

19 September, 1997

**PROPOSAL FOR PDF BLOCK B GRANT
DRAFT**

Country: Regional: Yellow Sea Large Marine Ecosystem (People's Republic of China, Republic of Korea, Democratic People's Republic of Korea)

Focal Area: International Waters/Biological Diversity

Operational Programme: Waterbody-based

Project Title: Preparation of a Transboundary Diagnostic Analysis and Strategic Action Programme Project Document for the Yellow Sea Large Marine Ecosystem

Total Cost: US\$ 369,650

PDF Request: US\$ 349,650

In-kind contributions: US\$ 20,000, U.S. National Oceanic and Atmospheric Administration

Requesting Agency: United Nations Development Programme (UNDP)

Executing Agency: United Nations OPS

Block: PDF Block B

Block A Grant: No

Duration: 12 months

GLOBAL SIGNIFICANCE

1. The Yellow Sea Large Marine Ecosystem (YSLME) is an important global resource. This international waterbody supports substantial populations of fish, invertebrates, marine mammals, and seabirds. Many of these species are threatened by both land- and sea-based sources of pollution and habitat loss resulting from extensive economic development in the coastal zone of the YSLME, and by the unsustainable exploitation of natural resources such as fisheries. The rich biodiversity of fish and other marine organisms in the YSLME represents a major contribution to the overall biodiversity of the western Pacific Ocean. In order to avoid further losses of biodiversity and degradation of the transboundary resources of the YSLME, the surrounding countries must join together to identify and implement actions which will reverse the downward trends in the health of the YSLME.

PROJECT OBJECTIVE

2. The immediate objective of this project is to prepare the elements of a Transboundary Diagnostic Analysis (TDA) for the region, and a Strategic Action Programme (SAP) proposal for a waterbody-based international waters/biodiversity project in the Yellow Sea. This TDA and SAP will build upon the institutional and programmatic framework put in place by the UNEP Regional Seas Programme's Northwest Pacific Action Plan (NOWPAP) and the environmental Memorandum of Understanding between the six member countries of the Tumen River Area Development Project (TRADP). It will also build on work done during two workshops on the YSLME held in Qingdao, People's Republic of China (PRC) and Seoul, Republic of Korea (ROK), both in 1993. The Yellow Sea Project will establish a process to secure global environmental benefits within this international waterbody. 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.

3. This proposed PDF Block B initiative, implemented by UNDP with the full participation of the World Bank and UNEP, will carry out the preliminary activities necessary to prepare a full project proposal for formulation of a SAP for the region. These activities will include consultations, consensus building efforts, public participation, preliminary incremental issue identification, and problem definition and analysis. Based on the results of these preliminary activities, a full-scale SAP will be developed which will identify priority actions to be taken by the participating countries to restore and preserve the YLME. Funding for these actions will come from the GEF (incremental/transboundary), the countries themselves (baseline), and other multilateral and bilateral institutions.

BACKGROUND

4. Situated between the Chinese mainland and the Korean Peninsula, the YSLME is a semi-enclosed, shelf-type shallow sea with a mean depth of 44 m, and an average residence time of 100-200 days. Three states - the PRC, the ROK, and the Democratic People's Republic of Korea (DPRK) - share its coastline.

5. Several major currents play important roles in the dynamics of the Yellow Sea, including the Kuroshio (a major western boundary current with a maximum velocity of ≥ 0.4 m/s), Yellow Sea Warm Current, Jiangsu Coastal Current, Zhejiang-Fujian Coastal Current and Korean Coastal Current. Several rivers influence the Yellow Sea, with the Yangtze (29,000 m³/s) and Yellow River (1,600 m³/s) dominating. In the summer, the Kuroshio transports major portions of the Yangtze River flow to the northeast, its branches mixing with the continental coastal water and Yellow Sea cold water mass, whereas in the winter the Kuroshio delivers much of the Yangtze influence to the south. The summer confluence creates favorable spawning and nursery grounds for many fish species, as well as preferred habitat for mackerel, jack mackerel, sardine and other species. Trawling and purse seine fishing in the region produce large catches of ground and pelagic fish. While the physical and chemical characteristics of the region are generally well characterized, biological and ecological data for the region are often lacking; in April, 1996, ROK and PRC initiated a joint research programme on the dynamics of nutrients and pollutants in the Yellow Sea.

