

Document of
The World Bank

PARTNERSHIP INVESTMENT FUND BRIEF

FOR A

PROPOSED GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF USD 10 MILLION

FOR THE BALANCE OF THE FIRST TRANCHE OF A GEF USD 80 MILLION

WORLD BANK/GEF PARTNERSHIP INVESTMENT FUND FOR POLLUTION REDUCTION
IN THE LARGE MARINE ECOSYSTEMS OF EAST ASIA

April, 2007

Abbreviations and Acronyms

BOD	Biochemical Oxygen Demand
CAS	Country Assistance Strategy
CEO	Chief Executive Officer
EAP	East Asia and Pacific
EASUR	East Asia Urban Development Sector Unit
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIWA	Global International Waters Assessment
IBRD	International Bank for Reconstruction and Development
ICM	Integrated Coastal Management
IDA	International Development Association
IFI	International Financial Institution
IMO	International Maritime Organization
IW:LEARN	International Waters Resource Center website
LME	Large Marine Ecosystems
N	Nitrogen
NGO	Non-Governmental Organization
OPS3	Third Overall Performance Survey
P	Phosphorus
PAD	Project Appraisal Document
PDR	People's Democratic Republic
PEMSEA	Partnerships in Environmental Managements for the Seas of East Asia
POI	Plan of Implementation
PSC	Project Steering Committee
S-CS	Sulu-Celebes Sea
SCS	South China Sea
SDS-SEA	Sustainable Development Strategy for the Seas of East Asia
SO	Strategic Objectives
TTL	Task Team Leader
UNDP	United Nations Development Programme
VN	Vietnam
WB	World Bank
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature
CI	Conservation International
WI	Wetlands International
IUCN	International Union for the Conservations of Nature (World Conservation Union)

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A. STRATEGIC CONTEXT AND RATIONALE

1. Region and Sector Issues

Threats to the sustainability of the seas of East Asia

The seas of East Asia, defined as the Yellow Sea, the East China Sea, the South China Sea, the Gulf of Thailand, the Sulu-Celebes (Sulawesi) Sea, and the Indonesian Seas – six large marine ecosystems (LMEs)¹ that are inter-connected by natural processes, ocean currents, and shared living marine resources – are under mounting pressure from East Asia's rapid increase in population and industrialization. As the source of livelihood for millions of inhabitants of the region, and having globally significant marine biodiversity, the impacts of degradation in these seas are regionally and globally significant.

In 1995, in light of the rapid economic development of the region, and the equally rapid degradation of their marine resources, twelve East Asian countries came together with a common vision to ensure the sustainable development of their shared waters.² This partnership of governments, with the support of the Global Environment Facility (GEF), United Nations Development Program (UNDP), and the International Maritime Organization (IMO), created the *Partnerships in Environmental Management for the Seas of East Asia* (PEMSEA), a collaborative organization of representatives of the governments of the coastal countries of East Asia. PEMSEA is led by a group of country delegates called the Programme Steering Committee, whose purpose is to make strategic decisions and agreements about priority actions that should be undertaken by the countries individually, and by the regional collaboration as a whole.

One of the main achievements of the countries through their contribution to PEMSEA has been the development and adoption of the *Sustainable Development Strategy for the Seas of East Asia* (SDS-SEA), which was endorsed by each of the twelve countries in the *Putrajaya Declaration* on December 12, 2003.³ The SDS-SEA is significant as it is the first, and the broadest, partnership agreement in the region on the issue of managing the regional seas. The mission of SDS-SEA is:

To build interagency, intersectoral, and intergovernmental partnerships for achieving the sustainable development of the Seas of East Asia.

¹ Large Marine Ecosystems (LMEs) are regions of ocean space encompassing coastal areas from river basins and estuaries to the seaward boundaries of continental shelves and the outer margin of the major current systems. They are relatively large regions on the order of 200 000 km² or greater, characterized by distinct: (1) bathymetry, (2) hydrography, (3) productivity, and (4) trophically dependent populations (<http://www.giwa.net>).

² The original twelve countries included Brunei Darussalam, Cambodia, China, Indonesia, Japan, DPR Korea, RO Korea, Malaysia, Philippines, Singapore, Thailand and Vietnam. Two additional countries joined in 2005 (Lao PDR and Timor-Leste) making a current total of 14.

³ *Putrajaya Declaration of Regional Cooperation for the Sustainable Development of the Seas of East Asia*, Putrajaya, Malaysia, December 2003.

SDS-SEA attributes the following *values* to the seas of East Asia: ecological, resource, economic, aesthetic, recreational, historical, political, educational and cultural. It further identifies the *threats* to the maintenance of these values, and develops a *shared vision* of actions that would serve to sustain, preserve and protect these values for the future. While the SDS-SEA addresses priority issues in several sectors including land-based pollution, fisheries, marine transport, biodiversity, habitat preservation, and coastal management, it identifies land-based pollution (particularly in hotspots) as the primary threat to the seas of East Asia.⁴

The impact of land-based pollution in the East Asia Seas is recognized as having regional and transboundary significance because the ocean is a medium through which pollutants are relatively easily transmitted. The impacts of land-based pollution such as widespread eutrophication, health hazards, and degradation of fisheries and spawning grounds, are felt by all countries in the region.⁵ Furthermore, insofar as the seas of East Asia are a major economic resource for the world's demand for fishery and aquaculture products, and a major natural heritage and biodiversity resource for the people of the world, these impacts have global significance.

The conclusion drawn by the countries of East Asia in the SDS-SEA that land-based pollution is the primary threat to the sustainable management of the seas of East Asia is supported by other analyses, including those of the World Bank. Pollution discharges from land-based human activities in coastal areas in East Asia, including municipal, industrial, and agricultural wastes, contribute the majority of the ambient pollution in the seas of East Asia (see Annex 1). Only 11% of biochemical oxygen demand (BOD) generated in East Asia is removed through treatment prior to discharge, and billions of tonnes of wastewater are being discharged annually from coastal cities without treatment. About ten million tonnes of fertilizers are used each year in coastal areas, adding to the already excessive nutrient load in rivers, lakes, and marine waters.

