws and regulations. Adoption of new laws. Regionally coordinated strategies for biodiversity protection developed and implemented. Regional agreements in place. Special attention will be given to ensure a holistic approach taking into account sustainable livelihoods of the local communities and impact on both genders.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review national regulations and effectiveness of protection measures.	Biodiversity WG	CBD
Activity 2. Develop regionally coordinated strategies	Biodiversity WG	CBD

### **Component IIF. Regional Assessment and Regional Biodiversity Plan**

**Success Criteria:** Clarified national YSLME biodiversity protection priorities. Improve, through training, national institutions for implementation of national YSLME action plans. Regional Biodiversity Action Plan, including investment strategy, implemented.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Coordinate above activities into biodiversity assessment, regional Action Plan, and investment strategy.	Biodiversity WG	CBD

### **OBJECTIVE III Actions to Reduce Stress to the Ecosystem, Improve Water Quality & Protect Human Health**

This component is designed to collect data through special investigations to fill in the gaps for the regional assessment and to set priorities for transboundary environmental issues in the region during the TDA process; identify corrective measures and long term strategies including investment strategies for remediation; establish a contaminant and ecological monitoring system for the long-term success of SAP and NAP implementation.

#### **Outputs:**

#### **TDA**

- 3.1 Data on identified stresses

#### **SAP**

- 3.2 Proposals for upgrading the regional monitoring network

#### **SAP implementation**

- Regional planning and preparedness strategies

**Component IIIA. Stressors to Ecosystem**

**Success Criteria:** Natural and human-induced stresses on the ecosystem identified and ranked. Identified data and information gaps. Corrective measures to minimize the human-induced stress identified and implemented. Regional policies and legal measures identified and implemented.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Identify and rank stresses on the ecosystem; identify data and information gaps	Contaminant Control WG Ecosystem Management WG	
Activity 2. Identify corrective measures to minimize the human-induced stress.	Contaminant Control WG Ecosystem Management WG	
Activity 3. Identify policies and legal measures to reduce the stress.	Contaminant Control WG Ecosystem Management WG	
Activity 4. Develop strategy to identify long-term sustainable investments to improve the YSLME.	Contaminant Control WG Ecosystem Management WG	
Activity 5. Implement corrective measures to minimize the human-induced stress.	Contaminant Control WG Ecosystem Management WG	

**Component IIIB. Carrying Capacity of Ecosystem**

**Success Criteria:** Assessment of carrying capacities of the ecosystem. Identification of root causes of environmental degradation on the YSLME and possible mitigation actions. Establishment of regional scientific and technical framework for monitoring the changing status of YSLME and its transboundary impacts.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Assess the carrying capacities of the ecosystem under changing human-induced and natural variability; identify data and information gaps: including demonstration of new and innovative technologies.	Ecosystem Management WG	Contaminant Control WG
Activity 2. Identify information gaps	Ecosystem Management WG	Contaminant Control WG
Activity 3. Develop strategies for monitoring changing status of ecosystem and its transboundary impacts.	Ecosystem Management WG	Contaminant Control WG
Activity 4. Prepare state-of-ecosystem reviews and reports.	Ecosystem Management WG	Contaminant Control WG
Activity 5. Facilitate implementation of strategies for improving the ecosystem status.	Ecosystem Management WG	Contaminant Control WG



**Component IIIC. Contaminant Inputs**

**Success Criteria:** Strengthen national capacities for effective marine contaminant reduction and mitigation. Regional system of effective marine contaminant reduction and mitigation. Regional quality and assurance system established.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Assess and monitor the contaminant and nutrient levels.	Contaminant Control WG	
Activity 2. Develop regional priorities and strategies to reduce contaminant and nutrients levels	Contaminant Control WG	Ecosystem Management WG
Activity 3. Facilitate implementation of these strategies; investment promotion activities including transfer/development new technologies.	Contaminant Control WG	Investment WG

**Component IIID. Contaminant Levels**

**Success Criteria:** Fully operational, upgraded, and strengthened national monitoring system in each country. Highly qualified trained staff. Ratification and implementation of international conventions by each country. Network of monitoring centres throughout the region. Reliable data to catalyze reduction of existing and prevention of new types of contamination.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Develop baseline data and summarize contaminant and nutrient levels in the YSLME.	Contaminant Control WG	
Activity 2. Develop regional monitoring network strategy.	Contaminant Control WG	
Activity 3. Develop funding mechanism to implement the monitoring strategy.	Contaminant Control WG	Ecosystem Management WG Investment WG

**Component IIIE. HABs and Emerging Diseases**

**Success Criteria:** Increased baseline information on HABs and emerging diseases. Comparative analysis of cause patterns and impacts on bio-resources and human health. Strengthened institutions through training. Established, well-functioning monitoring network for HABs and emerging diseases. Regional management and mitigation strategies developed and implemented.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Undertake comparative analysis of causes and impacts of HABs and Emerging Diseases on bio-resources and human health.	Ecosystem Management WG	Contaminant Control WG
Activity 2. Monitor HABs	Ecosystem Management WG	Contaminant Control WG
Activity 3. Develop management and mitigation strategies	Ecosystem Management WG	Contaminant Control WG
Activity 4. Facilitate regional management and mitigation implementation.	Ecosystem Management WG	Contaminant Control WG

**Component IIIF. Critical Spot Analysis**

**Success Criteria:** Strengthen national capabilities to determine and rank critical spot sources of water quality degradation, and impact on health and livelihoods of local communities. Regional procedures for remediation and prevention adopted. Financial resources secured.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Determine and rank critical spot sources of water quality degradation.	Contaminant Control WG	
Activity 2. Develop procedures for remediation	Contaminant Control WG	
Activity 3. Develop investment strategies	Contaminant Control WG	
Activity 4. Facilitate implementation of procedures for re-mediation and prevention.	Contaminant Control WG	

**Component IIIG. Emergency Planning and Preparedness**

**Success Criteria:** National marine pollution preparedness, response, and contingency plans enforced. Major reduction in risks of regional environmental degradation. YSLME Regional contingency plan. Strong regional network of responsible authorities.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Assess national emergency and contingency capabilities for transboundary contaminants.	Contaminant Control WG	
Activity 2. Develop strategies for rapid and long-term regional responses to catastrophic causes of pollution;	Contaminant Control WG	
Activity 3. Facilitate regional actions to enable contingency planning.	Contaminant Control WG	
Activity 4. Harmonize customs, training.	Contaminant Control WG	

**Component IIIH. Legal and Regulatory**

**Success Criteria:** Legal framework for addressing transboundary problems established. Institutions strengthened through training in environmental planning and management. Existing national and international laws and conventions surveyed. Coordinated proposals drafted for improved water quality legislation and regulation.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review and compare national regulations and laws on water quality and pollution control, develop proposals.	Ecosystem Management WG Contaminant Control WG	
Activity 2. Facilitate coordinated actions to improve regional water quality legislation and regulation	Ecosystem Management WG Contaminant Control WG	

**Component III i. Analysis of the Fate and Transport of Contaminants to Facilitate SAP Analysis**

**Success Criteria:** Increased baseline information of fate and transport of contaminants and nutrients. Strengthened national capabilities through training. Performed fate and transport analyses for management and policy development, including EIA process and ICZM. Regional training activities for environmental risk assessment implemented.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Review existing understanding of fate and transport of	Ecosystem Management WG	

contaminants,	Contaminant Control WG	
Activity 2. Develop regional assessment strategies	Ecosystem Management WG Contaminant Control WG	
Activity 3. Perform fate and transport analyses for management and policy development, including EIA process, ICZM.	Ecosystem Management WG Contaminant Control WG	
Activity 4. Develop regional training activities for environmental risk assessment; facilitate use of risk assessment in investment decisions.	Ecosystem Management WG Contaminant Control WG	

#### **OBJECTIVE IV Development of Regional Institutions and Capacities**

This component will create a functioning network of institutions and individuals to address the YSLME environmental issues and root causes; identify the process for evolving institutional arrangements from the support of the GEF to ownership by Region; and develop strategies to sustain the effective network of institutions and individuals to address the YSLME environmental issues and root causes.

Outputs:

#### **TDA**

- 4.1 Stakeholder and institutional participation strategy
- 4.1 Final TDA

#### **SAP**

- 4.2 Network of local, national and regional stakeholders
- 4.2 National Yellow Sea Action Plans
- 4.2 Strategic Action Programme, including assigning M&E indicators to each intervention/activity

#### **SAP implementation**

- 4.3 Programme of regional and national intersectoral cooperation
- 4.3 Financial mechanism to sustain public awareness

#### **Component IVA. Stakeholders**

**Success Criteria:** Identified and strengthened capacities for stakeholders' involvement in the YSLME. Effective involvement of stakeholders, with the emphasis on women, in environmental and resource management, as well as the decision-making process, to address the YSLME environmental issues and root causes.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Identify stakeholders and asses their capacities for contributing to environmental management and decision-making.	PCU	NPC All WGs
Activity 2. Strengthen stakeholder capacities	PCU	NPC, All WGs
Activity 3. Encourage stakeholder involvement in environmental and resource management and decision-making.	PCU	NPC All WGs

**Component IVB. Regional Coordination**

**Success Criteria:** Effective co-ordination and implementation of national activities, as well as integration of these environmental activities into national policies and investment programmes. Strengthened institutional and human capacity through training and active involvement of national experts in the TDA and SAP preparation. Effective regional coordination mechanism for the YSLME sustained through regional agreements

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Create a functioning regional coordination mechanism to carry out the YSLME Project	PCU	SMAG, NFPs
Activity 2. Identify modes to sustain the regional coordination mechanism.	PCU	SMAG, NFPs,
Activity 3. Assist the Region in maintaining an effective regional coordination mechanism for the YSLME.	PCU	SMAG, NFPs

**Component IVC. National Institutions**

**Success Criteria:** Strengthened national institutions, as well as enhanced ability to contribute to environmental management and decision-making. Effective regional network of institutions to address the YSLME environmental issues and root causes.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Strengthen capacity to contribute to environmental management and decision-making	NFPs	SMAG, PCU
Activity 2. Facilitate ongoing management.	NFPs	SMAG, PCU

**Component IVD. Financial Instruments**

**Success Criteria:** Improved national capacities and training in environmental project identification and preparation. Small environmental grants programme developed, with priority investment projects developed for each country. Implemented pre-feasibility studies of promising technologies and industries to help achieve the goals of the YSLME, to create an investment portfolio (Priority Investment Portfolio). Long term environmental investment to implement the SAP and NYSAPs established.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Develop a regional matched small grants program	Investment WG	
Activity 2. Provide training in environmental project identification and preparation.	Investment WG	
Activity 3. Provide funding for pre-feasibility studies of promising technologies and industries to help achieve the goals of the YSLME, to create an investment portfolio (Priority Investment Portfolio).	Investment WG	
Activity 4. Identify a mechanism for participation by international development banks to learn of investment opportunities in the YSLME.	Investment WG	

**Component IVE. Data and Information Management**

**Success Criteria:** Strengthening or creation of national environmental data centres and institutions through provision of equipment, training, and networking. Easy and reliable access to electronic means of communication, data, and information exchange. Stakeholders trained and willing to use GIS

and information systems. Regional YSLME Networking Information System including data on institutional capacities, scientists, environmental projects, environmental data sets in the region, and GIS, accessible via Internet to the world community. High quality, reliable data on YSLME environmental issues. Sustainable regional mechanism for DIM for effective management of the YSLME.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Determine regional data and information management capabilities.	PCU	GRID
Activity 2. Develop an effective regional DIM strategy to help achieve the goals of the YSLME.	PCU	GRID
Activity 3. Implement the regional DIM strategy, including equipment, facilities, and communications	PCU	GRID

**Component IVF. Public Awareness and Participation**

**Success Criteria:** Increased environmental awareness at the national and community levels. Local environmental NGOs and community groups obtain grants to carry out projects. Increased public awareness and support for regional environmental issues. Enhanced overall effectiveness of environmental awareness programmes through the organization of concerted region-wide activities, as well as exchange of lessons learned through an active regional network of NGOs and community groups.

<b>Activities:</b>	<b>Responsible Parties</b>	<b>Associated Partners</b>
Activity 1. Develop a public awareness campaign	PCU, Investment WG	NPC, All WGs
Activity 2. Demonstrate regional public awareness/participation campaign.	PCU, Investment WG	NPC, All WGs
Activity 3. Encourage ongoing public awareness and participation activities to help achieve the goals of the YSLME.	PCU, Investment WG	NPC, All WGs

## V. INPUTS

It is expected that inputs to the Yellow Sea Project will come from following sources: (1) the country governments; (2) UNDP (GEF and non-GEF); and (3) other donor countries/organizations.

### A. Government Inputs

Each of the two participating countries has developed a legal and institutional framework for nature conservation and control of environmental degradation and pollution (see Preliminary TDA). Both countries are signatories of international conventions to protect biodiversity, international waters and wetlands, among others. These international commitments are reflected in national policies and legal arrangements. Through active participation in the formulation process for this project, the participating governments have demonstrated their strong commitment to taking part in the SAP preparation process and to implementing joint strategies and activities to protect common ecosystems and resources.

PRC has agreed to make information available from component II.A (activity 1) – Habitat -- as well as other pertinent national environmental information for the Bohai Sea for use in the YSLME TDA and regional assessments.

Co-financing contributions consist of government provision of office space, facilities, personnel, and other actions directly supporting the GEF YSLME Project both generally and specifically. Co-financing contributions from each country are as follows (see separate pdf files with each country's letter of co-financing commitment):

Republic of Korea	\$2,077,500
People's Republic of China	\$6,566,465
Total	\$8,643,965

#### PRC co-financing contributions (Unit: US\$ --- 1US\$ = 8.3RMB )

ITEMS	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
Staff <sup>1</sup>	491,968	491,968	491,968	316,265	316,265
Services <sup>2</sup>	527,577	527,577	527,577	339,157	339,157
Equipment <sup>3</sup>	182,309	182,309	182,309	117,199	117,199
Other <sup>4</sup>	274,096	274,096	274,096	176,204	176,204
Operational Costs <sup>5</sup>	56,225	56,225	56,225	36,145	36,145
Sum	1,532,175	1,532,175	1,532,175	984,970	984,970
<b>Sub-total</b>	<b>6,566,465</b>				

#### ROK co-financing contributions (Unit: US\$ --- 1 US\$ = 1,250KRW)

ITEMS	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
Project Coordination Unit	31,000	6,000	6,000	6,000	6,000
Fisheries Surveys <sup>6</sup>	380,834	380,834	190,416	190,416	-
Ecosystem/Water Quality Analysis <sup>7</sup>	320,000	160,000	160,000	160,000	-
Data Management	20,000	20,000	20,000	20,000	-
Sum	751,834	566,834	376,416	376,416	6,000
<b>Sub-total</b>	<b>2,077,500</b>				

<sup>1</sup> 20 senior scientists and 25 technicians X 12 months/year

<sup>2</sup> Lab analysis and experiment, cultivation and hatchery, and fish sampling

<sup>3</sup> National fisheries surveys, and ship time

<sup>4</sup> Lab, hatchery station, and office space (50m<sup>2</sup>)

<sup>5</sup> Energy and communications for the lab, hatchery station, and the office

<sup>6</sup> Stock assessment, surveys, ship time, salary (7 scientists/30%), carrying capacity analysis

<sup>7</sup> Carrying capacity of ecosystem, contaminant levels

## **B. GEF Inputs**

The Global Environment Facility (GEF) has allocated a total of US\$14,394,183 for the Yellow Sea LME Project Programme, for a five-year period from 2002.