6. The phytoplankton community in the Yellow Sea is dominated by neritic diatoms, including *Skeletonema*, *Chaetoceros*, and others. In comparison with other shelf regions in the northwest Pacific, primary productivity in the Yellow Sea is relatively low, about 60 mg C/m²/yr. Zooplankton biomass is also somewhat lower than adjacent regions; dominant genera include *Calanus*, *Euphausia*, *Sagitta* and *Themisto*. All serve as important food sources for pelagic and demersal fish and invertebrates. The benthos is characterized by Mollusca (37%), Polychaeta (27%), Echinodermata (18%), Crustacea (3%) and others (15%). These organisms include both important prey species and commercially valuable species such as the southern rough shrimp. About 100 species are harvested commercially in the Yellow Sea, including demersal fish (66%), pelagic fish (18%), cephalopods (7%) and Crustacea (7%).

7. Since the beginning of this century, and particularly since World War II, there have been rapid developments in the exploitation and utilization of coastal and marine resources in the YSLME, and a significant increase in industrialization in the coastal zone. Fishing efforts in the YSLME increased threefold between the early 1960s and early 1980s, while the total biomass of fish and invertebrates decreased by 40%. The impacts of these human activities on adjacent marine ecosystems are cause for serious concern. As is common around the world, rapidly expanding populations and economic activities are concentrated in the coastal zone. For instance, in the PRC the coastal provinces and municipalities account for only 13% of the country's land area, but 41% of the population, 50% of the country's tourism revenues, 51% of the GNP, and 71% of import and export values. In addition, the altered sediment and nutrient

flows which will result from the construction of the Three Gorges Dam could have the potential for major transboundary effects on the YSLME.

8. Approximately 600 million people, over 10% of the earth's total population, live in the area which drains into the YSLME. Large cities near the YSLME with tens of millions of inhabitants include Qingdao, Tianjin, Dalian, Shanghai, Seoul/Inchon, Pyongyang and Nampo. People in these large, urban areas are dependent on the YSLME as a source of marine resources for human nutrition, economic development and recreation/tourism.

9. The Yellow Sea is an international waterbody and many of its problems can be solved only through international cooperation. The YSLME encompasses portions of the exclusive economic zones of its three bordering countries, and is subjected to pressures from all three, such as coastal development, fishing, and pollution from land-based activities. Additionally, there is significant international shipping traffic through the waters of the YSLME.

10. The PRC, ROK and DPRK have already demonstrated their willingness to cooperate in the management of the YSLME through mechanisms such as NOWPAP, TRADP and the Asia-Pacific Economic Cooperation Forum (APEC) Fisheries and Marine Resources Conservation Working Groups. These preexisting 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.

11. Many of the specific cooperative activities planned for this project were discussed and agreed to in 1993 during two World Bank sponsored workshops on monitoring and assessment in the YSLME. These PRC/ROK bilateral workshops, convened with the assistance of NOAA, identified many of the transboundary environmental issues facing the YSLME and developed a preliminary set of activities to address the major problems. This project will draw heavily on those preliminary consultations.

12. Participation of DPRK in the project has not been confirmed, although strong interest has been shown by individual DPRK scientists and resource managers. From an ecological and environmental management perspective, it is desirable to include all countries bordering the Yellow Sea. UNDP will make every effort to ensure the DPRK's full endorsement of, and participation in the project.

PROJECT DESCRIPTION

13. Many of the transboundary environmental concerns and specific implementable actions required are not adequately defined for the YSLME region. Through the execution of a Transboundary Diagnostic Analysis (TDA), development of a SAP proposal, and subsequent implementation of a full-scale SAP for the YSLME, the countries in this region will begin the process of identifying, defining, and prioritizing the national and transboundary environmental problems which the Yellow Sea environment currently faces. Additionally, through the SAP

implementation process, these countries will design specific preventive and remedial actions to address these environmental problems.