In 1999, the Bohai Sea, Yellow Sea, and East China Sea received 1.5 billion tonnes of industrial wastewater discharged from twelve major coastal cities in China. Rivers such as the Yellow and Yangtze carried over 11 million tonnes of major pollutants into the sea. A report on the condition of China's seas in 2004 stated that 27,000 km² (35% of China's marine waters) failed to reach national marine water standards with the most significant pollutants being inorganic nitrogen and phosphates.⁶

The greatest pressure on the seas of East Asia has resulted from the globally unprecedented rate of urbanization in East Asia over the last decade.⁷ Much of this urbanization has been concentrated in coastal areas, with a resulting rapid increase in the number of large cities in East Asia's coastal regions: by the year 2000, seven coastal mega-cities, each with a population of

⁴ PEMSEA, 2003. *Sustainable Development Strategy for the Seas of East Asia*. page 49

⁵ World Bank, 2005. *Environment Strategy for the World Bank in the East Asia and Pacific Region*, World Bank: Washington D.C.

⁶ China State Oceanic Administration Report, 2004.

<http://www.people.com.cn/GB/huanbao/8220/37746/39568/2926423.html>

⁷ World Bank, 2005. *Environment Strategy for the World Bank in the East Asia and Pacific Region*, World Bank: Washington D.C.

over 10 million inhabitants, were located in East Asia,⁸ out of a total of 16 mega-cities worldwide. While the rise of coastal cities has contributed greatly to the development of the region with their contribution to economic growth estimated at 70% of the region's total economic growth,⁹ a lack of investment in environmental infrastructure, and limited governance capacity in the environmental sector in many East Asian countries, has restricted the countries' ability to mitigate the environmental risks of rapid development.

The region's Global International Waters Assessment (GIWA),¹⁰ completed in 2005, provides further support to the conclusion that land-based pollution is a major threat to the seas of East Asia. This analysis, also supported by GEF, and following the international framework adopted by GEF for identifying environmental problems, has conducted detailed assessments of the seas of East Asia, and has prioritized interventions for these problems.

The response

With the ultimate goal of reducing the ambient levels of pollution in the seas of East Asia, the following three main responses to land-based pollution are needed:

- *Reduce* existing sources of pollution through optimizing the utilization of existing pollution control assets and initiating new investment in pollution reduction;
- *Prevent* new pollution sources through regulatory control, including enforcement and the provision of incentives;
- Prevent *migration* of pollution across boundaries within the region through collaboration between countries and a joint commitment to ensure that pollution is reduced or prevented, not merely exported from place to place.

A large and diverse group of stakeholders each have a role to play in ensuring that the required actions to reduce land-based pollution take place. These include: *citizens and civil society*, whose role is to exercise responsibility towards the environment and to demand it of the private and public sectors; *national and local governments*, whose role is to formulate strategies and plans and to provide a policy and investment environment that enables and encourages financiers to target pollution projects; *the private sector*, whose role is in ensuring corporate responsibility towards the environment, and to channel private sector financing, where possible, into projects that reduce or prevent pollution; *financial institutions and donors*, whose role is to prioritize financial support and technical assistance, and to help countries leverage other financing sources to ensure maximum scaling up of implementation activities; and, *international organizations*, whose role is to support all other stakeholders by building capacity, promoting regional cooperation and catalyzing national and local efforts.¹¹ Above all, collaboration of the many stakeholders who often have very diverse values, objectives and interests, is a necessary condition for the successful management of the seas of East Asia.

⁸ The seven existing coastal mega-cities in East Asia are: Tokyo, Shanghai, Beijing, Tianjin, Jakarta, Osaka, and Seoul. Metro Manila and Bangkok will soon reach mega-city status.

⁹ World Bank, 2004. *East Asia and Pacific Urban Business Directions*. Working Paper N° 5. Urban Development Working Papers. World Bank: Washington D.C

¹⁰ <http://www.giwa.net>

¹¹ Rephrased from PEMSEA, 2003. *Sustainable Development Strategy for the Seas of East Asia*. Pages 43-45.

The status quo – collaboration on planning but fragmented implementation

The first step in developing the necessary collaboration between stakeholders has been led by the governments of the region with the support of international organizations such as the Global Environment Facility (GEF), the World Bank, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and the International Maritime Organization (IMO). This intergovernmental collaboration has been exercised through a series of regional projects that have focused primarily on analysis of the problems facing the seas of East Asia, and planning for the necessary responses. Most of these initial efforts have been supported by GEF, for example through the PEMSEA program and other sub-regional, national and sub-national initiatives such as the UNEP/GEF South China Sea Project and the UNDP/GEF Yellow Sea Project.

In addition, the countries of the region have started to develop policies and national programs to protect coastal resources. Some of these activities have been supported internationally by organizations such as GEF, the World Bank, the Asian Development Bank and others; for example, the WB/GEF Straits of Malacca Marine Electronic Highway Project, the WB/GEF Guangdong Pearl River Delta Urban Environment Project, and the proposed WB/GEF Livestock Waste Management in East Asia Project.

All of the existing regional, sub-regional and national efforts represent a significant step forward for addressing the ever-worsening situation in the seas of East Asia. However, these existing efforts have limitations. For example, there has been a strong emphasis on the *diagnosis* of pollution problems, and *planning* for the future, but very limited focused, coordinated, strategic physical *investment*. Because of the persistence of institutional, financial and technical barriers, private sector investment in pollution reduction in coastal areas has been very low and most of the public investment has been in traditional, capital-intensive technological facilities that are not likely to provide the most efficient least-cost solution for the long-term.

A call to action – the opportunity provided by GEF’s Strategic Partnership modality

The countries of East Asia have recognized that a more coordinated and innovative approach, which includes a strong focus on implementation and investment, beyond diagnosis and planning, is urgently needed. Barriers that limit investment in pollution hotspots need to be identified and strategic actions taken to remove them. New, cost-effective technologies and techniques need to be tested in the region. New sources of finance, especially private financing, need to be catalyzed through innovation in the design of financing mechanisms for pollution reduction projects.

