



Technical Assistance Report

Project Number: 39025
November 2005

Proposed Technical Assistance Core Environment Program and Biodiversity Conservation Corridors Initiative in the Greater Mekong Subregion (Cofinanced by the Poverty Reduction Cooperation Fund and the Governments of the Netherlands and Sweden)

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
BCI	–	Biodiversity Conservation Corridors Initiative
CEP	–	Core Environment Program
COO	–	chief of operations
EIA	–	environmental impact assessment
EOC	–	Environment Operations Center
EPA	–	environmental performance assessment
GEF	–	Global Environment Facility
GIS	–	geographic information system
GMS	–	Greater Mekong Subregion
IUCN	–	World Conservation Union
Lao PDR	–	Lao People's Democratic Republic
MIS	–	management information system
MKAE	–	Agriculture, Environment, and Natural Resources Division, Mekong Department, ADB
NGO	–	nongovernment organization
PRC	–	People's Republic of China
PRF	–	Poverty Reduction Cooperation Fund
RCSP	–	Regional Cooperation Strategy and Program
RETA	–	regional technical assistance
SDF	–	Strategic Development Framework
SEA	–	sector environment assessment
SEF	–	Strategic Environmental Framework
Sida	–	Swedish International Development Cooperation Agency
TA	–	technical assistance
TAP	–	technical advisory panel
TRM	–	Thailand Resident Mission
UNEP	–	United Nations Environment Programme
WGE	–	Working Group on Environment
WWF	–	World Wide Fund for Nature

TECHNICAL ASSISTANCE CLASSIFICATION

- Targeting Classification** – Targeted intervention
- Sector** – Agriculture and natural resources
- Subsector** – Environment and biodiversity
- Themes** – Regional cooperation, sustainable economic growth, environmental sustainability
- Subthemes** – Natural resources conservation, global and regional trans-boundary environmental concerns and issues, environmental policy and legislation

NOTE

In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1. Recognizing the environmental challenges to sustainable economic growth and development in the Greater Mekong Subregion (GMS), the GMS Working Group on Environment (WGE)¹ in September 2004 requested the Asian Development Bank (ADB) for a Core Environment Program (CEP) to address the likely stresses on the environment from economic development in the GMS, particularly in its economic corridors. The regional technical assistance (RETA) for the GMS Biodiversity Conservation Corridors Initiative,² provided by ADB in December 2004 in response to that request, (i) prepared a strategic framework and action plan (2005–2014) for the GMS biodiversity conservation corridors, and (ii) facilitated the preparation of the CEP for the consideration of GMS environment ministers and summit leaders.

2. The GMS environment ministers' meeting in Shanghai, People's Republic of China (PRC), in May 2005 and the second GMS summit in Kunming, PRC, in July 2005 endorsed the implementation of the CEP and its flagship component, the Biodiversity Conservation Corridors Initiative (BCI). The GMS environment ministers also endorsed the establishment of the Environment Operations Center (EOC) in Bangkok, Thailand, to provide operating capacity to the WGE and to implement the CEP and BCI.

II. ISSUES

3. The Regional Cooperation Strategy and Program³ (RCSP) for 2004–2008 of ADB aims to assist the GMS countries in implementing the GMS Strategic Development Framework (SDF)⁴ by strengthening connectivity and competitiveness, and developing a greater sense of community, in the region. The regional economic corridors are expected to play a crucial role in delivering the development agenda of the RCSP. The sustainability and competitiveness of the GMS member countries and the performance of the economic corridors will depend, to a large extent, on the efficiency and effectiveness with which the region's natural resource endowments are protected and maintained.

4. RCSP implementation, and the resulting economic transformation in the GMS, brings with it inevitable transformations in the natural environment. These include the decline and degradation of natural resource endowments, and associated environmental changes with implications for productivity and return on investments in the main development sectors. Some trends showing the dependence of sector productivity on the condition of linked natural systems in the GMS are the following:

- (i) Forestry – increasing forest product demand with increasing cost of production and 50% decline in resource base.
- (ii) Fisheries – increasing effort but decreasing catch per unit effort (due to the decline of stocks in coastal and freshwater systems).

¹ The WGE was established in 1995 to help mainstream environmental considerations in the GMS Economic Cooperation Program. Each GMS country is represented by two officials from the environment or natural resource management agency. The secretariat and program support functions for the WGE have been provided by ADB from Manila, assisted as necessary by the United Nations Environment Programme (UNEP) from Bangkok.

² ADB. 2004. *Technical Assistance for the Greater Mekong Subregion Biodiversity Conservation Corridors Initiative*. Manila (TA 6213-REG, for \$400,000, approved on 17 December 2004).