14. If approved, this PDF Block B project will be conducted in such a way as to:
 1. Utilize the institutional framework for regional cooperation already developed by APEC, NOWPAP, the North Pacific Marine Science Organization's Marine Environmental Quality Working Group (PICES MEQ), and other relevant regional and international agreements;
 2. Utilize consultations between the participating countries and the GEF implementing agencies (UNDP, World Bank, and UNEP) in order to confirm the appropriateness of the SAP proposal;
 3. Coordinate with on-going UNDP, World Bank, Asia Development Bank, and UNEP projects in the region in order to ensure complementarity, avoid duplication of effort, and increase the utility of each individual project. Some marine environment related projects in the region include: UNDP/GEF - Tumen River Area Development Project (PRC, DPRK, ROK), and Prevention and Management of Marine Pollution in the East Asian Seas (PRC, DPRK); World Bank Ports Development and Environment Improvement Project (ROK), and Shanghai Sewerage Project (PRC); UNEP Regional Seas Programme for the Northwest Pacific (PRC, ROK, DPRK);
 4. Utilize a programmatic approach in developing and implementing the project and coordinate these efforts through the UNDP office in Beijing. For example, incorporate Integrated Coastal Management techniques, similar to those used in Xiamen, China in the Yellow Sea. Incorporate the lessons learned from the UNDP/GEF initiative in the East Asia Seas in this project's design.
 5. Benefit from GEF Pilot Phase and GEF I experiences related to the improvement and management of international waterbodies (e.g., Environmental Management and Protection of the Black Sea, and Water Pollution Control and Biodiversity Conservation in the Gulf of Guinea Large Marine Ecosystem);
 6. Participate in the IW-LEARN GEF project which utilizes training and state-of-the-art internet resources to transfer and disseminate lessons learned and best practices from the full suite of GEF IW projects;
 7. Utilize precedents established by other environmental protection and cooperation initiatives in Northeast Asia (e.g., NOWPAP, meetings of senior officials on regional environmental cooperation for Northeast Asia, the Northeast Asian Conference on Environmental Cooperation, the Northeast Asia and North Pacific Environmental Forum, and the Asia Pacific Economic Cooperation Forum [APEC], and PICES MEQ);

8. Identify realistic baseline environmental commitments on the part of the participating countries and incremental activities needed to achieve global, rather than just national, environmental benefits.
9. Address responses to the following:
 - a. pollution of the marine environment from land-based activities such as forestry, industry, sewerage, transportation, mining and agriculture;
 - b. introduced species;
 - c. sea-based pollution from port development and marine transportation;
 - d. degradation of critical habitat by coastal reclamation projects and offshore hydrocarbon exploration and exploitation;
 - e. over-utilization of living marine resources.

Implementation Arrangements

15. Oversight for the project will be provided with guidance from an International Task Force. This Task Force will be comprised of one government representative from each participating country, one representative each from UNDP, UNEP and the World Bank, and the Coordinator for Technical Assistance for the PDF. Additionally, an Operational Working Group will be formed, consisting of resource managers, scientists, decision makers, key private sector institutions such as the Business Council for Sustainable Development, academics and NGO representatives from the participating countries and the international community. Functions of the Operational Working Group will be facilitated through workshops at the local, national and international levels.

16. Implementation will be coordinated through the UNDP PRC Country Office in Beijing, possibly within the Tumen River Secretariat.

DESCRIPTION OF PROPOSED PDF ACTIVITIES

17. All of the activities proposed below are preliminary in nature, and are necessary for the formulation of a full-scale SAP to take place. These activities will build upon and complement the extensive preparatory work already undertaken at the national level and at regional workshops.

18. Activity 1: Establish a project management Task Force consisting of representatives from the participating countries and the three GEF implementing agencies. The Task Force will be responsible for preparing the outputs and work-plan relating to the proposed full-scale GEF assistance. In addition, it will specify mechanisms for implementing agency involvement in the SAP development process and identify how the full project Task Force can cooperate productively with the coordinating bodies of other regional fora.