The establishment of GEF’s new operational modality in its fourth replenishment period¹² – the Strategic Partnership – provided East Asia with an opportunity to undertake the necessary actions. As defined by GEF, a Strategic Partnership consists of a major component, the Investment Fund (hosted by a multilateral bank), accompanied by a parallel project for regional capacity building, coordination and replication. The *WB/GEF Nutrient Reduction Investment Fund for the Black Sea/Danube Strategic Partnership*, which was approved by the GEF Council on May 9, 2001 (GEF/C.17/7), and whose second and third tranches were approved in May 2002

¹² GEF-4, which would be implemented from 2006-2010.

and May 2003 respectively, is a good example of this type of GEF modality. GEF allocated a total of US\$70 million to the Black Sea/Danube Fund over six years.

Strategic Program for Sustainable Development of the Seas of East Asia

The countries of East Asia, in collaboration with GEF, the World Bank, UNDP, UNEP and IMO, have established a Strategic Program to implement the SDS-SEA, one of the objectives of which is to catalyze and scale up investment in land-based pollution reduction in coastal areas in East Asia. The Strategic Partnership established for this purpose comprises two parallel components, a *Financing Component* (i.e., the Fund), and a *Regional Component*, both of which have achieved GEF pipeline entry¹³ and, in the former case, Work Program entry in November 2005, when the Council approved an initial GEF commitment of \$25 million to tranche 1a of the Fund.

- The Financing Component, entitled the *WB/GEF Partnership Investment Fund for Pollution Reduction in the Large Marine Ecosystems of East Asia* (the Fund), is a key element of the Strategic Partnership and the GEF's major new initiative to scale-up the land-based pollution reduction activities proposed in the SDS-SEA. Through the Fund, the World Bank's East Asia and Pacific Region will engage with the participating countries and other stakeholders, including the private sector, to ensure that the World Bank's investment and knowledge-building activities in the region contribute more effectively and on a larger scale to the countries' initiatives to: remove barriers to investment in pollution control; demonstrate innovative technologies and techniques; and, establish sustainable financing mechanisms for pollution control.
- The Regional Component, entitled the *UNDP/GEF Implementation of the Sustainable Development Strategy for the Seas of East Asia Project*, will be implemented in parallel with the Fund, and be responsible for stakeholder coordination, progress and learning dissemination, and for replication promotion. Institutionally, the Regional Component will build on the current PEMSEA Programme Steering Committee, which will be expanded to include the international financing organizations, international donor organizations, regional and bilateral organizations, and private sector representatives. It will promote new local, national, sub-regional and regional pollution initiatives and monitor the results of all the Strategic Partnership activities. Further, the Regional Component will establish a Regional Resource Facility to support the overall Strategic Partnership and the Fund by taking primary responsibility for regional dissemination of lessons learned and for catalyzing replication of pollution reduction activities. The project housing the Regional Component is proposed to the GEF Council for work program entry in June 2007.

Together, these two components, implemented in parallel but with close coordination, will provide a mechanism for the World Bank and UNDP to help mainstream the objectives of the SDS-SEA into their regular programs, thus promoting greater sustainability and political commitment to the effort. Each would use its comparative advantage to strategically assist the countries in reaching their objectives. For the World Bank, this includes utilizing its political convening power, financial leveraging capacity, and global knowledge, to support countries as they take the necessary actions to implement full on-the-ground operations in support of reforms, investments, and management programs needed to implement the SDS-SEA and to ensure the transition to sustainable development of the seas of East Asia.

¹³ The Partnership Investment Fund achieved GEF pipeline entry in March 2004, while the Regional Component achieved pipeline entry in April 2005.

It is intended that the support provided by GEF to catalyze this initiative would be limited to a ten-year period, after which the countries of East Asia would have developed the capacity and experience to establish their own long-term, self-sustaining mechanism. Through the innovative activities undertaken under the Strategic Partnership, the countries would have developed a more supportive policy and investment environment. Moreover, it is intended that, by the end of the implementation period of the Strategic Partnership, the objectives of the SDS-SEA would be firmly mainstreamed into the operations of the World Bank and other participating organizations.

2. Rationale for the Partnership Investment Fund

The successful implementation of the SDS-SEA, which has attracted high-level country commitment, requires the mobilization of significant new international, regional, and domestic investments in pollution control, coastal and environmental planning and management, and local capacity building. Country consultations have revealed that, without new financial incentives and stronger collaboration between international and domestic donors and financiers through multi-agency programs such as the proposed Strategic Partnership, actions taken to close the gap between water pollution reduction policies and on-the-ground investments in environmental infrastructure may be too little too late.

The proposed Fund would play a critical role in assisting countries remove the institutional, technical and financial barriers that have limited investment in pollution reduction. The Fund would direct investments and activities towards pollution hotspots and would help to coordinate and promote additional investment in local actions that achieve regional and global environment and development benefits. It would also encourage lessons from successful pollution reduction projects to be disseminated and replicated throughout the region.

3. Rationale for World Bank and GEF Involvement

GEF support to the Strategic Partnership is needed to (a) overcome the barriers to more public and private sector investment in land-based pollution reduction; and (b) promote innovations in technology, institutional arrangements and policy frameworks and their dissemination and replication. In the absence of GEF support, the existing barriers would continue to limit investment opportunities and investors would simply continue on a “business-as-usual” track. Moreover, without GEF’s catalytic function, international development organizations like the World Bank would be less effective at mainstreaming SDS-SEA activities into their programs.