UNDP as Implementing Agent for the GEF Grant will provide the following specific inputs:

### 1. Personnel

Chief Technical Adviser (CTA),  
Scientific Officer  
Economist/ Investment Specialist  
Local support staff for the PCU, Public Awareness, and Participation Officer

UNDP will pay for salaries, any associated costs and official travel for the above PCU staff.

### 2. Operating costs

Those costs of administrating the PCU which are not covered by the host country.

### 3. Equipment

Necessary office equipment will be supplied to the PCU, secretariats of Interministerial Coordinating Functions and to the chairmen of the WG.

### 4. Promotion

UNDP will provide assistance for promoting of the Project, including a regular newsletter, WWW, and other publications.

### 5. Consultants

UNDP will hire consultants in key Project areas. Consultants will come both from within the region and outside the region.

## **C. Non-GEF UNDP Inputs**

UNDP is providing a \$650,000 in co-financing through support to marine pollution monitoring to the Government of Korea (see UNDP project document cover page; separate pdf file)

## **D. Donor Inputs**

NOAA is providing \$600,000 in assistance in the form of scientific and technical training in the areas of satellite imagery, advanced survey technologies, fish assessment methodologies, ecosystem carrying capacity and ecosystem modeling including governance and socioeconomic elements (see NOAA co-financing commitment letter; separate file).

## **VI. RISKS**

The long-term success of regional water body management Projects such as the YSLME depends, *inter alia*, on the political willingness of the Countries to cooperate and on the availability of national and international financial resources.

The possible political risks are greatly minimized as the present political climate and economic achievements in the region are in favor 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. Compared with

other IW projects, the risks may be smaller in the YSLME, due to the small number of countries participating. Only three countries border the YSLME, so legal, policy, and institutional changes may be easier to implement than in other IW projects, where anywhere from five to 16 countries participate. Regional changes with large numbers of countries inherently present larger risks.

During the last several years, the countries have demonstrated a willingness to co-operate in matters relating to the environment of the Yellow Sea both through bilateral programmes; through active participation in regional programmes including NOWPAP, Tumen River Area Development Project (TRADP: including the SAP/TDA for the Tumen River Area), the Ballast Water Project (with a pilot site in Dalian), and UNDP/GEF/IMO East Asian Seas Project (having two demonstration sites in the YSLME: one at Nampo, DPRK, and the second in the Bohai Sea). There is increasing recognition that the benefits resulting from co-operative actions in managing the environment of the Yellow Sea are not dependent on a resolution of the unresolved issues, hence the risks of potential disruption to the project seem likely to be minimized.

A substantial proportion of the assured co-financing by governments is derived from the existing staff and recurrent budgets of the involved ministries and government departments. It is anticipated that project activities will strengthen the influence of these ministries at a national level and hence encourage substantial increases in the recurrent budgets of the departments concerned in the future. The countries already contribute financially to regionally coordinated actions and such contributions are anticipated to increase as a consequence of this project.

Regarding the sustainability of activities and components beyond the life of the project, a number of the proposed activities during the first three years of the project are preparatory in nature with a defined life span. The need for such actions reflects the inadequacy of the present data and information available to assess priorities in an totally objective manner. In elaborating the data and information in parallel with refining the SAP, mechanisms will be put in place that require minimal recurrent inputs at the national level to ensure their continued operation beyond the life of the project. It is anticipated that the regional framework for co-operation will be strengthened through undertaking this project, such that the recurrent costs of subsequent regional co-ordination will be met from within the region. The SAP facilitation-bridging period is intended to smooth the transition from the pre-SAP to the SAP implementation phase.

## **VII. PRIOR OBLIGATIONS AND PREREQUISITES**

The participating governments have taken a number of preparatory measures, including budgetary allocations for the government contribution in kind, and have designated a senior official as a YSLME National Focal Point in each country. The remaining obligations and/or prerequisites for work to commence on the YSLME Project are as follows:

- approval of the Project Document by the Governments of all participating countries;
- designation by the NFPs of technical experts who will work on various aspects of the project, together with their responsibilities and reporting requirements; and
- provision of the co-financing contributions to activities as specified in this document and agreed by the GEF Council.

## **VIII. INSTITUTIONAL FRAMEWORK, COORDINATION AND ADMINISTRATION**

### **A. Institutional Arrangements**

#### **1. Regional Institutions**

The YSLME Steering Committee will direct the activities of the YSLME Project. The Steering Committee is the highest decision-making and policy body within the YSLME Project. Decisions will be made within the framework of UNDP rules and regulations, as well as GEF rules, criteria and norms of practice. The Steering Committee will make decisions based on the consensus principle. Detailed tasks and membership of the Steering Committee are elaborated in the TOR of Annex III.



The initial membership of the Steering Committee will be finalized during the Inception Phase of project implementation. Nominations will be made by the National Focal Point Agencies to the Chief Technical Advisor, who will in turn prepare a proposal to the PPR. The PPR will consult with the UN Resident Coordinator, Beijing before confirming selections. Invitations will then be sent to the initial Steering Committee members by the PPR.

The Strategic Management Advisory Group (SMAG) will be responsible for providing strategic input to Project implementation in the interim between Steering Committee meetings. The SMAG is responsible for providing management advice to the PCU, and serves as a link between the PCU, NFP and the Steering Committee. The SMAG operates on the consensus principle. Detailed tasks and membership of the SMAG are elaborated in the TOR of Annex IV.

The Project Coordination Unit (PCU), once formed, would provide a coordination and management structure for the development and implementation of the Yellow Sea Project in accordance with the rules and procedures of GEF/UNDP consistent with directions provided by the Steering Committee. The PCU will be responsible for regional integration and synthesis. In carrying out this, the PCU will liaise closely with those national institutions and agencies which have been designated responsibility for such interministerial coordination (see National Institutions below). Detailed tasks of the PCU are elaborated in the TOR of Annex I.

Regional Thematic Working Groups will be responsible for: development of a work plan and implementation of activities in respective thematic area, regional coordination within area of competency, relevant regional recommendation development, guidance and strategy within area of competency, assistance in development of the TDA, assist in development and implementation of the Yellow Sea National Action Plans (NYSAPs) and Strategic Action Programme (SAP). The Working Groups (WG) will be formed by representatives of the participating countries, nominated by their governments. The chair person of each WG will be nominated by the NFP of the country hosting the WG, in collaboration with CTA. The nomination will be reviewed and endorsed by the first Steering Committee meeting. Each Working Group will have two scientists and two additional experts, from both countries, as members (i.e., 4 members plus 1 Chair). Detailed tasks of WGs are elaborated in the TOR of Annex V.

The ROK will chair the Ecosystem Management Theme and the Biodiversity Theme. The PRC will chair the Fisheries Theme, the Contaminant Control Theme, and the Investment Theme.

## 2. National Institutions

*National Government Focal Point Agencies:*

**For the PRC, the State Oceanic Administration (SOA) is the National Government Focal Point Agency. For Republic of Korea the National Government Focal Point Agency is the Ministry of Foreign Affairs & Trade (MOFAT), while the Korea Ocean Research and Development Institute (KORDI) will act as the lead national implementing agency.** Each National Government Focal Point Agency will appoint and fund a National Focal Point. The National Focal Point will be a senior official, capable of making high-level day-to-day decisions on behalf of the National Government Focal Point Agency. Detailed Terms of Reference are set out in Annex III.

The National Government Focal Point Agencies (NGFPA) have established their Interministerial Coordination Committee and provide guidance and ensure coordination of a wide range of National institutions and organizations directly responsible for the development and implementation of the Programme at the National level.

During the PDF-B, the Interministerial Coordination Committees were established in both PRC and ROK. In PRC, the Interministerial Coordination Committee consists of three policy organizations and four implementation agencies:

- Ministry of Foreign Affairs (MFA)
- Ministry of Finance (MOF)
- Ministry of Science and Technology (MOST)
- State Oceanic Administration (SOA)
- State Environmental Protection Agency (SEPA)
- Ministry of Communications (MOC)

Ministry of Agriculture, Bureau of Fisheries (MOA/BF)

The Committee is led by a Deputy Administrator of SOA, which is the National Focal Point for the YSLME Project. The Committee supports the YSLME, and will meet periodically according to the demands of the Project.

The ROK established its Interministerial Coordinating Committee in 1999 also. The Committee consists of eight members:

- Ministry of Foreign Affairs and Trade (MOFAT)
- Ministry of Marine Affairs and Fisheries (MOMAF)
- Ministry of Environment (MOE)
- Ministry of Science and Technology (MOST)
- National Fisheries Research and Development Institute (NFRDI)
- Korea Maritime Institute (KMI)
- Korea Ocean Research and Development Institute (KORDI)
- UNDP/Seoul

Interministerial Coordinating Function (IMCF) in each of the participating countries will provide guidance and assure coordination of a wide range of National institutions and organizations directly responsible for the development and implementation of the Programme at the National level. The Interministerial Coordinating Function will have a full time, small secretariat (national and donor-supported) reporting to the National Focal Point. Project funding to the Secretariat will provide a Coordinator and a clerk/secretary. As well as serving the National Focal Point and Interministerial Coordinating Function, the Secretariat will also assist with matters pertaining to national expert participation in the Project, assistance to the PCU in monitoring the tracking and timeliness of work on contracts issued by the PCU, quality control of nationally-prepared materials for the Project, and intersectoral coordination progress. Detailed tasks of the IMCF are elaborated in the TOR of Annex III.

As was done during the design of the Preliminary TDA during the PDF-B, the governments will nominate National TDA Experts for finalization of the Transboundary Diagnostic Analysis. These experts will assist the Interministerial Coordinating Function in each country and advise the Project on background information, transboundary environmental problem analysis, root causes, and needed sectoral and institutional changes for the successful management of Yellow Sea LME resources.

### 3. Project Execution

The UN Office for Project Services (UNOPS) served as Executing Agency during the PDF-B phase and will continue to serve as Executing Agency for the project. The UNOPS will be responsible for tasks set out in Annex IX, including hiring of international staff. The costs for these services (including all costs associated with recruitment and procurement) will be covered by the AOS. The selection of CTA will be undertaken in collaboration with the PPR, UNDP-GEF and NFPs. The recruitment of other international consultants will be done in consultation with the PPR.

### **B. Coordination Arrangements**

In order to facilitate coordination, reporting, and communications with the participating Governments, other UNDP Resident Representatives and donor agencies involved in the project, and in order to ensure proper project monitoring and evaluation, the Representative of UNDP/ROK, is designated the Principal Project Representative (PPR) for this project. In this role, the PPR will assume the primary responsibility for ensuring that activities of this project are coordinated with initiatives being supported under other government or donor programmes of a similar nature, and that proper monitoring, reporting, and evaluation of project activities are undertaken.

Activities to be supported under the YSLME will be carefully reviewed with all parties involved to make certain they do not conflict with or duplicate activities being supported by participating governments or international institutions.

## **IX. PROJECT REVIEWS, REPORTING AND EVALUATION**

Monitoring and evaluation includes a series of linked activities, including a complete Project Document, Tripartite Reviews, Annual Project Reports (and thence to the GEF Project Implementation Review Process), and mid-term and final project Evaluations. Monitoring and evaluation begins with preparation of the Project Document, complete with logical framework matrix (LogFrame) developed according to strict M&E procedures, including clear indicators of implementation progress and means of verification. This Project Document includes the required LogFrame matrix with progress indicators and verifiers.

Reporting (annual and quarterly) will be done in accordance with UNDP and GEF rules and regulations. The annual programme/project report (APR) is designed to obtain the independent views of the main stakeholders of a project on its relevance, performance and the likelihood of its success. The APR form has two parts. Part I asks for a numerical rating of project relevance and performance as well as an overall rating of the project. Part II asks for a textual assessment of the project, focusing on major achievements, early evidence of success, issues and problems, recommendations and lessons learned. The APR will be prepared by the Chief Technical Adviser, after consultation with the relevant Stakeholders, and will be submitted to the OPS for certification and the PPR for approval. Quarterly progress reports will be prepared in the same procedures. The Stakeholder review will focus on the logical framework matrix and the performance indicators. Stakeholders could include a letter to the PPR that they have been consulted and their views taken into account.

In line with UNDP-GEF requirements, the YSLME project will be subject to annual tripartite review (TPR). The tripartite review (TPR) is a policy-level meeting of the parties directly involved in the implementation of a project. The participants include the Government (NFPs), UNOPS, UNDP (Country Offices and GEF), and project management (Steering Committee Chair, SMAG Chair, WG Chairs, and NPCs). On these occasions, the CTA will submit an updated workplan (if required) and the latest Annual Project Report (APR), and formulate recommendations for eventual adjustments of strategies and activities. A draft APR shall be prepared at least two months in advance of the TPR to allow review by UNDP prior to the meeting. The Executing Agency (UNOPS) assures that the recommendations of the TPR are carried out. The TPRs can be scheduled to take place back-to-back with other meetings, such as Steering Committee meetings or the Strategic Management Advisory Committee meetings. The TPR will be chaired by PPR, while the location will alter annually between the ROK and the PRC. Full procedures for conducting the TPR are presented in the M&E Info Kit.

The project will also participate in the GEF Project Implementation Review (PIR) process. The PIR is mandatory for all GEF projects that have been under implementation for at least a year at the time that the exercise is conducted. Due to recent changes in reporting requirements by the GEF Secretariat, the APR will serve as the basic document for the PIR. Based on future bilateral discussions between UNDP/GEF and the GEF Secretariat, specific minor additions to the APR may be required to ensure consistency with the GEF's reporting requirements.

. As per GEF guidelines, the PPR will also prepare quarterly operational reports (QORs), in consultation with the CTA, and submit them to the UNDP-GEF Regional Office, Kuala Lumpur, Malaysia.

UNDP, as an Implementing Agency of the GEF, is responsible to the GEF Council for the proper use of the GEF's contribution to the project budget. Therefore, UNDP-GEF is accountable for the efficient and effective use of GEF funds. As a result UNDP-GEF is responsible for ensuring GEF funds are used to achieve the project's objectives, as set out in the project document and in accordance with GEF principles – particularly the principle of incrementality. UNDP-GEF will appoint a Task Manager to supervise the implementation of the project and backstop the PPR. This will include interaction with the PCU, Working Group Chairs, and National Focal Points as required and in consultation with the PPR.

A mid-term and final project evaluation will be conducted. At the end of year 3, the mid-term evaluation will be made. It focuses on relevance; performance (effectiveness, efficiency and timeliness); issues requiring decisions and actions; and initial lessons learned about project design, implementation and management. Towards the end of year 5, a final independent evaluation of the project will be carried out by project evaluation specialists selected by UNDP-GEF. The final evaluation, which occurs at the end of project implementation, focuses on the same issues as

the mid-term evaluation but also looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. It should also provide recommendations for follow-up activities. It is anticipated that ex-post evaluation will be conducted approximately 3 years after the end of the Project, with external GEF monitoring & evaluation funds to assess sustainability of activities undertaken and initial impact, and to draw lessons for other projects.

In summary tabular form, the M&E process for the YSLME will be as follows:

**M&E ACTIVITIES, TIMEFRAMES,  
AND RESPONSIBILITIES**

ACTIVITY	RESPONSIBILITIES	TIMEFRAMES
1. Drafting Project Planning Documents: Prodoc, Logframe (including indicators), M&E Plan	Project proponent together with UNDP/GEF staff and consultants and other stakeholders	During project design stage
2. Quarterly Operational Reports (QORs)	PPR	Quarterly
3. Annual Programme/Project Reports (APRs) and Quarterly Progress Reports	CTA in consultation with Project stakeholders	Annually/Quarterly
4. Tripartite Review (TPR)	The Government, UNDP Country Office, project team, beneficiaries and other stakeholders	Annually
5. Project Implementation Review (PIR)	UNDP Country Office, UNDP/GEF headquarters, project team, GEF's M&E team	Annually, between June and September
6. Mid-term and Final evaluations	Project team, UNDP/GEF Kuala Lumpur	At the mid-point and end of project implementation,

In addition to the standard UNDP and GEF procedures outlined above, the project will benefit from (at minimum) annual Steering Committee Meetings. As outlined in the TOR for the Steering Committee, they are the primary policy-making body for the YSLME Project. The CTA will schedule and report on Steering Committee Meetings.