19. Activity 2: Establish an Operational Working Group consisting of resource managers, scientists, decision makers, key private sector representatives, academics and NGO

representatives from the participating countries and the international community. Schedule workshops for this group at the national and international level to identify alternative options for cross-sectoral consultation and coordination mechanisms during implementation of the GEF Yellow Sea Project. Identify mechanisms for interaction between the Working Group and the Task Force.

20. Activity 3: Ensure cooperation among the related ministries and agencies for the implementation of the project. This will be done through an inter-agency coordinating body established in China. In each participating country, a similar mechanism should be established (inter-ministerial committees) to facilitate overall project management, foster institutional coordination in the implementation of the project, and ensure all relevant agencies and institutions participate in the project. In addition, participation of relevant provinces is very important in order to accomplish both strategic and operational tasks.

21. Activity 4: The inter-agency coordinating bodies will identify stakeholders, through which complex social and economic concerns of affected coastal communities will be identified.

22. Activity 5: Initiate production of a TDA for the YSLME. Build upon existing analyses of environmental problems that have come out of regional workshops and unilateral and other assessments. The TDA will include the following elements: (1) pollutant input levels, impacts and hotspots; (2) inventories of commercially exploited and endangered species; (3) status and degradation of habitat; 4) socio-economic assessment of Yellow Sea environmental degradation; and 5) surveys of existing environmental legislation and economic instruments of relevance to the YLME. The TDA will also identify gaps and weaknesses in these elements so that activities may be planned in the full project to fill these missing elements.

23. A team of both national and international experts will be organized to coordinate the TDA. They will meet twice: first to prepare and agree upon the framework of the TDA, and second to share, compare and integrate national and issue-based reports into a draft TDA.

22. Activity 6: Based on the draft TDA, national and international SAP experts will meet to identify possible activities that could benefit from regional cooperation and coordination. These will form the basis of a brief report on the potential “elements” of a Strategic Action Programme for the Yellow Sea (see: Activity 7).

23. Activity 7: SAP and TDA teams will also prioritize areas and parameters for improved environmental monitoring, emergency response, and modeling/data management to identify targets for capacity building in the full project. These can then be articulated in the project brief/document and addressed in the full project.

24. Activity 8: Develop recommendations for a transparent public participation process and stakeholder involvement in the full project phase. Assess NGO capacities and identify prospective roles for NGOs in the full project.

25. Activity 9: Hold discussions, secure consensus, and create understanding within and between the participating countries in preparation for the SAP formulation process at the national and regional level. These activities will include the development of mechanisms for national level coordination among government bodies, scientific and academic institutions, NGOs, and local communities. The purpose of these activities will be to identify country-based responses and develop a comprehensive approach, and associated priority actions, that will protect the marine environment and address land and sea-based sources of marine pollution and over-fishing, and foster sustainable development of the YSLME.

26. Based on input from Activities 3, 4 and 7, prepare a draft proposal on the preliminary elements and framework development process for a Strategic Action Programme for the Yellow Sea. The final YSLME-SAP workshop will provide a forum for various stakeholders to review, discuss and refine the SAP elements and the development process.

27. Activity 10: Preliminary identification of baseline environmental commitments of participating countries and additional incremental activities that will secure global environmental benefits.

28. Activity 11: Using input and products from Activities 1 to 8, prepare a draft GEF project brief and project document for review and comment by UNDP, the Working Group and the Task Force. Finalize the project brief and document for endorsement by GEF Country Focal Points and submission to the appropriate GEF Council meeting.

PDF BLOCK B OUTPUTS

29. Elements of a Strategic Action Programme for the Yellow Sea.

30. A draft Transboundary Diagnostic Analysis for the Yellow Sea.

40. A full project document along with a brief detailing the approach to be taken in the formulation of a full-scale SAP under the GEF International Waters focal area. The full proposal will be a joint submission of the three implementing agencies: UNDP, World Bank, and UNEP, with UNDP taking the lead, and activities reflecting each implementing agency's comparative advantage.