The World Bank is a natural choice as the host of the Fund. Land-based pollution reduction is a key priority of the World Bank in its investment, policy and capacity building activities in the East Asia and Pacific Region (EAP), and the objectives of the Fund are fully consistent with the World Bank’s corporate and regional environment strategies.¹⁴ IBRD and IDA lending for environmental management in the EAP region is currently about \$1 billion per year. Key foci of EAP’s environmental activities include environmental policy reform at the national and sub-national levels, support for reducing air and water pollution in urban, peri-urban and rural areas,

¹⁴ World Bank, 2001. *Making Sustainable Commitments. An Environment Strategy for the World Bank*. World Bank, Washington D.C.; World Bank, 2005, *Environment Strategy for the World Bank in the East Asia and Pacific Region*, World Bank: Washington D.C

strengthening local capacity in environmental management, reforming environmental service utilities, providing financially sustainable environmental services, developing new mechanisms for financing environmental infrastructure, reducing poverty, preserving cultural heritage, and encouraging private sector participation in environmental management.

The World Bank's EAP Region places high priority on supporting activities that promote regional collaboration for shared goals. Therefore, the World Bank is keen to support the countries of the region through mainstreaming SDS-SEA activities into the EAP Region's lending operations, capacity building activities, and support for national and sub-national policy development. The establishment of the Fund and the inclusion of the World Bank as a collaborator with the Regional Component of the Strategic Partnership would provide a critical mechanism through which this would occur, allowing the World Bank to contribute its considerable global experience to scaling up investments in land-based pollution control.

4. World Bank Commitment to the Fund

As the agency responsible for implementation of the Fund, the World Bank has committed to:

- Being a champion for land-based pollution reduction in the seas of East Asia, and helping to mobilize investment resources in collaboration with stakeholders;
- Taking responsibility for overall Fund management and oversight;
- Promoting SDS-SEA objectives and Fund activities in country dialogues;
- Promoting inclusion of the objectives of the SDS-SEA in World Bank Country Assistance Strategies (CAS);
- Developing ways in which the implementation of the SDS-SEA can be mainstreamed into the World Bank EAP Region's activities, including but not limited to its policy dialogues and lending program;
- Working closely with the Regional Component to maximize coordination and synergies.

5. Country Ownership

Country Eligibility

Only countries eligible for GEF financing under para. 9(b) of the GEF Instrument, and eligible for IBRD and/or IDA financing, would be eligible to receive financing from the Fund. These include Cambodia, China, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Timor-Leste, and Vietnam. The respective GEF focal points would endorse individual projects as they are presented for funding to ensure consistency with the country's policies and national priorities.

Country Driven-ness

The first demonstration of the commitment by twelve coastal states of the East Asian region to addressing environmental issues was the preparation of the SDS-SEA and their signing of the *Putrajaya Declaration*. As preparation of the Strategic Partnership has progressed, the countries of the region have contributed to the design of both the Fund and the Regional Component. The

Fund concept was presented to the 10th PEMSEA Project Steering Committee Meeting held in Xiamen, China, from October 25-29, 2004, and to the 11th PEMSEA Project Steering Committee Meeting held at Siem Reap, Cambodia, August 3, 2005. Both meetings endorsed the design and objectives of the Fund. Further, the 11th PEMSEA Project Steering Committee Meeting confirmed the importance of the Fund as a critical component of the Strategic Partnership, and issued a Resolution supporting the Fund proposal (refer Annex 2).

Each sub-project proposed under the Fund would be required to obtain the endorsement of its GEF Country Focal Point prior to any request for PDF resources. To date, GEF Focal Point endorsement has been requested and received for six sub-projects already admitted to the GEF project pipeline, namely, China Ningbo Water and Environment, Philippines Manila Third Sewerage, Vietnam Coastal Cities, China Shandong Second Environment, China Liaoning Medium Cities and a WB/GEF Pollution Project Preparation Revolving Fund.

As reflected in the World Bank Country Assistance Strategies (CAS) of East Asian countries, the reduction of water-borne pollution is a key priority in the region, and therefore the objectives of the Fund, and all sub-projects proposed under the Fund, are consistent with the broad goals of the countries in their engagement with the World Bank. As new CASs are developed in East Asia, it is intended that the Fund would be specifically included as an engagement through which the World Bank would assist countries to meet their regional and global environmental responsibilities.

6. Conformity of the Fund with GEF Objectives

Conformity with GEF Operational Program (OP) 10

GEF's Operational Strategy lays the foundation for its efforts in six focal areas. This proposed Fund falls under its *International Waters (IW)* focal area.

Because water does not respect national boundaries, multi-country actions are necessary to foster sustainable development of the large marine and freshwater ecosystems, which cover most of the earth. Through its International Waters focal area the GEF helps countries collaborate with their neighbors to modify human activities that place stress on these trans-boundary water systems and interfere with downstream uses of those resources. In this way, water use conflicts can be prevented, security improved, and sustainable resource use fostered in support of global goals.

Within the IW focal area, the Fund is consistent with GEF OP 10, its *Contaminant-based Operational Program*, an objective of which is the same as the Fund's – to help countries demonstrate ways of overcoming barriers to the adoption of practices that limit contamination of international water systems. Projects under this operational program also aim at deriving and disseminating lessons learned from, and sharing information among, other international waters projects, which the Fund will do.

Conformity with GEF Strategic Objectives 1 and 3

Furthermore, the Fund, and each of the proposed/approved sub-projects developed in 2005 and 2006, were designed to meet criteria under GEF-3 Strategic Priorities (SP) 1 and 3 for FY03 – 06

in the International Waters focal area (see below). The Fund is also consistent with the draft Strategic Objectives (SO) proposed for GEF-4.

GEF 3 Strategic Objective 1: Catalyze implementation of agreed reforms and stress-reduction investments on-the-ground to address transboundary water concerns. The Fund is a financing mechanism with the ultimate objective of reducing land-based pollution discharges that degrade the seas of East Asia. It achieves this by leveraging investments in pollution reduction through the removal of technical, institutional, and financial barriers. The Fund is demonstrating innovative pollution-reducing activities and replicating best practice and lessons learned throughout the region. The GEF-funded demonstrations are linked to mainstream World Bank lending in fields such as wastewater treatment and sanitation, urban and peri-urban environment, municipal governance, solid waste leachate, and utility management. The Fund invests in World Bank projects with a target co-financing ratio of 1:10 (GEF:IBRD/IDA/other financing).