Meetings can also be organized *ad hoc* at the request of the CTA and/or on request by one of the participating countries. The Steering Committee will approve the final results of such meetings.

Working in concert with appropriate scientific and technical institutions and government agencies in the region and in line with emerging GEF policies, the project will develop a set of “environmental indicators” to track the short and long-term impacts of this project. Key environmental indicators will include process (e.g., policy, legal, institutional, etc. reforms), stress reduction (e.g., reduced pollutant loads, fishing pressure, etc.), and environmental status (e.g., cleaner waters/sediments, restored habitats, sustainably managed fisheries, etc.). The development of these indicators is part of the NYSAP and SAP process.

Periodic Status Reports would be prepared at the request of the Steering Committee for presentation at key meetings associated with the Project; however, to the extent possible, the APRs should be used for this purpose.

The project will also participate in the UNDP-GEF International Waters (IW) Learning, Exchange and Resource Network Program (IW: LEARN). IW:LEARN is a distance education program whose purpose is to improve global management of transboundary water systems. It will allow participants in GEF IW projects to share learning related to oceans, coastal zone management and river basins throughout the world. For environmental professionals working on GEF related projects IW:LEARN will greatly expand opportunities for peer to peer, collaborative

research with physically distant colleagues, opportunities to exchange best practices and training modules among projects, and the delivery of short courses. Many of the ideas presented in this Project Document have benefited from lessons learned from past GEF projects. These ideas cover the project implementation modality, the M&E process, the identification of objectives and tasks, and the public participation component.

## **X. LEGAL CONTEXT**

For both participating countries, Republic of Korea and People's Republic of China, this Project Document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement (SBAA) between these governments and the United Nations Development Programme, signed by the parties previously. The host countries' implementing agencies shall, for the purpose of the SBAA, refer to the governments' cooperating agencies described in that Agreement.

The following types of revisions may be made to this Project Document with the signature of the Principal Project Representative (PPR) only, provided that he/she has verified the agreement thereto with the Executive Coordinator, GEF Unit, UNDP (or designated Officer-in-Charge/ representative) and is assured that the other signatories to the Project Document have no objection to the proposed changes:

1. Revisions in, or addition of, any of the annexes of the Project Document.
2. Revisions that do not involve significant changes in the immediate components, objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation.
3. Mandatory annual revisions that rephrase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

## XI. BUDGET

A. Project Number: RAS/00/G31

B. Project Title: Preparation and Preliminary Implementation of a Strategic Action Programme for the Yellow Sea Large Marine Ecosystem

(Unit: US\$)

Budget	Description	Year 1		Year 2		Year 3		Year 4		I. YEAR 5		Total	
		m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$	m/m	\$
10.00	<b>Personnel</b>												
11.00	<b>International Experts</b>												
11.01	CTA	1/12	171,919	1/12	180,515	1/12	189,541	1/12	191,364	1/12	200,932	1/60	934,271
11.02	Economist	1/12	109,200	1/12	114,660	1/12	120,393		-		-	1/36	344,253
11.03	Scientific Officer	1/12	109,200	1/12	114,660	1/12	120,393		-		-	1/36	344,253
11.04	Public Advisor	1/12	80,000	1/12	84,000	1/12	88,200		-		-	1/36	252,200
	<b>Short-term Consultants</b>												
11.51	Carrying Capacity Consultant (IB)	1/1	17,900	1/1	17,900		-		-		-	1/2	35,800
11.52	Habitat Consultant (IIA)	1/2	20,000	1/2	20,000		-		-		-	1/4	40,000
11.53	Stakeholders NGO (IVA)	1/2	25,000	1/2	25,000		-		-		-	1/4	50,000
11.54	Biodiversity Consultant (IIB, IIC, IIF)		-	2/4	60,000	2/2	35,000		-		-	2/6	95,000
11.55	Evaluation Consultant (IVB)		-		-	2/1	20,000		-	2/1	20,000	2/2	40,000
11.56	TDA/SAP Consultant (IVB)	1/1	19,500	1/2	39,000	1/1	19,500		-		-	1/4	78,000
11.57	PIP Consultant (IVD)	2/2	46,400	2/2	46,400	2/1	46,400	2/1	23,200	2/1	23,200	2/7	185,600
13.01	Secretary	1/12	24,742	1/12	25,993	1/12	27,306	1/12	28,684	1/12	30,130	1/60	136,855
13.02	Driver	1/12	17,242	1/12	18,118	1/12	19,037	1/12	20,001	1/12	21,015	1/60	95,413
13.03	Adm. Asst.	1/12	28,742	1/12	30,193	1/12	31,716	1/12	33,314	1/12	34,992	1/60	158,957
13.04	Adm. Officer	1/12	39,742	1/12	41,743	1/12	43,843	1/12	46,048	1/12	48,363	1/60	219,739
13.05	Receptionist	1/12	17,242	1/12	18,118	1/12	19,037	1/12	20,001	1/12	21,015	1/60	95,413
15.00	<b>Duty Travel</b>												
15.01	PCU/International Expert Travel		77,800		85,800		77,800		27,700		27,700		296,800
16.00	<b>Mission Costs</b>												
16.01	Annual Tri Part Review (IVB)		8,000		8,000		8,000		8,000		8,000		40,000
16.03	Interviews/Travel (CTA Prospects) (IVB)		20,000		-		-		-		-		20,000
17.00	<b>(Nat'l Project Professional Personnel) NPPP</b>												
17.01	Mariculture Advisor (IC, ID)	1/12	9,000	1/12	9,000	3/12	24,000	3/12	24,000	2/12	15,000	3/60	81,000
17.02	Biodiversity Advisor (IIB)		-	2/6	25,500	2/6	25,500	2/6	25,500		-	2/18	76,500
17.03	Ecosystem Advisor (IIIB)		-		-	1/4	10,000	1/4	10,000	1/4	10,000	1/12	30,000
17.04	NCU Coordinator and Secretary (IVC)	2/12	89,077	2/12	93,549	2/12	98,243	2/12	51,425		-	2/48	332,294

17.05	TDA NPPP (IID)		-	2/6	25,500	2/6	25,500		-		2/12	51,000
17.06	DIM Consultants (IVE)	3.5/8	59,178	3.5/8	59,179	9/3	57,054	9/3	57,054		9/22	232,465
<b>19.00</b>	<b>COMPONENT TOTAL</b>		<b>989,884</b>		<b>1,142,828</b>		<b>1,106,463</b>		<b>566,291</b>		<b>460,347</b>	<b>4,265,813</b>
21.00	<b>Subcontracts</b>											
21.01	Mariculture Demonstrations/Grants (IC, ID)		-		-		10,000		50,000		-	60,000
21.02	Matched Grants (IVD)		100,000		115,000		130,000		-		-	345,000
21.03	Local Institutions/Consultants - Fisheries		340,992		338,868		204,993		37,118		37,118	959,089
21.04	Ship Rental - Fisheries (IA)		268,113		268,113		268,113		-		-	804,339
21.05	Local Institutions/Consultants - Biodiversity		127,367		151,868		100,868		15,868		15,868	411,839
21.06	Local Institutions/Consultants - Ecosystem		441,868		461,868		244,118		83,868		28,618	1,260,340
21.07	Local Institutions/Consultants - Reg'l Coord		71,118		37,118		49,868		62,618		62,618	283,340
21.08	IMO (IID, IIE)		30,000		10,000		10,000		-		-	50,000
21.09	Habitat study (IIA)		50,000		50,000		-		-		-	100,000
21.10	Editors (IVA)		17,000		17,000		17,000		17,000		17,000	85,000
21.11	Local subcontract: habitats (IIA, Activity I)		25,500		-		-		-		-	25,500
21.12	Matched Grants Administration (IVD)		20,000		23,000		26,000		-		-	69,000
21.13	PIP Local Institution (IVD)		25,500		25,500		51,000		51,000		51,000	204,000
21.14	PIP Demonstration (IVD)		-		-		400,000		650,000		700,000	1,750,000
21.15	Public Awareness Publications (IVF)		40,000		20,000		20,000		20,000		20,000	120,000
<b>29.00</b>	<b>COMPONENT TOTAL</b>		<b>1,557,458</b>		<b>1,518,335</b>		<b>1,531,960</b>		<b>987,472</b>		<b>932,222</b>	<b>6,527,447</b>
30.00	<b>Training</b>											
32.01	Local Training		140,000		140,000		125,000		67,500		27,500	500,000
32.02	Meetings		252,436		308,341		275,121		102,657		74,070	1,012,625
<b>39.00</b>	<b>COMPONENT TOTAL</b>		<b>392,436</b>		<b>448,341</b>		<b>400,121</b>		<b>170,157</b>		<b>101,570</b>	<b>1,512,625</b>
40.00	<b>Equipment</b>											
45.01	Expendable Equipment (PCU, NCU)		39,900		36,300		31,300		31,300		18,500	157,300
45.02	Non-Expendable Equip (seagoing, office)		525,032		41,000		41,000		21,000		5,000	633,032
45.03	Office Operation & Maintenance		9,000		9,000		9,000		9,000		11,000	47,000
45.04	Communications		28,800		28,800		28,800		22,800		6,000	115,200
<b>49.00</b>	<b>COMPONENT TOTAL</b>		<b>602,732</b>		<b>115,100</b>		<b>110,100</b>		<b>84,100</b>		<b>40,500</b>	<b>952,532</b>
50.00	<b>Miscellaneous</b>											
52.01	Reporting Costs		14,000		19,000		25,000		11,000		15,000	84,000

52.02	Publications, dissemination		26000		37000		18000		18750		18750		118500
53.01	Sundries/Miscellaneous		26000		37000		18000		18750		18750		118500
<b>59.00</b>	<b>COMPONENT TOTAL</b>		<b>66,000</b>		<b>93,000</b>		<b>61,000</b>		<b>48,500</b>		<b>52,500</b>		<b>321,000</b>
	<b>Subtotal</b>		<b>3,608,510</b>		<b>3,317,604</b>		<b>3,209,644</b>		<b>1,856,520</b>		<b>1,587,139</b>		<b>13,579,417</b>
93.00	<b>UNOPS Support Costs (6%)</b>		216,511		199,056		192,579		111,391		95,229		814,766
99.00	<b>Total Budget</b>		<b>3,825,021</b>		<b>3,516,660</b>		<b>3,402,223</b>		<b>1,967,911</b>		<b>1,682,368</b>		<b>14,394,183</b>



### **C. Budget Description**

The UNDP will be executed by UNOPS. Brief descriptions of aspects of the budget are included below:

#### **International Experts:**

These International Experts will be recruited internationally, using processes and procedures well established by the UNOPS and accepted by the United Nations member states. Their salaries and expenses will be paid according to scales reviewed regularly by the UNOPS for UNDP operations worldwide. Four international experts are anticipated by the project, in support of the YSLME. Detailed Job Descriptions are available in Annex I.

Chief Technical Advisor: This individual will be responsible for the field implementation of the Project.

The Scientific Officer (fisheries/ecosystems): The Scientific Officer will assist in regional coordination, data management and information dissemination, development of data and information management tools. He/She will also oversee and coordinate the Fisheries component of the project.

Environmental Economist/Investment Expert: The Economist will assist in focusing effort on the environmental analyses associated with successful achievement of the goals of the YSLME and develop the PIP component of the project. He/She will be also responsible for the coordination of biodiversity component of the project.

Public Awareness and Participation Expert: The Public Awareness Expert will be responsible for the project elements designed for enhancing public awareness and participation in the YSLME activities.

#### **Equipment:**

Equipment will be purchased for the project, including, but not limited to:

- Office equipment to support the National Coordination Unit
- Office equipment to support the PCU
- Limited office equipment to support the Chairs of the five Themes
- Ship-board equipment to assist in fisheries stock assessment
- Ship-board equipment (CPRs, others) to assist in assessment of carrying capacity

#### **Ship Rental:**

Ship rental is required to provide for ships to conduct the annual regional fisheries stock assessments (for three years) and for carrying capacity assessment.

### **D. Abbreviated Terms of Reference for Short-term International Consultants, Local PCU Staff and National Project Professional Personnel (NPPPs)**

#### **1. Short-term International Consultants**

Short-term international consultants will give technical inputs to the national and regional working groups, act as resource persons, and give methodological guidance in organizing meetings and workshops. International expertise will be required in the following themes (detailed Terms of Reference will be prepared by the Chief Technical Adviser during project implementation):

##### Carrying Capacity Consultant

Evaluates existing data sets, needs and data gaps, monitoring programmes and monitoring capabilities. Assists the region to prepare the regional assessment of contaminant sources. Helps establish and/or strengthen links between monitoring centres. Contributes significantly to the TDA preparation process.

##### Biodiversity Consultant

Coordinates the preparation of the regional strategies for protection of vulnerable species, recommendations for conservation of gene pool, proposals for regulation and control of exotic species. Contributes significantly to the TDA preparation process. Coordinates the preparation of regional biodiversity assessment and action plan.

#### Habitat Consultant

Evaluates existing protected areas and habitat protection status. Contributes significantly to the TDA preparation process. Coordinates the preparation of regional Habitat Conservation Strategy and Action Plan

#### TDA/SAP Consultant

Assists the CTA to finalise the TDA, based on the Preliminary TDA prepared during PDF-B. Facilitates the preparation of contributions to the TDA from the Thematic Working Groups. Assists in drafting, refining and finalizing regional Strategic Action Programme. Assists countries in preparing the draft National Yellow Sea Strategic Action Plans.

#### PIP Consultant

Performs preparatory work for sound environmental investment. Facilitates implementation of pre-feasibility studies of promising technologies and industries to help achieve the goals of the YSLME, to create an investment portfolio (Priority Investment Portfolio). Assists the Economist and CTA to establish long-term environmental investment to implement the SAP and NYSAPs.

#### Stakeholders NGO

Provides technical support to the CTA in preparing Public Awareness and environmental education campaign. Helps organize the international NGO network and annual NGO forum. Assists in developing a small grants program for NGO's and community organizations. Assists in preparing and distributing educational/awareness materials. Facilitates the dialog with the industry representatives.

#### Mid-term and Final Evaluation Consultant

Evaluates the performance and achievements of the project by the end of the project cycle.

### **2. Local PCU Staff**

The GEF/UNDP has made a commitment to hire local staff to carry out important functions of the PCU. Local staff will include a secretary, a driver, and Administrative Assistant, an Administrative Officer, and a Receptionist. Their Job Descriptions are included in Annex I.

#### Duty Travel

These funds are for travel of the PCU staff throughout the region and elsewhere in support of the Project. Local travel funds are primarily for regional personnel to attend workshops, meetings, training, and other functions throughout the region.

#### Mission Costs

These expenses are to pay for National Focal Points and government stakeholders to attend Tripartite Reviews and other review sessions during the course of the Project. UNOPS costs will be funded from the AOS. UNDP mission costs will not be funded from the project budget.

### **3. National Project Professional Personnel (NPPP)**

National Professionals and Consultants will be recruited from qualified candidates from the participating countries to work at the national level. National Consultants will play an important role in the NYSAP/SAP planning process so that SAP is country-driven and can reinforce the responsibility of the participating countries to produce a coherent strategic plan for sustainable environmental management in the Region. The following National Professionals and Consultants will be recruited. The detailed Terms of References will be prepared by the Chief Technical Adviser (CTA) during early project implementation.