41. A regional and inter-agency consultation and coordination mechanism for the full project.

ELIGIBILITY

42. This proposal is consistent with the GEF Operational Strategy of April 1996, specifically Chapters 1, 2 and 4, regarding the GEF's strategic emphasis on Biodiversity and International Waters, as well as the April 1997 GEF Operational Programmes. The project will incorporate

the priorities delineated in the relevant environmental agreements to which any or all of the participating countries are involved.

International Waters

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

1. providing a conceptual and planning framework within which enabling activities consistent with national and regional priorities may be implemented;
2. designing an institutional structure that is regional or supranational in scope, thereby ensuring global, local, and national environmental benefits;
3. promoting a rigorous scientific monitoring and assessment programme in the YSLME in order to reduce the uncertainty involved in management and policy making;
4. utilizing collaborative TDA and SAP formulation; and
5. stakeholder analysis and involvement.

Biological Diversity

44. The development of a SAP for the YSLME will further GEF goals for the marine and coastal ecosystem biological diversity operational programmes by:

1. addressing the assessment, conservation and management of biodiversity at the ecosystem level; and
2. providing an integrated framework to coordinate biodiversity conservation activities at the international and cross-sectoral levels.

NATIONAL LEVEL SUPPORT

45. This regional proposal is driven by the governments of the PRC and ROK. In view of DPRK's active participation in the Tumen River Area Development Project and the GEF Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas, it is believed that DPRK will contribute its efforts towards this project. The project is a regional and national priority in the PRC and ROK, and is consistent with their national environmental policies. These countries have demonstrated their willingness to cooperate in the environmental protection and management of the YSLME by endorsing NOWPAP, initiating various national marine environmental programmes, and in the ROK, by accepting a World Bank loan to fund participation in the programme.

46. Groundwork for this project was laid in 1993 during two World Bank-sponsored bilateral PRC/ROK workshops on YSLME monitoring and assessment, which were initiated as a corollary to the GEF Pilot Phase China Ports Waste Disposal Facility project. Although the ports waste project chose not to adopt an LME monitoring and assessment framework, the workshops made significant progress in the identification of transboundary environmental issues and potential options for mitigation. Representatives of numerous institutions participated, including:

PRC: State Oceanic Administration (SOA), Academia Sinica, SOA First Institute of Oceanography, Qingdao Ocean University, Ministry of Agriculture/Yellow Sea Fisheries Research Institute, and Ministry of the Environment;

ROK: Korea Ocean Research and Development Institute, Korea Fisheries Research and Development Agency, Inha University, National Fisheries University of Pusan.

47. In addition, consultations on project design and objectives have been held with the PRC Ministry of Finance, UNDP Country Offices in Seoul and Beijing, and the UNEP Regional Office for Southeast Asia in Bangkok.

48. As elaborated in the Project Description, numerous national, bilateral and multilateral environmental monitoring, assessment and management projects are underway in the ROK, PRC and DPRK, which demonstrate these countries' willingness to cooperate on these issues.

JUSTIFICATION

Urgency

49. There is a real need to establish proactive measures to prevent further degradation of the marine environment, loss of marine biodiversity, protection of threatened and endangered species and over-utilization of the living marine resources of the YSLME. These are

transboundary problems that can be successfully addressed only by combining LME-wide action with national level initiatives.

50. As the economies in the region continue to grow at unprecedented rates, so too will the pressures on the YSLME. GEF intervention at this stage of development will make it possible to implement effective strategies to reverse the degradation of this international waterbody and promote sustainable development in the region. Postponement of such intervention significantly increases the risk of irreversible damage to the area's vital marine resources.

Global Benefits

51. Environmentally compatible economic development: The establishment of an LME-wide resource management regime will contribute environmentally sustainable economic development in and around the YSLME. An ad hoc system of national level measures to manage fisheries or marine pollution will be unsuccessful when applied to a continuous natural system such as the YSLME unless a regional coordination mechanism exists. This project will provide that mechanism.