GEF 3 Strategic Objective 3: Undertake innovative demonstrations addressing key program gaps (groundwater, IWRM, SIDS, persistent toxic substances (PTS)) in IW. The Fund provides co-financing for innovative land-based marine pollution reduction investments. They include sewerage collection and treatment in dense peri-urban zones (East Java), landfill leachate treatment (Liaoning), wastewater treatment partnerships (Manila), tertiary wastewater treatment through artificial wetlands (Ningbo), septic tank management (Manila and Shandong), agricultural and non-point source pollution (Shanghai, in preparation), chemically enhanced primary treatment (Vietnam), and a proposed Project Preparation Revolving Fund (regional).

7. Approval of Tranche 1b of the Investment Fund

The purpose of this brief is to secure GEF Council approval of the \$10 million outstanding balance of the \$35 million of GEF resources that the Council approved in principle in November 2005 for the first tranche of the Fund.

In the future, the World Bank plans to request GEF Council approval of a second and, subsequently, a third tranche of the Fund, up to a maximum GEF commitment of \$80 million. The conditions and procedures for requesting and approving the second and third tranches are described in detail in Section 9.

B. PARTNERSHIP INVESTMENT FUND DESCRIPTION

8. Objective of the Fund

The objective of the proposed *WB/GEF Partnership Investment Fund for Pollution Reduction in the Large Marine Ecosystems of East Asia* is to reduce land-based pollution discharges that are degrading the seas of East Asia by leveraging investments in pollution reduction through the removal of technical, institutional, and financial barriers to them. It will contribute to the broader strategic goal of catalyzing the sustainable development of large marine ecosystems of East Asia, which is the focus of a major GEF regional international waters strategic program. The expected outcome of the Fund increased investment in activities that reduce land-based pollution through

Fund-supported investments directly and through the replication of cost-effective pollution reduction technologies and techniques demonstrated by the Fund.

To measure progress in achieving the Fund's targets, quantitative and qualitative indicators are used. These include, but are not limited to, reduction in the discharge of BOD, P and N to the marine environment, the level of replication of pollution-reducing sub-projects, the degree of awareness of environmental issues (e.g. as measured by the number of visitors to environmental centers, the amount of coverage of environmental issues by the press), and the amount of financing and rate of disbursement secured for replicated environmental projects.

A detailed set of monitoring and evaluation criteria have been prepared for the Fund in the World Bank's logical framework format (refer Annex 3). The use of this format will facilitate the adoption of the relevant criteria by each sub-project, prepared using Bank appraisal guidelines, thereby providing a consistent approach to monitoring the outcomes of the Fund. Sub-projects are encouraged to develop additional criteria where necessary to address local monitoring needs.

9. Design of the Fund

A total GEF commitment of \$80 million in grant financing is envisaged to finance the Fund. The projects it supports will be co-financed by an anticipated US\$ 1.5 billion in investments from the IBRD, IDA, national counterpart funding, and other sources, including private sector finance. It is proposed that GEF co-financing would be committed to the Fund in three tranches, as follows:

- Tranche 1: US\$35 million (this submission for the outstanding US\$ 10 m balance)
- Tranche 2: US\$30 million (projected date of request to GEF Council: FY08)
- Tranche 3: US\$15 million (projected date of request to GEF Council: FY10)
- Total: US\$80 million

The Fund will co-finance the implementation of individual investment sub-projects up to a maximum of approximately \$5 million of GEF grant financing per sub-project.¹⁵ In addition, GEF financing would support individual sub-project information dissemination and replication activities. All sub-projects will comprise part of or be associated with a specific World Bank lending operation. Only IBRD/IDA eligible countries are eligible to request GEF investment co-financing from the Fund.

Prior to requesting the second and subsequent tranches of funding from GEF Council, the World Bank will ensure that:

- At least two of the sub-projects under the current tranche had been approved by the World Bank Board;

¹⁵ The amount of \$5 million per sub-project has been chosen as a guideline for individual sub-project teams because it allows GEF financing to be allocated to a considerable number of sub-projects (16), while not being diluted to levels where it loses effectiveness. Final allocation of resources would only be made upon World Bank appraisal of each individual sub-project.

- At least three sub-projects intended for financing under the requested tranche have achieved pipeline entry from GEF and are under active preparation;
- A progress report was prepared and submitted to GEF Council detailing the status of the Fund, including: progress on achieving the Fund's leveraging targets; preparation and/or implementation status of the projects under the current tranche; a description of the sub-project pipeline for the requested tranche; any proposed changes to the eligibility criteria, design or implementation arrangements in order to further refine the design of the Fund; and, a description of the coordination activities carried out by the Fund with other key partners. Where replication of any technology/technique tested under the Fund has taken place directly as a result of the Fund's activities, this would also be reported to GEF Council.

The GEF Council would approve subsequent tranches, subject to the availability of funds and its consistency with the prevalent GEF IW strategic priorities. A mid-term stock-taking review meeting will be held after three years of operational experience to review progress of the Fund.

10. Types of Sub-projects

The types of sub-projects eligible for financing by the Fund are incremental additions to World Bank pollution-related projects that demonstrate innovative, cost-effective solutions for reducing land-based pollution and/or remove significant barriers to investments in land-based pollution reduction of the marine environment. Each sub-project includes investments in one or more of the following types of activities:

- *Innovative financing mechanisms*: improving access to finance for rural and urban land-based pollution reduction projects through implementation of revolving funds, cross-sectoral financing, and other financing innovations;
- *Wastewater and sanitation management and treatment*: demonstration and use of innovative technology and innovative methods for wastewater and sanitation management (e.g., construction of engineered wetlands, construction of combined wastewater/septage treatment plants, enhancements to existing infrastructure and systems to improve their efficiency; improvements in the efficiency of septage collection services);
- *Water-borne pollution from solid waste*: leachate control programs for landfills and dump closures;
- *Pollution control in rural and peri-urban areas*: systematic treatment of livestock waste, cost-effective approaches for agricultural and aquaculture pollution control, innovative management systems for collection and treatment of waste from agro-industries;
- *Coastal ecosystem management*: wetland creation, restoration, and preservation; education and awareness projects; information exchange and sharing;
- *Institutional reform*: utility reform, institutional rationalization, establishing links and creating opportunities for collaboration between NGOs, government agencies, and private companies;

- *Capacity building*: consultancies, training programs, dissemination of best practices;
- *Policy and planning improvements*: improving legal, regulatory, and policy climate through innovative changes;
- *Management reforms*: establishment of public-private partnerships and private sector management concessions for pollution control.