#### NCU NPPPs

Each country will receive funding for a National Project Coordinator, who will work closely with the National Focal Point and a mid-level secretary/clerk to support the Interministerial Coordinating Function. The National Project Coordinator will be responsible to the National Focal Point to help assure national coordination, and to

maintain consistent communication with the PCU and Working Groups chairs, as well as to assure the quality of the products produced by experts in his/her country. The secretary/clerk will assist the National Project Coordinator in carrying out his/her functions.

#### TDA NPPP

This individual will assist the PCU in final preparation, compilation, editing, and publication of the Transboundary Diagnostic Analysis.

#### Mariculture Advisor NPPP

Assists the Fisheries WG Chair to develop joint applied research program for sustainable mariculture. Facilitates the Pilot demonstration projects in mariculture. Assists region to implement more broadly proven sustainable mariculture techniques.

#### Biodiversity Advisor NPPP

Assists the Biodiversity Consultant and the Habitat Consultant to coordinate the preparation of the regional strategies for protection of vulnerable species, recommendations for conservation of gene pool, proposals for regulation and control of exotic species. Facilitate the TDA preparation process. Assists in the preparation of regional biodiversity assessment and action plan. Helps to evaluate existing protected areas and their protection status.

#### Ecosystem Advisor

Provides technical expertise. Contributes to the development of the TDA. Facilitates the SAP and NYSAP preparation. Evaluates existing data sets, needs and data gaps, monitoring programmes, and monitoring capabilities.

#### DIM Consultant

Assists the Information Officer and the CTA with the implementation of DIM activities. Facilitates the development of information systems, GIS, databases, web pages and Newsletter.

### **E. Subcontracts**

The majority of the work being done both by international agencies and by the countries will be conducted under the mechanism of subcontracts. Subcontracts will be executed with the individual institutions, agencies, NGO or other recognized, legal entity to perform specific activities associated with the GEF/UNDP project. The subcontract will be based on specific terms and scope of work, agreed to prior to executing the contract.

#### **Training:**

Training will be made available through small grants, for a variety of mechanisms. In addition, meeting expenses are included in this category, to cover the local costs (not travel and DSA) associated with hosting meetings in the region.

#### **Equipment:**

Equipment costs include that required for establishing the PCU, the Interministerial Coordinating Functions, and the Working Groups. Most equipment is expected to be available and purchased within the region. However, provision is made to purchase some equipment internationally, if not available within the region. Equipment costs include both permanent equipment as well as expendable supplies and equipment. Communications costs are budgeted for the PCU, Interministerial Coordinating Functions, and Working Groups. Finally, Office Operations and Maintenance costs are provided for the PCU.

#### **Miscellaneous Costs:**

Costs are included for reporting costs (publications, technical documents) for the PCU and the Working Groups. Sundries are for PCU-associated items not falling under previous categories.

**Support Costs:**

Six percent (6.0%) of the costs of the Project Budget are made available for Project Execution by UNOPS, by way of the AOS. It is expected that a portion of this will be reimbursed by UNOPS to UNDP Country Offices for the actual costs of assisting UNOPS with project execution services as requested by UNOPS. It is anticipated that UNDP assistance will be required for Budget Lines 10 (“Personnel,” particularly 13 “PCU Local Staff” and 17 “NPPP”), 20 (“Sub-contracts”) and 30 (“Training”).

## LIST OF ANNEXES

- **Annex I: Terms of Reference**

- Yellow Sea LME Project Coordination Unit (PCU)
  - Job Descriptions for the Project Coordination Unit Staff:
    - A. Professional Staff
      - (a) CTA
      - (b) Scientific Officer
      - (c) Environmental Economist/Investment Expert
      - (d) Public Awareness and Participation Advisor)
    - B. Local Staff
      - (a) Administrative Officer
      - (b) Administrative Assistant
      - (c) Receptionist
      - (d) Driver and General Assistant
  - General PCU Policies and Procedures

- **Annex II: Proposed Structure for Governance, Coordination and Implementation for the UNDP/GEF YSLME Project Executed by OPS**

- **Annex III: Terms of Reference**

- Yellow Sea LME Steering Committee
- National Focal Point
- Interministerial Coordinating Function
- National Project Coordinator

- **Annex IV: Strategic Management Advisory Group**

- **Annex V: Regional Thematic Working Groups**

- **Annex VI: Composition of Major Institutions**

- **Annex VII: Logistical Framework Matrix**

- **Annex VIII: Terms of Reference Yellow Sea LME List of Equipment**

- **Annex IX: Map of Yellow Sea Region**

## ANNEX I

### TERMS OF REFERENCE

#### Yellow Sea LME Project Coordination Unit (PCU)

**Background:** The PCU will provide a coordination and management structure for the development and implementation of the Yellow Sea LME in accordance with the rules and procedures of GEF/UNDP based on directions provided by the Steering Committee. The PCU is also responsible for facilitating regional integration and synthesis.

**Tasks:**

- Assistance in networking between National Focal Points, Interministerial Coordinating Function in both countries and Strategic Management Advisory Group;
- Organization of technical cooperation activities between Regional Thematic Working Groups;
- Organization of consultative meetings for introducing and implementing project activities;
- Collection and dissemination of information on policy, economic, scientific and technical issues related to the project;
- Provision of support for the preparation of technical and pre-investment studies;
- Preparation of progress reports (administrative and financial) concerning project activities;
- Establishment of and assistance in networking between specialized institutions in participating countries and technical specialists from elsewhere;
- Assistance in implementing pilot projects for the environment;
- Coordination of international, multi-lateral and bi-lateral environmental activities in the Yellow Sea, where appropriate;
- Directly coordinate “Public Awareness and Participation”:
  - Facilitate effective involvement of stakeholders in environmental and resource management, as well as the decision-making process, to address the YSLME environmental issues and root causes.
  - Increase public awareness and support for regional environmental issues. Enhance overall effectiveness of environmental awareness programmes through the organization of concerted region-wide activities, as well as exchange of lessons learned through an active regional network of NGO’s and community groups.
- Also directly coordinate “Data and Information Management”:
  - Development of Regional YSLME Networking Information System including data on Institutional capacities, scientists, environmental projects, environmental data sets in the region, and GIS, accessible via Internet to the world community. High quality, reliable data on YSLME environmental issues. Sustainable regional mechanism for DIM for effective management of the YSLME.
- Project management (financial, logistical and strategic)

**Location:** Korean Oceanographic Research and Development Institute (KORDI), Ansan, ROK.

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**A. Professional Staff**

**-Chief Technical Advisor (CTA)**

**General Job Description**

The CTA shall be responsible for the overall coordination, management, monitoring and supervision of all aspects of the GEF Yellow Sea LME Project (YSLME), under the policy/technical guidance of the Steering Committee. He/she shall liaise directly with the National Project Coordinators and the representatives of the GEF partners, in order to develop the annual and quarterly work plans and budgets for the project. He/she shall be responsible for all substantive, managerial and financial monitoring and reporting of the Project. He/she will provide overall supervision for all staff in the Project Coordination Unit as well as guiding and supervising all external policy relations. He/she is responsible for the coordination and monitoring of international inputs. While he/she is directly accountable to OPS, the CTA shall consult with, coordinate closely with, and report as appropriate to the Principal Project Representative (UNDP Representative in the ROK), the RR of UNDP in the PRC, UNDP-GEF Task Manager, national focal points, senior representatives of partner agencies as well as the respective UNDP officers. He/she will also seek additional funding and partners, and integrate their inputs to project workplans and budgets. Funding could be cost-shared or in parallel. He/she should closely liaise with other complementary or parallel initiatives to ensure maximum complementarities.

**Duties**

The CTA will have the following specific duties:

(2) Project implementation and management:

- to prepare the annual and quarterly work plans and budgets of the Project on the basis of the Project Document, in close consultation and coordination with the National Project Coordinators, Working Group Chairs to coordinate and monitor the activities described in the work plans, and ensure timeliness and quality of outputs. Workplans will be prepared and reviewed in consultation with the PPR before forwarding to UNOPS and UNDP-GEF Task Manager. UNDP PPR will do the final endorsement;
- to review the annual and quarterly workplans and budgets of WGs, and collate them into country-specific workplans to be forwarded to the National Focal Point for monitoring;
- to prepare quarterly financial reports, progress reports and annual programme reports, for certification by OPS, approval by UNDP, and then forwarding to UNDP-GEF;
- to coordinate and oversee the preparation of the substantive and operational reports from the project, integrating the reports from NPCs and WG Chairs into the overall project report;
- to develop and coordinate NYSAPs and SAP in close collaboration with NPCs
- to assure consistency between the various project elements and related activities provided or funded by other donor organizations;
- to identify synergies and collaboration platform and establish close working relationships with other related national and/or regional (e.g., Partnerships in Environmental Management for the Seas of East Asia: PEMSEA)/international initiatives to maximize efficiency and reduce duplication;
- to maintain the overall responsibility for the efficient, cost-effective use of project funds, in accordance with UNDP/GEF rules and regulations;
- to prepare an Equipment Register with indications of international or local procurement;
- to prepare and submit to UNDP via the Executing Agency an annual report of non-expendable equipment purchased for the project within 30 days following 31 December and shall be included by the PCU in the main inventory for the project;
- to prepare and oversee the development of Terms of Reference for consultants and contractors, select in consultations with UNDP PPR, NPCs, the international consultants and contractors; and
- to provide technical assistance in his/her area of competence as required.
- To undertake an Inception mission and complete inception activities, as agreed by the PPR, UNDP-GEF Task Manager and NFPs.

2) Supervisory functions:

- to supervise the work of international consultants (long-term and short-term) to be based at the PCU; and
- to manage the PCU, its staff, budget, and imprest fund;

3) Coordinating functions:

- to liaise with the NFPs, NPCs, UNDP (both in China and Korea), and GEF
- to liaise with other donors to ensure maximum synergy, avoid duplication with existing initiatives, and also seek additional funding for the project
- to act as Secretary for the Regional Steering Committee;
- to act as Chairman for the Strategic Management Advisory Group; and
- to foster and establish links with other regional International Waters programmes.

**Skills and Experience Required**

- post-graduate degree in Environmental Management or a directly related field (e.g. applied marine science, natural resources economics, etc.);
- at least ten years experience in fields related to the assignment.
- at least five years experience at a senior project management level, preferably in a complex (sub-regional) setting.
- proven knowledge of the sub-region and, in particular, of the coastal countries would be a strong asset;
- familiarity with the goals and procedures of international organizations, in particular those of the GEF partners (UNDP, UNEP, World Bank);
- demonstrated diplomatic and negotiating skills;
- excellent interpersonal skills;
- sensitivity to cultural and political differences; and
- excellent knowledge of English, and knowledge of one of the languages of the coastal countries, an asset.

**Duty station:** PCU in the ROK

**Duration:** 2-year renewable contract for 5 years

**Suggested post level:** D1



**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**Scientific Officer (fisheries/ecosystems)**

**General Job Description**

The Scientific Officer will be responsible for information capture, exchange and networking between a wide range of participants in the YSLME including government officials, scientists, non-governmental organizations and the public at large. He/she will work closely with institutional focal points, Strategic Management Advisory Group (SMAG), Regional Thematic Working Groups, specialized UN Agencies, international NGOs (such as WWF, IUCN), and will cooperate with and encourage activities of other donors in this field. He/she shall work under the supervision of the Chief Technical Adviser (CTA) within the Project Coordination Unit (PCU).

**Duties**

The Scientific Officer will have the following specific duties:

- to coordinate and supervise the Fisheries component of the project.
- to liaise with donors, specialized UN Agencies (such as IOC of UNESCO, UNEP, WMO), international NGOs (such as WWF, IUCN) and other organizations involved in establishing and managing scientific research programmes in the YSLME;
- to generate and maintain a directory of all persons and institutions engaged in work related to the implementation of the project;
- to supervise data exchange and the maintenance of the data communications network between cooperating institutions;
- to edit a regular information bulletin on the project (issued in English and widely distributed);
- to supervise the development of a library for the PCU;
- to supervise the development and maintenance of information management tools (Information Systems, DBMS, GIS);
- to develop and maintain a Home page of the project;
- to supervise the production of the Technical Series publications; and
- to assist with the administration of other information-related technical issues where required by the Coordinator.

**Skills and Experience Required**

The incumbent should be fully fluent (including a proven writing and editing ability) in English.

Other requirements are as follows:

- post-graduate degree in environmental science, information management or a directly related field;
- at least three years experience in similar international posts dealing with information exchange and international scientific/environmental management projects;
- proven experience with computer data bases, GIS, web design and information systems;
- experience in training other specialists; and
- familiarity with the problems of the YSLME region would be advantageous.

**Duty station:**

**Duration:** Three years on a fixed-term contract

**Suggested post level:** P3

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**Environmental Economist/Investment Expert**

**General Job Description**

The Environmental Economist/Investment Expert will contribute to the environmental economics and sustainable development aspects of the project. He/She will be responsible to oversee the PIP component of the project. He/she will work under the supervision of the Chief Technical Adviser (CTA) within the Project Coordination Unit (PCU).

**Duties**

The Environmental and Resource Economist will have the following specific duties:

- help define the economic benefits associated with sound environmental management in the YSLME region;
- to identify and define economic benefits associated with the YSLME;
- to develop investment strategy for the sustainable management of YSLME;
- to train personnel in the region including each thematic area to incorporate economic benefit arguments and develop investment proposals;
- to support IMCF and National Focal Points in bringing sustainable resource management arguments to relevant Ministries;
- to be actively involved in capacity building programmes, institutional development, EIA, development of economic tools;
- to analyze the economic and technical reports to be used as a strategic framework (or background information) on economic, environmental, policy and legislative issues for the YSLME project;
- to coordinate with the Scientific Officer in the capture and management of national and regional economic and technical information within the project database;
- to assist in the completion of reports related to environmental economics, including priority investments and pollution hot spots, with special emphasis on costs and benefits of actions aimed at ameliorating the environmental degradation of the YSLME;
- to coordinate activities and outputs of the economic and technical studies, including liaising with consultants and relevant international agencies;
- to assist in the design of research on environmental awareness in the region; and
- to assist with the other economic issues where required by the Coordinator.

**Skills and Experience Required**

- post-graduate degree in economics, business administration and, preferably additional qualifications in environmental management;
- at least two years experience in similar posts in international organizations dealing with environmental management projects;
- familiarity with goals and procedures of international organisations, in particular of the GEF partners;
- familiarity with problems of the YSLME; and
- full fluency in English.

**Duty station:**

**Duration:** Three years on a fixed-term contract

**Suggested post level:** P3

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**Public Awareness and Participation Advisor**

**General Job Description**

The Public Awareness and Participation Advisor will be responsible for the project elements designed for enhancing public awareness and participation in the YSLME activities. He/she will work closely with Governmental and Non-Governmental Organizations and will liaise with corresponding activities of other donors in this field. He/she shall work under the supervision of the Chief Technical Adviser (CTA) within the Project Coordination Unit (PCU). The Public Awareness and Participation Advisor will coordinate closely with the Scientific Officer in the dissemination of all technical information.

**Duties**

The Public Awareness and Participation Advisor will have the following specific duties:

- to establish and coordinate technical support to the YSLME NGO network;
- to assist in the design of a comprehensive public awareness programme, with special emphasis on schools and local communities;
- to coordinate the organization of social assessments of human populations particularly affected by the changing environmental state of the YSLME or contributing to its decline;
- to coordinate the GEF support to small-scale pilot projects of regional/global significance;
- to liaise with other donors on the implementation of projects which support public participation/ public awareness in the YSLME region; and
- to assist with the administration of other Public Awareness and Education issues where required by the Coordinator.