52. Biodiversity conservation: The rich biodiversity of fish and other marine species in the YSLME represents a major contribution to the overall biodiversity of the western Pacific Ocean. In order to avoid further losses of biodiversity in the YSLME, the health of this degraded ecosystem must be improved. Through this project the responsibility for maintaining and improving the health of this ecosystem will be shared by the PRC, ROK and DPRK.

53. Improved water quality: By providing a framework for the reduction and elimination of both land and ocean-based sources of pollution, the project will contribute to reductions in the levels and impacts of pollution in the global marine environment.

54. Applicable models: Semi-enclosed seas around the world experience similar stresses due to their unique geophysical circumstances. By developing sound, effective arrangements for conserving and sustaining the marine biodiversity and protecting the health of the YSLME, this project will provide a model for the development and management of other semi-enclosed seas (e.g., Baltic Sea, Mediterranean Sea, South China Sea).

55. Regional stability and security: New sources of instability will accompany the liberalization of trade, economics, and government which is occurring in the region. One potential source of instability is food insecurity. If properly managed, the living marine resources of the YSLME could contribute significantly to food security. An LME-wide project in the YSLME will provide a unique opportunity for communication and cooperation among the parties responsible for the stewardship of these marine resources. This cooperation should result in more rational and sustainable use of these valuable resources.

Diversify GEF Portfolio

56. The YSLME project provides an opportunity for the GEF to diversify its portfolio. This project would represent an important addition to GEF's emerging International Waters portfolio of LME/Waterbody-based SAP projects (Red Sea, Black Sea, Gulf of Guinea, Caspian Sea, Benguela Current, etc.).

TIMETABLE

57. Given a starting date for this effort of October 1997, all activities should be completed by March 1998. Upon completion of the PDF-supported activities, and identification of additional sources of funding, a full project document for a SAP proposal would then be submitted to the GEF Council at its October 1998 meeting.

Budget

58. Upon approval of this request, detailed Terms of Reference will be prepared for the individual experts. The total GEF PDF B request is for the amount of US\$ 349,650, to be used to carry out the activities listed below. The total project cost is US\$ 369,650, which includes US\$ 20,000 from non-GEF sources.

Output	Activities	Estimated Cost (US\$)
International Task Force and Operational Working Group Establishment and Meetings		
	Task Force and Working Group Meetings (2 each)	55,000
	Participating country consultation and coordination	30,000
	Regional Project Coordinator (3 m/m)	15,000
Transboundary Diagnostic Analysis development (TDA)		
	1 International TDA expert (2 months)	20,000
	1 National TDA Consultant (PRC), 2 months	10,000
	1 National TDA Consultant (ROK), 2 months	10,000
	1 National TDA Consultant (DPRK), 2 months	10,000
	2 International Consultants (pollution & fisheries; 1 month each)	20,000
	1 Environmental Legal Specialist (1 month)	10,000
	1 LME specialist (NOAA in-kind) ¹	20,000
Development of Strategic Action Programme (SAP) elements and processes		
	International SAP expert, 2 months	20,000

Budget Table continued:		
Output	Activities	Estimated Cost (US\$)

	SAP expert (ROK), 2 months	10,000
	SAP expert (DPRK), 2 months	10,000
	SAP expert (PRC), 2 months	10,000
Workshops	Initial International YSLME TDA/SAP Workshop	35,000
	Final International YSLME TDA/SAP Workshop	35,000
Preparation of GEF project document and brief	Project document and brief preparation (international consultant, 1.5 months)	15,000
Sub-total (GEF)		315,000
Support costs	UNOPS and UNDP Country Office Support	34,650
Total Cost		369,650
Total GEF Block B Request		349,650

1. To be funded from non-GEF resources.

Funding will be reserved for the Democratic People's Republic of Korea (DPRK) during the PDF period if confirmation can not be secured at the current stage. This arrangement will foster their involvement at an appropriate pace. A letter of endorsement should be sent to the Secretariat upon receipt by UNDP.