Where appropriate, cross-sectoral approaches are encouraged, such as integrated water resource management and environmental protection, especially in land-based pollution hotspots.

11. Sub-project Financing and Cost Effectiveness

The Fund's target co-financing ratio is 1:10 (GEF:IBRD/IDA/other financing). Lower targets may be accepted on individual sub-projects on an exception basis if the expected benefits of the activity warrant such an exception. However, a minimum leveraging ratio of 1:3 is required for any sub-project. While the overall target for the Fund is, on average, 1:10, sub-projects already under preparation indicate that a higher leveraging ratio will be achieved. It is currently expected that the total co-financing for the first tranche will be at least US\$783 million from IBRD, IDA, international donor sources, private sector investment and other co-financing. The total GEF financing over three tranches of the Fund is planned to be US\$80 million, and the total co-financing associated with it about US\$1.5 billion.

At the World Bank sub-project level, feasibility studies assess the value-added that potential additional GEF co-financed activities could achieve, and guide selection of the most cost-effective GEF interventions. A pragmatic approach to cost-effectiveness, bearing in mind the difficulty in measuring the outcomes of some activities such as capacity building and policy changes, is employed.

12. Sub-project Eligibility Criteria

A proposed World Bank project is eligible to request GEF co-financing from the Fund for a specific proposed investment if all of the following seven conditions are met. The investment:

- Is located within the coastal watersheds of one of the six East Asian LMEs: East China Sea, South China Sea, Yellow Sea, Sulu-Celebes Sea, Gulf of Thailand, and the Indonesian Seas.
- Demonstrates an innovative technical, institutional, or financial mechanism to combat land-based water pollution, and/or removes significant technical, institutional, or financial barriers that constrain cost-effective investments in pollution control in that location.
- Has high likelihood of replication and/or scalability in that country and/or more widely in East Asia coastal regions.

- Is unlikely to proceed unless grant financing from GEF were allocated to it.
- Has the necessary co-financing available.
- Has been endorsed by the proposing country's GEF focal point.
- Meets all relevant World Bank appraisal criteria.

13. Sub-project Processing Procedure

Individual Fund sub-projects are processed according to *streamlined* WB/GEF procedures. Usually they are processed as an integral part of a larger World Bank project. The primary difference between the Fund procedures and normal WB/GEF processing procedures is that, following GEF pipeline entry, sub-projects under the Fund are not submitted to the GEF Council for approval through standard work programs at Council Meetings or Inter-sessionals. Rather, they are subject to detailed GEF Secretariat review during preparation, and upon completion of sub-project preparation, the World Bank submits eligible sub-projects first to Council for review, then to the GEF CEO for endorsement. The GEF CEO approves individual sub-projects on a rolling basis until the limit of each Fund tranche had been reached. The Fund procedures can therefore be summarized as follows:

1. Project concept proposed by potential recipient and World Bank task team;
2. Screening of project concept by Fund management team against eligibility criteria;
3. Preparation of project concept note (WB) and pipeline entry (GEF);
4. Request for GEF project pipeline entry and preparation grants through the Fund management team;
5. World Bank and GEF Secretariat quality enhancement reviews;
6. Project Appraisal Document (PAD) preparation and review;
7. Appraisal;
8. Negotiation;
9. Four-week review by GEF Council
10. GEF CEO endorsement;
11. Bank Board submission and approval;
12. Signing and effectiveness;
13. Supervision;
14. Mid-term review and amendments;
15. Project closing;
16. OED evaluation.

14. Sub-projects Under Preparation

An initial pipeline of sub-projects for the Fund has been under development for three years. In that time, significant interest has been shown by World Bank client countries in the East Asia and Pacific to obtain GEF co-financing for innovative demonstrations from the Fund.

Seven representative sub-projects have been approved for GEF pipeline entry since May 2005. Of these, two have received Board approval and are now under implementation, two are fully prepared and ready for Council approval, one is in preparation, and two will begin preparation if and when this balance of the first tranche of the Fund is approved. The GEF-financed activities under the sub-projects already admitted to the pipeline are as follows:¹⁶

Under Implementation

1. *CHINA: Ningbo Water and Environment*: Demonstration of innovative technological solutions to wastewater management through the construction of a pilot engineered wetland as tertiary treatment at a coastal wastewater treatment plant, and protection of coastal ecosystems through the establishment of a Wetland Conservation and Environmental Education Center.
2. *CHINA: Second Shandong Environment*: demonstration of pollution reduction impact through regular servicing of septic tanks, treating septage jointly with sewage, establishing a Septic Tank Unit, designing a septic tank policy, and procurement of equipment and auxiliary facilities; and disseminate the outcome through various media.

Preparation Complete

3. *PHILIPPINES: Manila Third Sewerage*: Removal of institutional and technical barriers that limit cost-effective investment in wastewater and sanitation management in Metro Manila through institutional reorganization, improved planning, and demonstration of cost-effective wastewater and septage management technologies and techniques.
4. *CHINA: Liaoning*: reduction of land-based pollution in the Bohai Sea, and contribution to the economic and ecological revitalization of Liaoning Province by improving service levels in water, wastewater, and solid waste management through the provision of infrastructure and enhancement of utility performance.