**Skills and Experience Required**

- post-graduate degree in environmental studies or a directly related field;
- at least two years direct experience with the establishment and management of NGOs;
- familiarity with the problems of the YSLME; and
- full fluency (spoken and written) in English and Korean or Chinese.

**Duty station:**

**Duration:** Three years on a fixed-term contract

**Suggested post level:** P2

**ANNEX I (continued)**  
**Administrative Structure of the PCU**

The administrative staff of the PCU will consists of at least five persons: two assisting with financial management, one providing secretarial and public relations support, a receptionist, and one driver. The job descriptions are established in such a manner as to allow certain flexibility in order that either of the staff involved with financial management can cover the other's basic duties in case of absence and likewise with the secretarial staff. A collegial rather than hierarchical approach has been adopted which reflects the high degree of professional skill and integrity expected of the staff (i.e. differences in grading between posts will be small in order to create a team rather than a layered bureaucracy). In the case of the secretarial staff, clerical duties have been minimized in order to further integrate the staff in the basic operations of the PCU and eventually promote career development.

Brief job descriptions of the staff are provided in the following pages. All staff will be encouraged to familiarize themselves with these descriptions in order to understand each other's roles and to avoid eventual misunderstandings. The descriptions will be reviewed and, if necessary updated, on an annual basis. Additionally, in times of exceptional workload or where specialist support is required, some part-time or temporary support may be hired. Information on office hours and special conditions may be found on the final page of this document.

Additional local staff may be added if the work load so designates (e.g., LAN Administrator.)

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**B. Local Staff**

**Administrative Officer**

**General Job Description**

Under the supervision of the Chief Technical Adviser (CTA), the Administrative Officer will manage the day-to-day operations of the PCU, particularly with respect to finances, technical services, procurement (including importation, permits, etc.) and personnel matters (in close cooperation with the counterpart staff of UNOPS and the UNDP Country Office in Beijing). The post holder will be the principal line of liaison between the PCU and the UNOPS PMO in all financial and administrative matters.

**Duties**

1. Administrative Functions

The incumbent will assure the proper day-to-day functioning of the PCU by supervising the provision of all necessary supplies and services including maintenance contracts, office supplies and communications. He/she will personally supervise the driver and assure the correct and appropriate use of the PCU vehicle. He/she will personally supervise the Administrative Assistant. He/she shall be responsible for the proper running and upkeep of the PCU hardware including the computers, copiers, etc.

2. Finances

The Administrative Officer will administer the petty cash and imprest account on behalf of the Chief Technical Adviser (CTA) and prepare relevant documents including monthly cash statements, requests for replenishment and budget reviews and revisions. He/she shall oversee the work of the Administrative Assistant regarding financial issues.. The Administrative Officer shall also be responsible for paying DSAs, etc., for participants in all project-financed workshops organized by, or on behalf of, the PCU. He/she shall be responsible for preparing all relevant documents for administering the imprest account for final approval by the Chief Technical Adviser (CTA), in conformity with the stipulations of the financial regulations of UNOPS.

3. Procurement

The incumbent will undertake all duties relevant to local procurement. He/she will maintain records of suppliers, obtain competitive bids for the consideration of the Chief Technical Adviser (CTA) and complete the relevant documentation including that pertinent to the tax status of the PCU. In close contact with the UNOPS PMO, he/she will arrange for customs clearance of imported goods and for shipping documents in the event of supply of locally purchased equipment to the regional institutional network. He/she will maintain precise records of all goods purchased on behalf of the Project. The incumbent will also be responsible for maintaining proper equipment inventories as well as for ensuring the proper labeling and recording of equipment delivered to the field. Records will also be maintained of all materials purchased by the other donors and used within the regional network.

4. Personnel Matters

The Administrative Officer shall assist all the PCU staff with personnel matters relevant to the performance of official duties. This work, with support from the driver and general officer, will include the obtaining of visas (a service to be limited to duty travel). Such assistance will be provided in consultation with the Chief Technical Adviser (CTA) and in close liaison with the UNOPS PMO and the relevant sections of UNDP. Assistance will include, supply of forms for personnel services (including medical reimbursements) and advice on their completion where

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

requested. Assistance to newly arriving or departing staff for shipment of their personal effects, opening bank accounts, etc. (assistance to be provided at the discretion of the Chief Technical Adviser ). The incumbent will also supervise keeping records of time and attendance and informing staff of vacation periods and any other UNDP-related administrative functions as required by the Chief Technical Adviser (CTA).

**Skill and Experience Requirements**

- higher educational diploma in administration or a directly relevant field;
- three years proven experience in administration and budget management;
- fluency in English and Korean;
- proven experience in the management of computer or other office technology equipment; and
- good knowledge of UNDP policies and regulations.

**Recommended Grading:** G7

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**Administrative Assistant**  
**General Job Description**

The Administrative Assistant will perform two major tasks requiring a knowledge of computer data base management: (1) in association with the Administrative Officer and Technical Specialist to maintain the project accounts; and (2) to assist the Chief Technical Adviser (CTA) and the Technical staff with the maintenance of computer-based statistics regarding the management of the project (particularly contracting), project activities and use of the outputs.

**Duties**

1. Accounting

The incumbent will prepare and maintain the local records of project accounts, particularly those pertaining to the imprest fund. He/she shall prepare all relevant documents for administering the imprest account for final approval by the Chief Technical Adviser (CTA), in conformity with the stipulations of the financial regulations of the executing agency. He/she shall prepare bank reconciliations and records of total project expenditure (including, where possible, full records of counterpart contributions to the project). He/she will assume the duties of the Administrative Officer during his/her periods of absence.

2. Management Information

The Assistant will work closely with the Chief Technical Adviser (CTA), the Scientific Officer, and Technical Staff on the development and maintenance of a statistical data base on project management. This work will include *inter alia*, records of all contracts (including Inter-Agency Agreements - IAAs), participation in YSLME events, records of all MODs opened, information regarding the project expenditures within each budget category and for each project thematic area.

3. Budget Management

The incumbent will monitor Project expenditures with reference to the approved budget. He/she will prepare budget proposals and also attend to all financial and budgetary aspects of the implementation of the Project including the following specific duties:

- to monitor expenditures - this will entail monitoring the IAAs (i.e. liaising with the agencies and the PMO), monitoring special Components of the YSLME and, review of the executing agency finance records of expenditures against MODs and budget lines;
- to prepare draft budget revisions and working budgets in consultation with the Portfolio Manager at UNOPS (PMO) and the Chief Technical Adviser (CTA);
- to assist the project staff to prepare budgets for meetings and activities and to review incoming authorizations to ensure adequate recording against budget lines (and take appropriate action to correct and/or revise requests and alert UNOPS); and
- to assist the Coordinator to prepare special budget and financial statements (for Steering Committee and Donor meetings, etc.) and to regularly brief the Coordinator on the financial status of the project.

**Skills and Experience Required**

- higher educational diploma in a directly relevant field;
- proven experience in accounting or the management of computer data bases;
- fluency in English and Korean; and
- availability to travel to outside meetings when required.

**Recommended Grading:** G5/G6

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**Secretary**

**General Job Description**

The Secretary, working under the close supervision of Administrative Officer, will have responsibility for a variety of tasks essential to maintaining the efficient operation of the PCU. These include communications tasks, assisting with travel arrangements, and general secretarial duties. The post requires language abilities, experience with PCs, good communication skills, and a capacity for clearly discerning priorities under irregular work pressure. The incumbent will be required to keep regular working hours in order to assure the proper manning of the PCU reception.

**Duties**

1. Communication tasks

The incumbent will be responsible for the external communication of the PCU. This includes: (a) managing telephone, fax and electronic mail communication and the PCU address book; (b) updating the mailing; and (c) organizing outgoing official mail, particularly the mailing of all circulars, invitations to meetings and meeting reports.

2. Staff travel

The Secretary will organize staff travel in close cooperation with the Administrative Officer and following the current staff travel rules. He/she will assist the staff and consultants with the advance planning of travel, investigating routes, connections and hotel arrangements. He/she will also assist the project staff with the travel plans for external meetings. He/she shall organize, together with the Administrative Officer, the hotel arrangements and programme of activities for participants in meetings organized by the PCU.

3. General Secretarial Duties

The incumbent will be requested to assist with the maintenance of project files and the photocopying of specific documents. He/she will also prepare and type texts for the project staff where there is an urgent need and where the work plan permits.

**Skills and Experience Required**

- higher educational diploma in a directly relevant field;
- proven computer skills; and
- fluency in English and Korean.

**Recommended Grading:** G3/G4



**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**Receptionist**

**General Job Description**

The Receptionist, working under the supervision of the Administrative Officer, will have responsibility for answering telephones and greeting visitors to the PCU. In addition, the receptionist will support the Secretary in a variety of tasks essential to maintaining the efficient operation of the PCU. These include communications tasks, assisting with travel arrangements and general secretarial duties. The post requires language abilities, experience with telephone systems and PCs and good communication skills. The incumbent will be required to keep regular working hours in order to ensure the proper manning of the PCU reception.

**Duties**

1. Communication tasks

The incumbent will be responsible for the external communication of the PCU. This includes managing telephone, fax, and electronic mail communication and the PCU address book.

2. Staff travel

The Receptionist will assist the secretary in coordinating travel arrangement for staff and consultants (i.e., investigating routes, connections and hotel arrangements). He/she will also assist the project staff with the travel plans for external meetings. He/she shall organize, together with the Administrative Officer, the hotel arrangements and programme of activities for participants in meetings organized by the PCU.

3. General Secretarial Duties

The incumbent will be requested to assist with the maintenance of project files and the photocopying of specific documents. He/she will also prepare and type texts for the project staff where there is an urgent need and where the work plan permits.

**Skills and Experience Required**

- higher educational diploma in a directly relevant field;
- proven computer skills; and
- fluency in English and Korean.

**Recommended Grading: G2**

**ANNEX I (continued)**  
**Job Descriptions for the Project Coordination Unit Staff**

**Driver and General Assistant**

**General Job Description**

The driver will be responsible for transporting project personnel and consultants on missions approved through the Chief Technical Adviser (CTA). He/she will also be required to transport personnel and goods during the day to day operations of the PCU as indicated by the Administrative Officer. He/she will be responsible for the correct maintenance and cleanliness of the project vehicle. He may also be assigned to other general duties where required and as specified by the Administrative Officer.

**Duties**

1. During missions away from the PCU

The driver will be responsible for the safe conduct of passengers and equipment carried in the project vehicle. He/she will plan all travel in advance with the Administrative Officer and will consult with him/her before making any substantial modifications to such plans.

2. At the duty station

The driver will be required to transport personnel and goods as indicated in a daily work plan designed by the Administrative Officer.

3. General duties

The driver will be responsible for filling in daily vehicle logs including maintenance records. He/she will present the vehicle for daily inspection by the Administrative Officer who will countersign the vehicle logbook. He/she will be responsible for the security of the passengers and for their compliance with security provisions (use of seat belts, etc.).

4. Additional duties

The driver may be requested to assist the Administrative Officer with general office and maintenance duties from time to time according to the daily work plan.

**Skills and Experience Required**

- at least ten years professional driving experience;
- a clean driving license and a valid passport;
- sufficient knowledge of English; and
- availability to travel to outside missions when required.

**Recommended Grading: G2**

**ANNEX I (continued)**  
**General PCU Policies and Procedures**

**GENERAL CONDUCT**

All personnel should conduct themselves in a professional manner

**OFFICE HOURS**

A system of flexible office hours will be established as follows:

Working day: 8 hours (40 hours per week) with a compulsory one-hour lunch break to be taken between 13:00 and 14:30.

Core time: Presence of all staff is obligatory from 9:00 to 17:00

Flexible time: 1 hour daily to be taken outside core time and transferable from day-to-day within the period of the week.

Meeting and special events: Office hours to be determined by the Chief Technical Adviser (CTA).

**ATTENDANCE / PUNCTUALITY**

Whatever your job, you have an important daily role at the PCU; therefore, attendance and punctuality are essential for every member of the staff. All employees are expected to be at their appointed work stations on time, fully ready and able to work at their starting time. There may be times when you are unable to work due to illness or personal emergency, or may be late for work. If this happens, call your supervisor at the office before 10.00. If your absence extends for more than three (3) days, you should on return to work provide your supervisor with a letter from your doctor explaining the reason for your absence. The Administrative Officer will maintain the time and attendance records.

**SMOKING**

The PCU is a non-smoking environment for staff and visitors. A smoking area will available outside of the PCU. The non-smoking rule also applies to the project vehicle.

**PHONE USAGE**

Although it may be necessary occasionally to use the PCU phone for personal business, these calls should be local calls conducted during break and lunch periods. Calls should be of a limited duration so as not to disturb daily activity. A supervisor will counsel an employee if personal phone calls interfere with office/work productivity or become excessive. Continued abuse of phone privileges may lead to disciplinary action.

**CELLULAR PHONES**

During working hours, all personal cellular phones must be switched off or used ONLY for official purposes.

**INTERNET / E-MAIL USE**

Internet/ e-mail can be used for the official purposes ONLY. If the employee abuses this rule, the privilege of having an access to internet/ e-mail may be cancelled, and disciplinary action taken. Access to obscene or offensive materials on the Internet may be grounds for dismissal.

**COPY MACHINE**

The Copy machine is a high technology piece of equipment that must not be abused.

The copy machine is for use in official activities only. With some exceptions, if limited personal use is required, the copier may be used while logging your usage on the accompanying log sheet. You will be billed \$0.05 per copy for personal usage.

## **COMPUTER EQUIPMENT**

Computer games are strictly forbidden during the working day, including breaks and lunch. No floppy disks from any sources other than the PCU are allowed to be used on the PCU computers, without first being disinfected by the receptionist. All PCU visitors' floppy disks before use **MUST** be checked by the receptionist prior to use. The receptionist is in charge of checking all the floppy disks. All PCU staff must back their files on the CD every Friday. PCU should be careful when opening e-mail attachments, as viruses may be present. Do not open attachments from individuals unknown to you.

## **SECURITY AND SAFETY**

It is the responsibility of each individual to observe all security regulations. Please make sure when you leave your desk that all equipment you work with is switched off. If you leave the office last, please make sure that all lighting in the office is switched off, and entrance doors are locked properly.

Because of the value of the PCU's equipment, the front door should remain closed at all times to avoid people with no need to know examining our equipment. Also, for personal security reasons, each of us should question people who appear to be wandering with no purpose within the PCU confines. Since personal computers are easily and frequently stolen, be careful to be alert to suspicious activities regarding computers.

Your valuables (purses, wallets, checkbooks) are easily stolen. Please place all valuables in drawers where they cannot be seen.

## **ANNUAL LEAVE**

All staff members while in full pay status accrue annual leave at the rate of 30 working days per year (two and a half days a month)

## **SICK LEAVE**

All staff members can have uncertified sick leave up to seven working days per fiscal year (March through April). Please note sick leave of more than three consecutive days must be supported by an appropriate medical certificate.

An appropriate medical certificate must support sick leave of five consecutive working days or more while on annual leave.

Staff members may also use all or part of the uncertified sick leave, up to the maximum of seven working days per fiscal year, to attend to family-related emergencies, or for paternity leave in case of birth or adoption of a child.