³ ADB. 2004. *Greater Mekong Subregion Regional Cooperation Strategy and Program (2004-2008)*. Manila.

⁴ The GMS countries adopted an SDF in 2001 to guide the next 10 years of development cooperation. The SDF focuses on five areas: (i) infrastructure, (ii) cross-border trade and investment, (iii) private sector participation, (iv) human resource development, and (v) environmental protection.

- (iii) Hydropower – increasing demand and investment in electricity supply, and increasing real cost per unit of energy (due to a failure to fully account for watershed maintenance and other environmental services).
- (iv) Agriculture – increasing production costs (due to soil loss, chemical inputs, and fluctuation in water supply).
- (v) Industry – increasing cost of water supply and treatment (due to reduced water quality and access).
- (vi) Nature-based tourism – rapidly increasing demand and investment, leading to diminishing quality of “products.”

5. There is therefore concern that the degradation of the natural systems will accelerate without a systematic environmental assessment and management of the development strategies, plans, and investments in the GMS economic corridors. Environmental degradation will directly and indirectly undermine the functioning of the ecosystems in the subregion, and thereby threaten its long-term socioeconomic and environmental security.

6. Current response strategies, such as the establishment of protected areas, are insufficient to address these issues of ecosystem decline and economic inefficiencies. Because the protected areas are small, these are increasingly being reduced to islands within a cultivated and fragmented landscape and subjected to development pressure. Consequently, protected areas are unlikely to safeguard high-value ecosystem services like biodiversity conservation and watershed protection. The protected-area options in the GMS for addressing ecosystem fragmentation will become more limited as attempts to enlarge protected areas collide with pressures on land for other uses. More and more, ecosystem fragmentation is being associated with development activities, including the development of GMS transport and economic corridors, which are also likely to affect biodiversity.

7. In response, GMS governments are introducing major new and proactive environmental programs to strengthen the environmental component of the SDF under the supervision of the WGE. The CEP is to support the broad-based sustainable development agenda of the GMS countries by mainstreaming the environment in the GMS Economic Cooperation Program, as stipulated in the SDF. The CEP will provide technical, operational, and financial support to upgrade the environmental management strategies, programs, and projects of the SDF and the RCSP.

III. THE PROPOSED TECHNICAL ASSISTANCE

A. Impact and Outcome

8. The long-term goal of the GMS Core Environment Program is a poverty-free and ecologically rich GMS. The TA will enhance the environmental sustainability and social equity of the GMS Economic Cooperation Program, thereby increasing its development potential, performance, and impact. The outcome of the TA will be sound environmental management systems and institutions that mainstream environmental and biodiversity protection in the GMS Economic Cooperation Program and subregional development.

9. The TA will focus on program development and implementation. It will (i) assess the environmental sustainability of priority development strategies and investment plans for the GMS economic sectors and corridors, (ii) implement biodiversity corridor activities in at least five pilot sites, and (iii) institutionalize environmental performance assessment (EPA) procedures and systems in the GMS countries. A program development and investment plan for 2009–2015

will be prepared. It will focus on (i) GMS environmental management governance and institutional development; (ii) the establishment, sustainable management, and financing of the priority biodiversity conservation corridors and associated high-value landscapes; and (iii) the institutionalization of decision support systems for environmental management and sustainable development planning, including EPA. The TA design and monitoring framework is given in Appendix 1.

B. Methodology and Key Activities

10. The key components of the TA are
 - (i) environmental assessment of economic sector strategies and corridors;
 - (ii) biodiversity conservation and BCI implementation;
 - (iii) environmental performance assessments and sustainable development planning;
 - (iv) development and institutionalization of GMS capacity for environmental management; and
 - (v) program development, delivery, and sustainable financing.

11. Component (i) will ensure that development strategies and plans for the GMS economic sectors and corridors are environmentally sound, economically efficient, and socially equitable, and that they are designed and implemented with the use of up-to-date design methods and techniques. Component (ii) will establish sustainable development and management regimes in the GMS biodiversity conservation corridors, to prevent or reverse the fragmentation of high-value forest ecosystems. It will also endeavor to initiate a system whereby the hydropower and tourism sectors systematically pay to conserve non-marketed ecosystem services. Component (iii) will build on the results of the Strategic Environmental Framework (SEF) I and II, and enhance and institutionalize EPA use. Component (iv) will move to build effective institutional arrangements and policy frameworks for trans-boundary environmental protection and sustainable natural resource use in the GMS. The EOC will be attached to the Thailand Resident Mission in Bangkok⁵ but will be functionally autonomous and will provide services to the WGE and CEP partners. Component (v) will initiate strategies and mechanisms to promote the financial sustainability of efforts to conserve natural systems and environmental quality in the GMS.