Preparation Ongoing

5. *VIETNAM: Coastal Cities*: Demonstration of innovative technological solutions to wastewater management through the construction of a chemically enhanced primary wastewater treatment plant to evaluate the viability, cost-effectiveness, and nutrient removal capability of this technology, which is new to Vietnam.

Requesting financing from GEF Fund (First Tranche, Second Installment)

6. *CHINA: Shanghai Agricultural and Non-point Pollution Reduction*: demonstration of techniques to address non-point pollution from farms and livestock, accepted as a major pollutant in Shanghai municipality. Wastewater treatment through created wetlands; waste-to-energy and waste-to-fertilizer; demonstration and educational activities.
7. *INDONESIA: East Java*: Addressing pollution generated in densely populated, unplanned peri-urban areas through the demonstration of community-based, narrow gauge

¹⁶ The Project Concept Notes for the two projects for which Fund financing is requested are attached as annexes to this Brief.

wastewater collection and treatment as a demonstration project for replication in currently under-served peri-urban areas.

All these sub-projects illustrate one of the key financing priorities identified by SDS-SEA - the *scaling up of public and private sector investment* in identified pollution hotspots through (a) the removal of barriers that prevent investment, and (b) the demonstration of cost-effective pollution reduction technologies and techniques. In the latter two projects, the GEF grant would be used to co-finance construction of wastewater treatment systems and/or finance studies and capacity building that would support significant institutional change resulting in the removal of identified barriers to investment. The clients for these projects are public organizations and each of these activities forms part of a significant IBRD lending operation. Concept notes for these two projects are attached in Annex 4 for reference and the last two rows of Table 1 below provide a summary of the expected financing for each of these two projects.

Table 1: Pipeline for First Tranche

	GEF pipeline entry received?	Expected World Bank Board Date	Proposed GEF co-financing (\$ million)	IBRD/IDA co-financing (\$ million)	Other co-financing (\$ million)	Ratio of GEF financing to leveraged co-finance
CN: Ningbo Water and Environment	Yes	06/2006	5	57.2	82.9	1: 28
CN: Shandong Environment II	Yes	02/2007	5	110	92	1: 40
PH: GEF - Manila Third Sewerage	Yes	06/2007	5	64	20	1: 17
CN: Liaoning Medium Cities	Yes	06/2007	5	100	87	1: 38
VN: Vietnam Coastal Cities	Yes	03/2008	5	78	11	1: 18
CN: Shanghai Agricultural and Non-point	Yes	06/2008	5	0	27	1: 5
ID: East Java Strategic Infrastructure	Yes	06/2008	5	49	5	1: 11
Average						1:22

In parallel to the development of these activities, the Bank has been working to identify methods for addressing a second financing priority identified by SDS-SEA: the need to find effective mechanisms for the large constituency of small pollution reduction projects that currently do not have access to suitable funding sources. Many possible financial mechanisms are available to address this issue, and the Bank is committed, through the Fund, to use its knowledge and financial leveraging power to assist the countries identify and pilot such mechanisms. It is

envisaged that a series of revolving fund sub-projects using resources from the Fund would be developed to test these financial mechanisms.

The first of these sub-projects is the *Project Preparation Revolving Fund*, which is being developed on the thesis developed from World Bank experience that the critical problem for small projects is not the lack of available funding, but rather the small project proponents' *lack of access* to existing funding. While still only at pre-feasibility stage, it is intended that the Project Preparation Revolving Fund would be an intermediary between the target clients (small-scale pollution reduction project proponents) and existing financing sources, i.e., it would be positioned as a main street institution that has the outreach (urban and rural) and the mandate to work with the target clients.

The benefits of the Project Preparation Revolving Fund are expected to include:

- Establishment of a high-capacity organization that would set internationally acceptable standards for project identification and preparation, thereby lowering the investment risk of small-scale projects to private sector investors that are currently unwilling to invest because of weak identification and appraisal of projects;
- Building of local capacity within the region for project identification, preparation and appraisal;
- Reducing the preparation risk for project proponents through allowing them to borrow from the Revolving Fund for project preparation rather than the status quo, which generally involves proponents carrying project preparation risk on their balance sheet;
- Establishing a strong track record of well-prepared small-scale projects in East Asia that would form the foundation for future scaling-up of the effort and leveraging of more sophisticated funding sources such as multilateral lines of credit, export financing, private sector investment, etc.;
- High potential for replication of other activities carried out under the Fund using the Project Preparation Revolving Fund as a vehicle for identifying and preparing new projects that would be financed by private, public or international financing.

C. IMPLEMENTATION

15. Implementation Arrangements

The implementing agency for the Fund is the World Bank, through its East Asia and Pacific Region.

Individual sub-projects are implemented by selected agencies within the recipient countries. World Bank project task teams are responsible for appraising and supervising each sub-project and for coordinating with the Fund management team on sub-project results.

The World Bank's Fund management team liaises on a regular basis with the staff of and client representatives to the Regional Component through its meetings, and through consultation with the Regional Resource Facility proposed under the Regional Component.

16. Monitoring and Evaluation

All sub-projects co-financed by the Fund are required to adopt consistent monitoring and evaluation, replication and information dissemination protocols such that the regional benefits of the Fund could be fully realized. Monitoring and evaluation is conducted in conformity with GEF International Waters guidance against three sets of indicators: those embedded in the SDS-SEA which are relevant to the Fund, those specifically developed for the Fund, and those developed at sub-project level. The Fund indicators can be found in Annex 3. The responsibilities for monitoring and evaluation are established as described below.

Each sub-project financed under the Fund is responsible for:

- Adopting monitoring & evaluation (M&E) indicators consistent with the Fund's M&E criteria;
- Developing an M&E plan during project preparation;
- Establishing baseline data during project preparation;
- Providing M&E data on an annual basis to the Fund.

The World Bank's Fund management team is responsible for:

- Collating monitoring and evaluation results from sub-projects;
- Reporting results to GEF and the Regional Component on an annual basis, liaising with its staff at least every six months and participating in all its major regional meetings.