## **CONFIDENTIALITY**

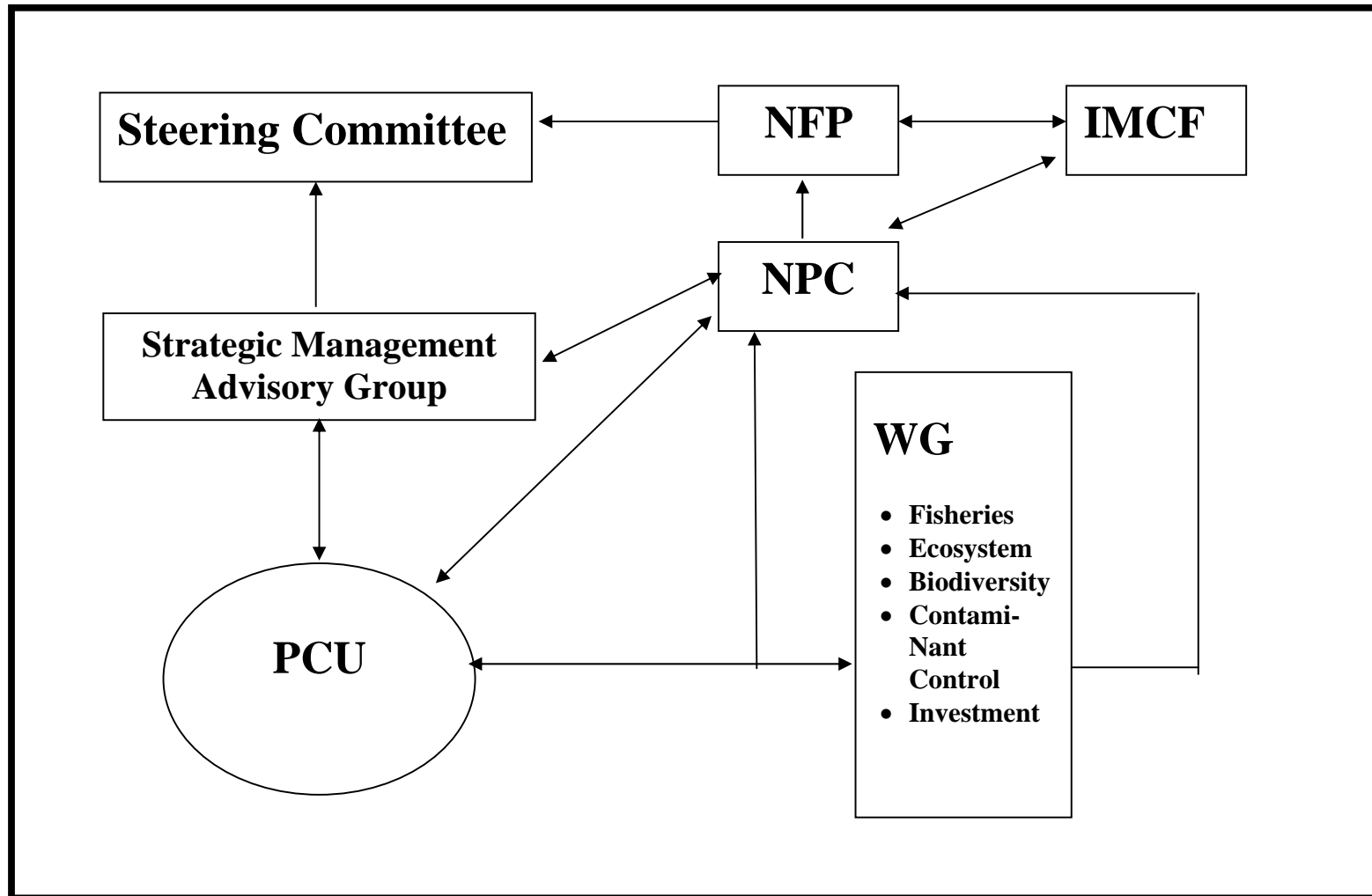
During your employment at the PCU, you may have access to confidential information, relating to intergovernmental relations. Both during and after your employment at the PCU, you must respect and maintain the confidentiality of this information, and not use it to your benefit and gain, or that of anyone else.

## **HOLIDAYS**

The PCU will observe official UN holidays approved by the UN Resident Representative/Coordinator.

ANNEX II

Proposed Structure for Governance, Coordination and Implementation for the UNDP/GEF YSLME Project Executed by OPS



NPC: National Project Coordinator; NFP: National Focal Point; IMCF: Interministerial Coordinating Function; WG: Working Group; PCU: Project Coordination Unit

## ANNEX III

### **Terms of Reference Yellow Sea LME Steering Committee**

**Background:** The YSLME Steering Committee will direct the activities of the YSLME Project. The Steering Committee is the highest decision-making and policy body for the YSLME Project within UNDP and GEF rules and regulations. The Steering Committee will make decisions based on the consensus principle. The Steering Committee will meet as required, but at least once a year, to be coordinated with Project start-up and TPRs.

**Membership:** Initial Steering Committee membership will include:

- (i) a leading scientist for the YSLME, National Focal Agencies, and National Implementing Agencies;
- (ii) OPS as the project executing agency;
- (iii) UNDP (Country Offices and GEF); and
- (iv) reps from the Private Sector and NGO community (at a later date).

The Chief Technical Adviser (CTA) will act as Secretary for the Steering Committee. Additional members can be added at the discretion of the Steering Committee. The Steering Committee will consider adding representatives from the Private Sector and NGO community at a later date.

**Tasks:**

- Provide overall strategic policy and management direction to the Project;
- Facilitate Project coordination and ensure that Project activities meet national environmental concerns and priorities
- Annually review and approve the work plan and the budgets of the Project, and provide strategic direction on the work plan;
- Annually review and assess the progress of the Project;
- Facilitate and promote regional and national inter-project coordination
- Provide guidance to the SMA Group and the PCU in coordinating and managing the Project;
- Create mechanisms for interaction with the Private Sector (e.g., participation in Steering Committee, co-funding of projects and activities, solicitation of investment ideas and investment funding); and
- Share and disseminate Project-funded and Project-generated results and experiences, and seek additional funding to support the outputs and activities of the Project.

### **ANNEX III (cont'd)**

#### **Terms of Reference Yellow Sea LME NATIONAL FOCAL POINT (NFP)**

**Background:** The National Focal Point is the high level government official from each country who bears responsibility for quality and timely implementation of the YSLME project in that country. This position should be held by senior official at a decision-making level. The individual must carry authority not only due to his/her high rank, but also because he/she represents the most relevant organization in that country concerned with the fisheries and ecosystem issues related to the project.

**Tasks:**

- Assures effective interministerial coordination;
- Assures the Government and Parliament (or equivalent) is continuously briefed on the YSLME, and is aware of the policy and legislative interventions that may be proposed by the project;
- Assures national ownership of the TDA/NYSAP/SAP process, by the Government, by communicating to the YSLME project the concerns and interests of the Government;
- Maintains regular oversight of the National Project Coordinator, remains current on the status of the YSLME project, and maintains regular communication with the CTA.
- Assists where necessary in solving of national and regional issues and constraints to project success;
- Serves as Steering Committee Member;
- Facilitate communication with his/her counterpart in the other country, and assists in harmonizing points of view of the region.

## ANNEX III (cont'd)

### Terms of Reference Yellow Sea LME INTERMINISTERIAL COORDINATING FUNCTION (IMCF)

**Background:** The Interministerial Coordinating Function (IMCF) will provide guidance and ensure coordination of a wide range of national institutions and organizations directly responsible for the implementation of the Project at the national level. The IMCF will be facilitated by the National Project Coordinator reporting to the National Focal Point. One IMCF will exist in each country. The IMCF is basically a national function, which will coordinate with the PCU through the NPC.

**Membership:** The IMCF is not a committee, per se, but rather a function that may be carried out within a committee framework. Some countries already have strong interministerial coordination, and thus the IMCF may already be taken care of there. Some countries may need to set up ad hoc committees to carry out this coordination. In this case, committees should be comprised of all Ministries having a major stake or interest in the Project, including resource ministries, foreign ministries, economic/ finance ministries, environmental ministries, transport ministries, industrial ministries, etc. As such, the IMCF will have the above key Ministries and a full time, small secretariat (national and donor-supported) headed by the National Project Coordinator reporting to the National Focal Point,

#### **Tasks:**

Ensure an integrated and coordinated approach to facilitating the sectoral changes needed for the long-term rehabilitation of the YSLME;

- Identify appropriate national modalities for the implementation of various components of Project, according to national capabilities, division of national responsibilities, and other national considerations;
- Coordinate country actions across ministries;
- Develop national positions on policy issues;
- Coordinate and assure timely delivery of national contributions to and national expert participation in the Project;
- (v) Assume responsibility for national contributions to Transboundary Diagnostic Analysis (TDA) and Strategic Action Programme (SAP), and preparation of National Yellow Sea Action Plan (NYSAP);
- (vi) Facilitate timely national and donor contributions to necessary 'baseline' activities needed to rehabilitate the YSLME; and
- (vii) Assist the PCU in monitoring the tracking and timeliness of work on contracts issued by the PCU, quality control of nationally-prepared materials for the Project, and intersectoral coordination progress.
- Liaise with NFP, SMA Group and PCU through the NPC
- Assist with the development of Priority Investment Portfolio (PIP), by assuring broad dissemination of PIP materials, and identifying possible projects for the PIP.



## **ANNEX III (cont'd)**

### **Terms of Reference Yellow Sea LME NATIONAL PROJECT COORDINATOR (NPC)**

**Background:** The National Project Coordinator will serve as secretary to the Interministerial Coordinating Function (IMCF), reporting to the National Focal Point. The NPC will serve as the primary national contact with the SMAG and PCU, and will be the lead national for operational purposes. The NPC will assure full participation of needed resources in each country, and control the timeliness and quality of the products provided during the project. Therefore, this individual must have the broad recognition as a high level expert in the Yellow Sea, and cognizance of the various Ministries. This is a full-time position.

#### **Tasks:**

##### **1) In the IMCF:**

- As the secretary to IMCF, works with national governments and agencies to bring necessary human and other resources to the Project;
- Assists the NFP by coordinating the IMCF meetings, and keeping detailed notes of their outcomes;
- Supervises the IMCF secretariat activities;

##### **2) At the national level:**

- Ensures national sub-contracts and other project funded activities are undertaken in a timely fashion and in accordance with the national quarterly work plans;
- Monitors the progress of national experts and helps assure timely completion of activities;
- Serves as lead national individual for coordinating inputs into the NYSAP and Regional SAP;
- Promotes wide stakeholder participation in the project;
- Generally assures full coordination of national inputs; and
- Liaises continuously with and supports the CTA on matters regarding the conduct of the project, including early warning of potential deviations from quarterly workplans and implementation difficulties.

##### **3) In the SMAG:**

- As a Strategic Management Advisory Group member, helps review/discuss quarterly workplans and budgets, and reviews progress reports.

## ANNEX IV

### **Terms of Reference Yellow Sea LME Strategic Management Advisory Group (SMAG)**

**Background:** The Strategic Management Advisory Group (SMAG) will be responsible for providing national input to Project implementation in the interim between Steering Committee Meetings. SMAG will be chaired by the Chief Technical Adviser (CTA), and will have as members the National Project Coordinators. International recruited staff of the PCU and Working Group Chairs will also be members of SMAG. Additional members may be added in the future, at the discretion of the PCU

The Strategic Management Advisory Group is responsible for providing Management Advice to the PCU, and serves as a link between the PCU and the NFP and the Steering Committee. The SMAG operates on the Consensus Principle.

The Strategic Management Advisory Group is expected to meet approximately 3-4 times yearly, preferably for the quarterly and annual review, and to maintain close electronic mail contact to assure each member is aware of ongoing activities within the PCU and the YSLME project.

#### **Tasks:**

- Assists in development of an approach to management of the YSLME
- Provides country input into Project Implementation
- Assists in identifying management problems and providing solutions
- Coordinates country input to the TDA/ NYSAP/SAP/ PIP process
- Helps assure coordination between all Working Groups under the YSLME
- Assists the Steering Committee in reviewing documents prepared by the Secretariat
- Assists the Steering Committee in reviewing annual and quarterly work plans and coordinating them
- Helps identify other sources of funding for YSLME projects and activities
- Reports on National Interministerial Coordination Function

<b>STRATEGIC MANAGEMENT ADVISORY GROUP</b>
management organization
consensus-building body
develops strategic management approach
incorporates country input into pcu operations
problem identifier/solver
coordinates country input to TDA/ NYSAP/ SAP

## ANNEX V

### Terms of Reference Yellow Sea LME REGIONAL THEMATIC WORKING GROUPS

**Background:** Each of the five Regional Thematic Working Groups (Ecosystem, Biodiversity, Fisheries, Contaminant Control, and Investment) will include two scientists (social and natural) and two additional experts drawn from the legal, regulatory, investment, and/or environmental management fields, from both countries. The Chairman of the Working Group will be nominated by the respective NFP, in collaboration with CTA, and will be reviewed and endorsed at the first Steering Committee meeting. The Working Group Chairs will be members of the SMA Group. Each Working Group will operate on the basis of working parties involving participation of experts from all coastal countries together with external experts where this is considered necessary. The Working Groups report to the PCU, though they may also have national reporting requirements from NPCs.

**Working modalities:** The Working Group is not an institution in itself. In essence, the WG is headquartered where the Chair is located. The Working Group will represent the regional perspective and not just national perspective. Working “without walls,” the Working Group will communicate primarily through email, with one or two working meetings annually. Working group members, except the Chair, are part-time, and are compensated based on specific scientific tasks undertaken in support of the working group. The Chair is also part-time, but will be provided partial support for his/her coordination activities.

#### Tasks:

- Provide technical inputs/comments for the project workplans in their respective areas of competency
- Develop annual and quarterly work plans and implement activities in respective thematic area, based on and fully integrated in the project workplan, and make annual and quarterly progress reports
- Be responsible for regional coordination within area of competency
- Facilitate creation of effective national thematic network
- Organize and conduct working parties and training within area of competency
- Develop relevant regional recommendations, guidance and strategy within area of competency
- Contribute scientific knowledge in the area of expertise to the development of the TDA
- Assist in development and implementation of the National Yellow Sea Action Plans (NYSAPs) and Regional Strategic Action Programme (RSAP)
- Contribute to the development of the Priority Investment Portfolio (PIP)
- Assist, through the Chair, in effective Project Management by assisting with scheduling, scoping, and budgeting for various interlinked activities
- Contribute scientific and technical advice to the formulation of proposals for national and regional actions and donor funding
- Network with national and international institutions and specialists in respective focal area
- Prepare and implement regional pilot projects
- Liaise closely with PCU, through WG Chairs
- Contribute scientific and technical expertise to YSLME information system development, public awareness activities and stakeholder participation
- Cooperate with other Thematic Working Groups
- Develop and maintain a Database within area of competence

<b>WORKING GROUPS</b>
develop work plans
carry out work plans
representation from each country
chairs are members of SMAG
work in close cooperation with the PCU

## ANNEX V (cont'd)

### MAJOR RESPONSIBILITIES OF REGIONAL THEMATIC WORKING GROUPS

#### 1. Fisheries Management Working Group

Location of WG Chair: People's Republic of China

Tasks:

- Develop common methodology for Regional stock assessment strategy and region-wide monitoring. Perform initial joint stock assessment. Elaborate an effective mechanism for regional annual stock assessment.
- Performed re-iterative series of regional analysis of carrying capacity. Develop mechanism for annual regional carrying capacity determination.
- Develop joint applied research program for sustainable mariculture. Pilot demonstration projects in mariculture. Assist region to implement more broadly proven sustainable mariculture techniques.
- Coordination of Joint development and demonstration of new methods for diagnosis, prevention, and control. Development of regional early-warning system about new diseases to reduce transboundary implications.
- Facilitate developed and endorsed bilateral or regional agreement for sustainable use of fisheries resources.
- Facilitate Improvement of fisheries management in the YSLME. Develop strategies for sustainable use of transboundary stocks building on management plans.

#### 2. Biodiversity Management Working Group

Location: Republic of Korea

Tasks:

- Develop and implement Regional Strategy for Conservation Areas, including identification of priority locations for the creation of new protected areas. Facilitate conservation of habitats of global significance. Establish regional network of protected areas as a part of global scenario.
- Facilitate implementation of regionally coordinated strategies for protection of vulnerable species. Develop approaches for conservation of species of global significance.
- Develop and facilitate implementation of recommendations for conservation of specific gene pool.
- Facilitate implementation of identified actions to mitigate threats from possible introduction of exotic species to the YSLME transboundary biodiversity.
- Develop and implement regionally coordinated strategies for biodiversity protection. Assistance for provision of Regional agreements.
- Coordinate preparation and implementation of Regional Biodiversity Action Plan, including investment strategy.

#### 3. Contaminant Control and Management Working Group

Location of WG Chair: People's Republic of China

Tasks:

- Coordinate the development of Regional system of effective marine contaminant reduction and mitigation. Facilitate the establishment of Regional quality and assurance system.
- Establish and support a well functioning Network of monitoring centres throughout the region. Collect reliable data to catalyze reduction of existing and prevention of new types of contamination.
- Develop a Hot Spots Analysis. Prepare, adopt and implement Regional procedures for remediation and prevention.
- Develop Regional Emergency Planning And Preparedness. Facilitate the preparation of YSLME Regional contingency plan. Establish strong regional network of responsible authorities.

#### **4. Ecosystem Management Working Group**

Location of WG Chair: Republic of Korea

Tasks:

- Identify and coordinate implementation of corrective measures to minimize the human-induced stress. Facilitate development and implementation of Regional policies and legal measures. Establish Regional scientific and technical framework for monitoring the changing status of YSLME and its transboundary impacts.
- Establish a well-functioning monitoring network for HAB's and emerging diseases. Regional management and mitigation strategies developed and implemented.
- Facilitate review of existing national and international laws and conventions. Coordinate drafting of proposals for improved water quality legislation and regulation.
- Facilitate performance of fate and transport analyses for management and policy development, including EIA process and ICZM. Prepare and implement Regional training activities for environmental risk assessment.

#### **5. Investment Portfolios Working Group**

Location of WG Chair: People's Republic of China

Tasks:

- Perform preparatory work for sound environmental investment.
- Implement pre-feasibility studies of promising technologies and industries to help achieve the goals of the YSLME, to create an investment portfolio (Priority Investment Portfolio). Establish long-term environmental investment to implement the SAP and NYSAP's.

## ANNEX VI. Composition of Major Institutions

<b>Institutions</b>	<b>Timeframe of Meetings</b>	<b>Secretary/Chair</b>	<b>Members</b>
<b>Steering Committee</b>	At least once a year	CTA (Secretary)	(i) 3 reps from each riparian country (a leading scientist for YSLME, National Focal agency, and national implementing agency); (ii) OPS as the project executing agency; (iii) UNDP (Country Offices and GEF); and (iv) reps from the Private Sector and NGO community (at a later date)
<b>IMCF</b>	Not mentioned in the TOR	NPC (Secretary)	(i) IMCF Secretariat (NPC and assistant) (ii) Nat'l ministries (resource, foreign, economic/finance, env't, transport, industrial, etc.)
<b>SMAG</b>	3-4 times a year	CTA (Chair)	(i) NPCs, Int'l staff of PCU, WG Chairs (ii) Additional members may be added, at the discretion of the PCU
<b>Regional Thematic WGs</b>	One or two working meetings annually	WG Chair (Chair)	(i) two scientists (social and natural) and two additional experts (legal, regulatory, investment, env'tal management), from both countries

## ANNEX VII

### Logical Framework Matrix

Component	Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
	<p>Long-term development / environment Objectives: environmentally-sustainable management and use of the YSLME and its watershed: reducing development stress and promoting sustainable development of the ecosystem from a densely populated, heavily urbanized, and industrialized semi-enclosed shelf sea</p>	<p>0.1 Defined regional ecosystem; management framework implemented by year;</p> <p>0.2 Improvements in catch-per-unit effort by year 5;</p> <p>0.3 Improved water quality for target contaminants by year 5;</p> <p>0.4 Reversal in trend of proliferation of HABs by year 5;</p> <p>0.5 Loss of Biodiversity slows by year 5;</p> <p>0.6 Final TDA prepared and agreed, end of year 2;</p> <p>0.7 Strategic Action Programme (SAP) formulated and endorsed at ministerial level in each country, end of year 4;</p> <p>0.8 Yellow Sea Large Marine Ecosystem National Action Plans (YSNAPs) for each country formulated and endorsed by end of year 3;</p> <p>0.9 Agreed set of indicators (process, stress reduction, environmental status) to monitor progress of SAP implementation by end of year 4.</p>	<p>Steering Committees (SC) annual reports; PCU documents; PCU and technical reports; Working groups reports; Interministerial Coordinating Committee reports;</p> <p>For Biodiversity, pentadal census.</p>	<p>Assume continued national commitment to the regional program at each sector level, including offer of national resources. The ability of the SC and PCU to formulate and implement community-based solutions relies on the support of national agencies through coordinated (but independent) actions. The GEF project will create a model that can be adopted in the future as a permanent activity of the individual national sectors. Broad Stakeholder Participation.</p>
	<p>Project purpose: Formulation of a Transboundary Diagnostic Analysis (TDA) , National Yellow Sea Action Plans and a Strategic Action Programme (SAP). Facilitation of the initial steps of the implementing SAP to manage shared marine resources and achieve sustainable development for the Yellow Sea Large Marine Ecosystem. Develop a mechanism to objectively measure effects of management actions</p>		<p>TDA published and broadly disseminated; Countries endorse SAP; National and donor commitments to financing SAP and YSNAP implementation; PCU and technical reports.</p>	<p>Remedial actions can be costly and/or unpopular in some sectors. A well-designed monitoring program will provide objective technical information with which to assess the success (or failure) of specific management actions and can be used to adjust future actions.</p>



**ANNEX VII. LOGFRAME MATRIX (continued)**

Objective I. FISHERIES/MARICULTURE		Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<b>OUTPUTS</b>	<p><b>III. TDA</b></p> <ul style="list-style-type: none"> <li>1.1 Summary of existing state of knowledge</li> <li>1.1 Identification of legislative gaps</li> </ul> <p><b>IV. SAP</b></p> <ul style="list-style-type: none"> <li>1.2 Draft fisheries management plans</li> <li>1.2 Draft regional agreement for fisheries management</li> <li>1.2 Drafts of strengthened national fisheries laws</li> <li>1.2 Fisheries database</li> <li>1.3 Pilot projects</li> </ul> <p><b>XV. SAP IMPLEMENTATION</b></p> <ul style="list-style-type: none"> <li>1.2 Regional agreement</li> </ul>	<p>Delivery of report by end of yr2</p> <p>Draft disseminated to regional stakeholders and governments by end of yr3</p> <p>Database outputs used by NCUs by end of yr3</p> <p>Endorsed by governments by end of yr4</p>	<p>Project files Working group reports.</p> <p>Working group reports. NCU records</p> <p>Interministerial Coordinating Committee reports</p>	
<b>ACTIVITIES</b>	<p><b>A. Stock Assessment</b></p> <ul style="list-style-type: none"> <li>1.1 Review existing data and diagnose condition of stocks</li> <li>1.1 Perform demonstration of regional survey</li> <li>1.2 Develop common methodology for joint regional stock assessment</li> <li>1.2 Perform initial joint regional stock assessment</li> <li>1.2 Create mechanism for regional annual stock assessment</li> </ul> <p><b>B. Assessing Carrying Capacity</b></p> <ul style="list-style-type: none"> <li>1.1 Review existing knowledge and identify gaps</li> <li>1.1 Complete knowledge gaps</li> <li>1.1 Perform iterative series of analysis</li> <li>1.2 Undertake annual carrying capacity determination</li> </ul> <p><b>C. Mariculture Production</b></p> <ul style="list-style-type: none"> <li>1.1 Review existing status and trends</li> <li>1.2 Develop joint research program</li> <li>1.3 Undertake pilot demonstrations</li> <li>1.3 Assist region to implement mariculture techniques</li> </ul>	<p>Fisheries stocks status reports.</p> <p>Equipment purchased by yr1 Survey results written up by end of yr2 Methodology for joint regional stock adopted by both countries by end of yr3</p> <p>Assessment published by end of yr1</p> <p>Assessments are undertaken annually by end of yr5</p> <p>Report published and widely distributed.</p> <p>Analysis results available to PCU by end of yr3 Carrying capacity estimates published annually after yr3</p> <p>Scientific reports published. Progress reports completed annually. First reports of joint research programme published by end of yr5.</p>	<p>Project files Working group reports. Procurement records of PCU Project files</p> <p>Publication reference provided by PCU</p> <p>Publication reference provided by PCU Working group reports.</p> <p>Project files Government or regional body publication records Interministerial Coordinating Committee reports</p> <p>Project files Working group reports. Interministerial Coordinating Committee reports</p>	<p>The countries will agree to perform a joint stock assessment. The risk is low since this is one of their priority actions identified during the PDF-B phase.</p> <p>Relies on political will to find ongoing regional efforts.</p> <p>Carrying Capacity gaps defined and process developed to fill in knowledge gaps.</p> <p>Regional agreements on methodology to assess carrying capacity. Relies on political will to find ongoing regional efforts.</p> <p>Existing status and trends reviewed regularly.</p> <p>Full stakeholder participation to ensure acceptability of new mariculture techniques.</p>

**ANNEX VII. LOGFRAME MATRIX (continued)**

<b>Objective I. FISHERIES/MARICULTURE</b>		<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions and Risks</b>
<b>ACTIVITIES (CONT')</b>	<p>D. Disease in Mariculture</p> <ul style="list-style-type: none"> <li>• 1.1 Review existing knowledge</li> <li>• 1.1 + 1.3 Develop and demonstrate new technology for diagnosis, prevention and control</li> <li>• 1.2 Facilitate communication</li> </ul>	<p>Progress reports completed annually.</p> <p>Countries agree to use new technology by end of yr3.</p> <p>Early-warning system operative by end of yr5</p>	<p>Project files. Working group reports.</p> <p>Interministerial Coordinating Committee reports</p>	<p>Joint development and demonstration of new technology between countries, which results in increased communication regarding emerging diseases, diagnosis, and control.</p> <p>Full Stakeholder participation.</p>
	<p>E. Regional Agreements and National Laws</p> <ul style="list-style-type: none"> <li>• 1.1 Review existing national laws and international agreements</li> <li>• 1.2 Develop regional agreement for sustainable use of fisheries resources</li> <li>• 1.2 Propose measures for strengthening laws</li> </ul>	<p>Status report published.</p> <p>Regional agreement endorsed by end of yr3</p> <p>New laws enacted nationally by end of yr5.</p>	<p>Project files.</p> <p>Interministerial Coordinating Committee reports.</p> <p>Parliament records and NCU files.</p>	<p>Commitment of countries to development and endorsement of regional agreements, as well as the strengthening of existing regulations.</p>
	<p>F. Management Plan</p> <ul style="list-style-type: none"> <li>• 1.2 Develop regional fisheries management plans</li> <li>• 1.3 Implement plans</li> </ul>	<p>Status report published by end of yr2.</p> <p>Country endorsement and implementation of management plan by end of yr5</p>	<p>Project files. Interministerial Coordinating Committee reports.</p>	<p>Maintenance of sustainable fish populations will require the reduction of system stresses, including chemical contamination and fishing pressure. Such remedial actions directly affect individuals or organizations now doing business in the region and early identification/ education of stakeholders will be necessary for compliance with these actions. Some mechanism to compensate the affected stakeholders must be found to gain their cooperation.</p>

**ANNEX VII. LOGFRAME MATRIX (continued)**

VI.	OBJECTIVE: II. BIODIVERSITY	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<b>VII. OUTP UTS</b>	<b>III. TDA</b> <ul style="list-style-type: none"> <li>• 2.1 Regional biodiversity assessment.</li> <li>• 2.1 List of existing legal and regulatory frameworks for biodiversity in the YSLME.</li> </ul> <b>IX. SAP</b> <ul style="list-style-type: none"> <li>• 2.2 Regional Biodiversity Action Plan, including Regional Strategy for Conservation Areas, regional strategies for protection of vulnerable species, and regional consensus on the conservation of gene pool.</li> <li>• 2.2 Investment strategy.</li> <li>• 2.2 Proposals for regulation and control of exotic species.</li> </ul> <b>XX. SAP IMPLEMENTATION</b> <ul style="list-style-type: none"> <li>• 2.2 New laws for regulation and control of exotic species identified.</li> <li>• 2.3 Funded biodiversity projects responding to the priority actions of the Regional Biodiversity Action Plan.</li> </ul>	<p>Delivery of assessment by end of yr2. List prepared by end of yr1.</p> <p>Action Plan and investment strategy endorsed by government by end of yr3.</p> <p>New laws passed by relevant government mechanisms by end of yr4</p> <p>Signed project documents, or evidence of financial commitment from govts, for Regional Strategy actions by end of yr5</p>	<p>Project files Working group reports.</p> <p>Interministerial Coordinating Committee reports</p> <p>Parliament records</p> <p>Copies of project documents or govt. commitment on project files.</p>	
<b>ACTIVITIES</b>	<b>A. Habitat Conservation</b> <ul style="list-style-type: none"> <li>• 2.1 Review existing practices</li> <li>• 2.2 Develop regionally coordinated strategies</li> <li>• 2.3 Implement Regional Strategy for Conservation Areas</li> </ul>	<p>Regional Strategy for Conservation Areas adopted by end of yr3. 5 new protected areas identified by end of yr2. Signed project documents, or evidence of financial commitment from govts, for Regional Strategy actions by end of yr5</p>	<p>Copy of signed strategy on project files. Acknowledgement of new protected areas by relevant Ministries. Interministerial Coordinating Committee reports. Copies of project documents or govt. commitment on project files.</p>	<p>Countries adopt regional strategy, and financial mechanisms are identified.</p>
	<b>B. Vulnerable Species.</b> <ul style="list-style-type: none"> <li>• 2.1 Conduct national review of status</li> <li>• 2.2 Develop regionally coordinated strategies</li> <li>• 2.3 Implementation of regionally coordinated strategies</li> </ul>	<p>National review completed by end of yr2. Strategies for protection of vulnerable species adopted by SC and endorsed by relevant Ministries by end of yr3 Signed project documents, or evidence of financial commitment from govts, for regional strategies by end of yr5.</p>	<p>Project files. SC minutes. Interministerial Coordinating Committee reports. Copies of project documents or govt. commitment on project files.</p>	<p>Regional agreement is reached in line with national priorities. The risk is minimized since both countries have ratified several international conventions for protection of vulnerable species.</p>
	<b>C. Genetic Diversity.</b> <ul style="list-style-type: none"> <li>• 2.1 Determine degradation of important bio-resources</li> <li>• 2.2 Develop regional consensus on conservation requirement</li> <li>• 2.3 Prepare recommendations for conservation measures</li> </ul>	<p>National determinations done by end of yr2. Agreement between countries signed by end of yr3. Recommendations endorsed by countries by end of yr5.</p>	<p>Project files. Working group reports. Copy of signed agreement on project files. Endorsement on project files.</p>	<p>Protection of natural gene pools (including non-commercial species which support economically valuable resources) by a variety of mechanisms will be needed to address this issue.</p>

**ANNEX VII. LOGFRAME MATRIX (continued)**

XI.	OBJECTIVE: II. BIODIVERSITY	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
ACTIVITIES (CON'T)	D. Introduced Species <ul style="list-style-type: none"> <li>• 2.1 Document introduced exotic species</li> <li>• 2.2 Develop proposals for regulation and control.</li> <li>• 2.3 Implement strategy for regulation and control</li> </ul>	Documentation completed by end of yr2 Ballast water treatment and prevention agreement ratified and distributed by end of yr4. Signed project documents, or evidence of financial commitment from govts, for implementation of regulatory strategy by end of yr5.	Project files. Ratification of agreement gazetted by protocol/convention secretariat. Copies of project documents or govt. commitment on project files. Interministerial Coordinating Committee reports	Proposals for regulation and control of exotic species agreed upon by countries (and/or countries adopt and ratify anticipated new IMO ballast water protocol or convention)
	E. Regulations. <ul style="list-style-type: none"> <li>• 2.1 Review national regulations and assess effectiveness</li> <li>• 2.2 Develop regionally coordinated strategies</li> </ul>	Review completed by end of yr1. Biodiversity conservation agreement signed and ratified by end of yr3.	Project files. Copy of signed agreement on project files. Interministerial Coordinating Committee reports	Effective environmental resource protection derives from a combination of regulatory and non-regulatory actions. Before recommendations for effective regulatory changes can be made, a survey of existing national and international regulations needs to be performed.
	F. Regional Assessment and Regional Biodiversity Action Plan <ul style="list-style-type: none"> <li>• 2.2 Coordinate above activities into a biodiversity assessment, Regional Biodiversity Action Plan, and investment strategy.</li> </ul>	see indicators for OUTPUTS		Ratification of the Regional Biodiversity plan. The risk is minimized since both countries have ratified the CBD. Donors' commitments secured.