17. Replication

The Fund will co-finance new technologies and techniques in East Asian coastal areas to demonstrate appropriate and cost-effective solutions for reducing land-based marine pollution. As a result, the potential of any sub-project activity to be replicated within the country and region is extremely important to the overall success of the Fund and its ability to meet its objectives. Replication potential is therefore listed as one of the seven eligibility criteria for a sub-project's inclusion for financing under the Fund. A primary method for promoting replication is the series of revolving fund sub-projects described in Section 14.

Each sub-project financed under the Fund is responsible for the following replication activities:

- During sub-project preparation, the proponent prepares a replication strategy to be carried out during implementation. In preparing the replication strategy, the project proponent makes a general assessment of the potential for the pilot technology/technique to be replicated in coastal areas in their country, the possible reduction in land-based pollution resulting from replication,

and the specific activities to be undertaken during project implementation to promote replication (e.g. workshops, presentations, and technical publications). Implementation of the replication strategy is a legally-binding activity under the project's legal agreement.

- During sub-project implementation, the project proponent implements the replication strategy and reports the results to the Fund.

The Fund staff is responsible for the following:

- During sub-project selection and determination of eligibility, the Fund assesses, based on available information and international experience and best practice, the potential for the proposed technology/technique to be replicated in the target country and more widely in East Asia. Only sub-projects that are deemed to have replication potential are proposed to the GEF for pipeline entry under the Fund. The assessment of replication potential at pre-pipeline entry stage is primarily undertaken by World Bank staff, under consultation with outside experts and the Regional Component.
- During sub-project implementation, the Fund coordinates each sub-project's contribution to regional or international workshops and conferences. National and local workshops are coordinated by each sub-project and the Fund staff inform the Regional Component and GEF of the details of the activities.

18. Dissemination

Dissemination of sub-project results supports each sub-project's replication strategy. In general, each sub-project is responsible for preparing information about the sub-project and its results in a format agreed with the Fund staff. Collation of this information from all sub-projects is the responsibility of the Fund staff. Formal publication is the responsibility of GEF and the Regional Component.

Dissemination of information primarily occurs through three channels:

- A website developed for each sub-project;
- The GEF website, IW:LEARN, which is GEF's pre-eminent communication/ dissemination tool in its International Waters program. This web resource has been created by GEF to stimulate and facilitate exchange of experiences and lessons learned among different International Waters projects;
- The tri-annual East Asia Seas Congress.

Each sub-project under the Fund is responsible for:

- Developing a sub-project website;
- Providing case study information to the Fund staff in an agreed format at key times during sub-project preparation, implementation and completion in the language of the country and in English;

- Participating in a tri-annual East Asia Seas Congress through a poster display and workshop presentation.

The Fund staff is responsible for the following:

- Distributing information from all sub-projects to IW:LEARN;
- Monitoring IW:LEARN to ensure that sub-project information remains up to date;
- Coordinating sub-project participation in the East Asia Seas Congress.

19. Scaling up of monitoring and evaluation, replication, and dissemination

It is anticipated that a Regional Resource Facility will be established under the proposed Regional Component. This will provide the opportunity to significantly scale up the Fund's monitoring and evaluation, replication, and dissemination efforts. In particular, it is envisaged that the Regional Resource Facility will be responsible for:

- Collating M&E results relating to SDS-SEA in annual progress reports.
- Evaluating, preparing and disseminating good practices, lessons learned, and/or case studies from individual sub-projects under the Fund;
- Promoting the replication of good practices.

20. Sustainability

The Fund's monitoring and evaluation strategy addresses three aspects of sustainability: (1) financial; (2) stakeholder ownership; and (3) institutional framework and governance. To address sustainability early in the project cycle, the Fund focuses on these three aspects at sub-project inception. Given the importance of measuring sustainability from outcomes beyond the implementation period, the Regional Component will monitor the long-term effects of the Fund after the ten-year implementation period.

Each sub-project under the Fund achieves environmental and social sustainability through application of the World Bank Safeguards Policies.

Financial sustainability is achieved through ensuring that appropriate financial analysis is conducted during sub-project preparation, according to World Bank financial appraisal procedures. For technology investments, this ensures that the sub-project proponent has sufficient cost recovery to ensure sustainable operation.

Implementation sustainability is achieved through embedding each sub-project within a larger World Bank project to ensure the continuity of the implementation arrangements.

Finally, the World Bank incorporates the Fund and sub-projects into the relevant CASs, country dialogue, and promotes their integration into the lending program of each participating country, to ensure long-term sustainability of the objectives of the SDS-SEA.

21. Critical Risks and Controversial Aspects

The following risks and proposed mitigation measures have been identified:

Risks	Risk Mitigation Measures	Risk Rating with Mitigation
To Fund objectives		
That the Regional Component would not be approved by GEF and/or could not undertake the activities assigned to it in support of the Fund	Collaboration by World Bank staff with PEMSEA in Regional Component design; continued support and interaction with the Regional Component under its implementation.	L
Sub-projects do not comply with replication and dissemination requirements	Include replication and dissemination requirements as legal covenants under Grant Agreements, encourage close collaboration between the Fund and World Bank teams on the development and implementation of replication and dissemination strategies.	L
To sub-project results		
Sub-project level governance issues	Close supervision of fiduciary and safeguard issues	M
Slow implementation due to lack of counterpart funding	Financial analysis during appraisal	L
Sub-project results found to be difficult to replicate	Encourage early consultation within region and between sub-projects to ensure maximum information dissemination and experience-sharing	M
Overall risk rating	Modest	M

22. Stakeholder Consultation

Stakeholder involvement is an extremely important part of the Fund. Responsibilities for stakeholder consultation are as follows:

Each sub-project is responsible for:

- Conducting stakeholder consultation on the proposed investments in accordance with World Bank Operational Policies;
- Preparing a stakeholder consultation plan during sub-project preparation and implementing the plan during sub-project implementation.

The Fund staff are responsible for:

- Consulting with target countries during the tri-annual CAS process on the higher-level objectives of the Fund and proposed Fund investments in that country.