**ANNEX VII. LOGFRAME MATRIX (continued)**

Objective III. REDUCING STRESS		Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<b>OUTPUTS</b>	<p><b>XII. TDA</b></p> <ul style="list-style-type: none"> <li>• 3.1 Data on identified stresses</li> </ul> <p><b>III. SAP</b></p> <ul style="list-style-type: none"> <li>• 3.2 Proposals for upgrading the regional monitoring network</li> </ul> <p><b>IV. SAP IMPLEMENTATION</b></p> <ul style="list-style-type: none"> <li>• 3.2 Regional planning and preparedness strategies</li> </ul>	<p>Reports completed by end of yr2</p> <p>Proposals submitted to potential donors by end of yr4</p> <p>Funding identified by end of yr5.</p>	<p>Working group reports.</p> <p>Project files.</p> <p>Letters of intent/commitment from countries and donors.</p>	
<b>ACTIVITIES</b>	<p>A. Stressors to Ecosystem</p> <ul style="list-style-type: none"> <li>• 3.2 Identify and rank stresses</li> <li>• 3.2 Identify corrective measures</li> <li>• 3.2 Identify policies and legal measures</li> <li>• 3.2 Develop strategy for long-term sustainability of investments</li> <li>• 3.3 Implement corrective measures</li> </ul>	<p>Technical report published by end of yr2</p> <p>Progress reports published annually</p>	<p>Working group reports.</p>	<p>Once data and information gaps are identified, implementation of new measures to reduce stressors will take place.</p>
	<p>B. Carrying Capacity of the Ecosystem</p> <ul style="list-style-type: none"> <li>• 3.1 Assess carrying capacities under changing stresses</li> <li>• 3.1 Identify information gaps</li> <li>• 3.2 Develop strategies for monitoring changes</li> <li>• 3.1 Prepare state-of-ecosystem reviews and reports</li> <li>• 3.3 Facilitate implementation of strategies</li> </ul>	<p>State of the environment report published by end of yr5.</p>	<p>Working group reports.</p>	<p>Regional strategies must be developed for monitoring the changing status of the ecosystem. Countries will have to facilitate implementation of new strategies for constantly improving the ecosystem.</p> <p>New carrying capacity methodology must be developed and agreed regionally.</p>
	<p>C. Contaminant Inputs</p> <ul style="list-style-type: none"> <li>• 3.1 +3.3 Assess and monitor contaminant and nutrient levels</li> <li>• 3.2 Develop regional priorities and strategies to reduce levels</li> <li>• 3.3 Facilitate implementation of strategies</li> </ul>	<p>[Regional quality control and assurance system established by end of yr2.</p> <p>Annual contaminant input reports published.</p>	<p>Working group reports</p> <p>Project files.</p> <p>Letters of intent/commitment from countries and donors.</p>	<p>Countries will have to agree upon regional priorities and strategies to reduce contamination to sustainable levels, including promotion activities which involves sharing new developments and technologies.</p>
	<p>D. Contaminant Levels</p> <ul style="list-style-type: none"> <li>• 3.1 Develop baseline data</li> <li>• 3.2 Develop regional monitoring network strategy</li> <li>• 3.2 Develop funding mechanism to implement monitoring strategy</li> </ul>	<p>Monitoring data reports and annual reports published.</p> <p>Donors and country commitments to the regional monitoring network confirmed by end of yr5.</p>	<p>Working group reports</p> <p>Project files</p> <p>Letters of intent/commitment from countries and donors.</p>	<p>A well-designed monitoring program will provide objective technical information with which to assess the success (or failure) of specific regional management actions and can be used to guide future actions. In-country and international sources of support will need to be identified and secured to assure acceptance and implementation.</p>

**ANNEX VII. LOGFRAME MATRIX (continued)**

<b>Objective III. REDUCING STRESS</b>		<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions and Risks</b>
<b>ACTIVITIES (CON'T)</b>	<b>E. Harmful Algal Blooms and Emerging Disease</b> <ul style="list-style-type: none"> <li>• 3.1 Undertake comparative analysis of causes and impacts</li> <li>• 3.3 Monitor HABs</li> <li>• 3.2 Develop management and mitigation strategies</li> <li>• 3.3 Facilitate regional management implementation</li> </ul>	<p>Monitoring data reports and annual reports published.</p> <p>Strategies agreed upon and implementation begun by end of yr5</p>	<p>Working group reports Project files</p> <p>Interministerial Coordinating Committee reports</p>	Countries will have to facilitate regional management and mitigation implementation of the causes, patterns, and impacts of HABs and Emerging Disease on bio-resources and human health.
	<b>F. Hot Spots Analysis</b> <ul style="list-style-type: none"> <li>• 3.2 Determine and rank hot spot sources of water quality degradation</li> <li>• 3.2 Develop procedures for remediation</li> <li>• 3.2 Develop investment strategies</li> <li>• 3.3 Facilitate implementation of procedures</li> </ul>	<p>Technical report published by end of yr2</p> <p>Procedures agreed upon by end of yr3</p> <p>SAP commitments to hot spot remediation confirmed by end of yr5.</p>	<p>Working group reports. Project files.</p> <p>Interministerial Coordinating Committee reports</p> <p>Letters of intent/commitment from countries and donors.</p>	Facilitation of procedures for re-mediation and prevention of hot spots can result only through securing financial commitments.
	<b>G. Emergency Planning and Preparedness</b> <ul style="list-style-type: none"> <li>• 3.1 Assess national emergency and contingency capabilities</li> <li>• 3.2 Develop strategies for rapid and long-term regional responses</li> <li>• 3.2 Facilitate regional actions to enable contingency planning</li> <li>• 3.2 Harmonize customs, training.</li> </ul>	<p>Technical reports published by end of yr2.</p> <p>Strategy agreed by governments by end of yr3 Regional actions discussed at SC meetings and workshops.</p>	<p>Working group reports. Project files.</p> <p>Interministerial Coordinating Committee reports. SC minutes and workshop reports.</p>	Countries agree to cooperation on joint emergency preparedness and response.
	<b>H. Legal and Regulatory</b> <ul style="list-style-type: none"> <li>• 3.1 Review and compare national regulations and laws on water quality develop proposals for coordination of regulations</li> <li>• 3.3 Facilitate coordinated actions to improve legislation and regulation</li> </ul>	<p>Technical report published by end of yr1.</p> <p>Regional actions discussed at SC meetings and workshops.</p>	<p>Working group reports. Project files.</p> <p>SC minutes and workshop reports.</p>	Countries will agree to take coordinated approach , in spite of socio-economic and political differences.

**ANNEX VII. LOGFRAME MATRIX (continued)**

<b>Objective III. REDUCING STRESS</b>		<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions and Risks</b>
<b>ACTIVITIES (CON'T)</b>	<p>I. Fate and Transport Analysis to Facilitate SAP Analysis</p> <ul style="list-style-type: none"> <li>• 3.1 Review existing understanding of fate and transport of contaminants</li> <li>• 3.2 Develop regional assessment strategies</li> <li>• 3.2 Perform fate and transport analyses for management and policy development, including EIA process and ICZM</li> <li>• 3.3 Develop regional training activities</li> </ul>	<p>Technical report published by end of yr2.</p> <p>Strategies accepted by SC by end of yr3.</p> <p>Analyses published by end of yr4.</p> <p>5 number of training activities held by end of yr5</p>	<p>Working group reports. Project files.</p> <p>SC minutes.</p> <p>Working group reports.</p> <p>Project files.</p>	<p>Governments and institutions must make available results from previous studies, and apply existing models.</p>

**ANNEX VII. LOGFRAME MATRIX (continued)**

Objective IV. Regional Institutions and Capacities	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks	
<b>OUTPUTS</b>	<p><b>XV. TDA</b></p> <ul style="list-style-type: none"> <li>4.1 Stakeholder and institutional participation strategy</li> <li>4.1 Final TDA</li> </ul> <p><b>XVI. SAP</b></p> <ul style="list-style-type: none"> <li>4.2 Network of local, national and regional stakeholders</li> <li>4.2 National Yellow Sea Action Plans</li> <li>4.2 Strategic Action Programme</li> </ul> <p><b>VII. SAP IMPLEMENTATION</b></p> <ul style="list-style-type: none"> <li>4.3 Programme of regional and national intersectoral cooperation</li> <li>4.3 Financial mechanism to sustain public awareness</li> </ul>	<p>Strategy included in final TDA, which is approved by SC and UNDP by end of yr2.</p> <p>500 stakeholders attend working group meetings by end of yr3. NYSAPs approved by governments by end of yr3.</p> <p>SAP approved by governments and UNDP by end of yr4. SAP implementation committed by countries and donors by end of yr5.</p>	<p>SC minutes. UNDP TPR meeting minutes.</p> <p>Working group reports.</p> <p>Interministerial Coordinating Committee reports</p> <p>SC minutes. UNDP TPR meeting minutes. Letters of intent/commitment from countries and donors.</p>	
<b>ACTIVITIES</b>	<p><b>A. Stakeholders</b></p> <ul style="list-style-type: none"> <li>4.1 Identify stakeholders and assess their capabilities for contributing to environmental management</li> <li>4.3 Strengthen stakeholder capabilities</li> <li>4.1 + 4.3 Encourage stakeholder involvement</li> </ul> <p><b>B. Regional Coordination</b></p> <ul style="list-style-type: none"> <li>4.1 Create a functioning regional coordination mechanism</li> <li>4.2 Identify modes to sustain regional coordination mechanism</li> <li>4.3 Assist in maintaining effective regional coordination</li> </ul> <p><b>C. National Institutions</b></p> <ul style="list-style-type: none"> <li>4.1+ 4.3 Strengthen capacity to contribute to environmental management and decision-making</li> <li>4.3 Facilitate ongoing management</li> </ul>	<p>Stakeholders identified and involved in working groups by end of yr1.</p> <p>5 training workshops for stakeholders by end of yr3.</p> <p>Coordination office opened and staff hired by end of yr5. 10 regional coordination meetings held by end of yr5. Funds committed for long-term sustainability of mechanism by end of yr5.</p> <p>40 institutions participate in 10 stakeholder project meetings over the life of the project</p>	<p>Stakeholders' participation report.</p> <p>Project files.</p> <p>Project files. Terms of Reference (TORs) and meeting reports. Letters of intent/commitment from countries and donors.</p> <p>Meeting attendee lists showing national institution participation.</p>	<p>Routine and effective involvement by stakeholders in planning, management and decision-making can only be accomplished by on-going encouragement, strengthened capacities, and financial commitment by donors and countries.</p> <p>Barriers to broaden stakeholder participation must be removed.</p> <p>The program (i.e., SC and PCU) must effectively communicate the issues and the suggested remedies to the national sectors and be responsive to national real and perceived needs.</p> <p>Financial and motivational means must be identified to develop these national institutions into sustainable contributors of the YSLME.</p>



**ANNEX VII. LOGFRAME MATRIX (continued)**

<b>Objective IV. Regional Institutions and Capacities</b>		<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions and Risks</b>
<b>ACTIVITIES (CON'T)</b>	<p>D. Financial Institutions</p> <ul style="list-style-type: none"> <li>• 4.1 Develop regional small grants program</li> <li>• 4.1 + 4.2 Provide training</li> <li>• 4.3 Provide funding for pre-feasibility studies</li> <li>• 4.1 Identify a mechanism for participation of development banks</li> </ul>	<p>Priority Investment Portfolio prepared by end of yr5. Feasibility study on economic instruments completed by end of yr5.</p>	<p>Summary report on PIP published. Progress reports published. Project files.</p>	<p>Financial support for recommended actions needs to be integrated into YSLME recommendations from the beginning. While international and national government support is anticipated, private commercial and industrial activities must supply substantial funds to the Programme.</p>
	<p>E. Data and Information Management</p> <ul style="list-style-type: none"> <li>• 4.1 Determine regional data and information management capabilities</li> <li>• 4.1 Develop regional DIM strategy</li> <li>• 4.3 Implement regional DIM strategy</li> </ul>	<p>Regional YSLME Information System including meta-level data used by 100 stakeholders per month by end of yr5. YSLME activities and data broadly disseminated via Internet.</p>	<p>Progress reports published. Website administration records. Distribution records of GIS available on CD and web.</p>	<p>Access of data and information for all Stakeholders.  Government commitments to make available and distribute data broadly.</p>
	<p>F. Public Awareness and Information</p> <ul style="list-style-type: none"> <li>• 4.1 Develop public awareness campaign</li> <li>• 4.2 Demonstrate regional public awareness campaign</li> <li>• 4.3 Encourage ongoing public awareness</li> </ul>	<p>Strong Regional NGOs network established by end of yr4. Major Stakeholders participate in TDA/NYSAP/ SAP process.</p>	<p>Public awareness and environmental education materials (print and on-line); Reports from annual NGO forum, NGO directory (print and on-line).  List of SAP contributors.</p>	<p>All recommendations made by the YSLME regional program for remedial and resource protection action will require trade-offs and will negatively affect someone. To gain cooperation and compliance, the rationale for action and the real costs incurred need to be fully understood by the affected groups. YSLME needs to actively assist these groups in finding support to attenuate the negative effects of resulting changes.</p>

## ANNEX VIII

### Yellow Sea LME LIST OF OFFICE EQUIPMENT

The budget includes the following office equipment for the different administrative functions. Some of this equipment may be provided by national contributions, in which case the monies can be re-assigned by the CTA. These lists indicate the minimum requirement for each function. No substitutions can be made without the approval of the CTA. Costs for the equipment is outlined in the detailed project budget maintained by the PCU.

#### For the PCU:

Fax  
5 computers  
1 GIS Workstation  
1 laser printer  
1 E-size printer  
GIS Software  
Digitizing table  
Photocopier  
Furniture  
Meeting table  
Misc. Chairs  
Phone system  
Computer network  
Library materials  
Automobile  
Plus: annual expenditures in years 2-4 of \$10,000, and year 5 of \$5000.

#### For the National Coordinating Units:

Fax  
2 computers  
1 GIS workstation  
Laser printer  
Color Printer  
GIS Software  
Digitizing Table  
Photocopier  
PLUS: Annual expenditures in years 2-5 of \$1000/year.

#### For the Chairs of Working Groups:

Yr. 1 expenditure of \$2000 each  
Yrs. 2-5 expenditures of \$1000/year

### MAP of YELLOW SEA REGION