12. The key activities of the TA will be (i) assessing the potential environmental impact of development strategies and investments in hydropower, road, and tourism in selected economic corridors, and identifying opportunities to pay for environmental services; (ii) initiating the establishment of at least five biodiversity corridor pilot sites⁶ within GMS economic corridors to prevent or mitigate ecosystem fragmentation, and identifying and developing sustainable financing mechanisms for the medium to long term, including payment for environmental services to local communities; (iii) doing research and building capacity for the next round of EPAs, and establishing EPA units in the GMS countries;⁷ (iv) making the EOC operational as

⁵ ADB. 2005. *Technical Assistance for the Establishment of the Greater Mekong Subregion Environment Operations Center*. Manila. (TA 6263-REG, approved on 13 October 2005 for \$150,000).

⁶ Biodiversity conservation corridor (BCI) activities are described in detail in the BCI Strategic Framework under ADB. 2004. *Technical Assistance for Greater Mekong Subregion Biodiversity Conservation Corridors Initiative*. Manila. (TA 6213-REG, approved on 17 December 2004 for \$400,000).

⁷ ADB. 2004. *Technical Assistance for Capacity Building for Promoting Sustainable Development in the Greater Mekong Subregion*. Manila. (TA 6198-REG approved on 12 November 2004 for \$500,000); and ADB. 2004. *Technical Assistance for National Environmental Performance Assessment and Subregional Strategic Environmental Framework for the Greater Mekong Subregion*. Manila. (TA 6069-REG, approved on 11 December 2002 for \$800,000). These TAs are carrying out these activities (currently SEF II). The proposed TA will build on and continue this component (as SEF III).

the WGE secretariat, and studying the options for its institutional anchoring in the subregion; and (v) preparing a GMS environmental management and investment plan for 2009–2015. Seminars, study tours, and other relevant capacity building activities will be conducted to support implementation of these five components.⁸

C. Cost and Financing

13. The total cost of the CEP is estimated at \$36.11 million equivalent. The cost of the TA to be administered by ADB is estimated at \$25.57 million, which will be financed on a grant basis by the governments of the Netherlands (\$13.20 million) and Sweden (\$10.00 million), by the Poverty Reduction Cooperation Fund⁹ (\$550,000), from ADB's TA funding program (\$1.22 million), and in-kind contributions by the GMS countries (\$600,000). Detailed TA cost estimates and a financing plan are in Appendix 2.

14. In addition, the Government of Sweden will provide in-kind contribution (parallel financing) of \$700,000 to cover the secondment of international expertise to the EOC. In-kind contributions will also be made by development partners including the United States Agency for International Development (USAID) (\$3.00 million), Global Environment Facility/United Nations Development Programme Mekong Wetland Biodiversity Project implemented by IUCN/Mekong River Commission (\$1.80 million for Lao PDR), as well as NGO partners like WildAid/USAID (\$1.26 million for Cambodia), Conservation International (\$172,709 for Cambodia), Fauna and Flora International (\$325,844 for Cambodia), World Wide Fund for Nature (WWF)/Wildlife Conservation Society (\$1.44 million for Cambodia), WWF (\$1.70 million for the Lao People's Democratic Republic [Lao PDR] and Viet Nam), and World Conservation Union (IUCN) (\$153,000 for the subregion).

D. Implementation Arrangements

15. The TA will have a term of 3 years and will be implemented from January 2006 to 31 December 2008. The TA is an innovative approach to providing a regional framework for partnerships between GMS countries, development partners, nongovernment organizations, and ADB under the umbrella and direction of the WGE.¹⁰ The partners will have a crucial role in implementing this TA; hence, partnership agreements detailing the targets to be achieved and a budget framework for funding the activities are proposed.

16. The activities of the proposed TA will be implemented on-site by local agencies and nongovernment partners, while the national implementing agencies¹¹ will be responsible for national and provincial coordination. The EOC will take over the support functions previously carried out by ADB in terms of acting as secretariat to the WGE.¹² The EOC will facilitate inter-sectoral coordination within the RCSP, and will be responsible for the timely and effective implementation of the CEP. In the medium to long term, it is envisaged that the EOC will be a sustainable institution anchored in a subregional framework supported by the GMS countries.

⁸ To be conducted only in ADB member countries.

⁹ PRF: *Safeguarding Biodiversity for Poverty Reduction in the Mekong Region*.

¹⁰ Building on lessons learned, experience, and designs from TA 6198-REG (footnote 6) and TA 6213-REG (footnote 5).

¹¹ ADB is the Executing Agency in this TA, while the implementing agencies are the WGE member-country institutions, which are responsible for overall coordination and supervision in each GMS country. These institutions are: Ministry of Environment (CAM), State Environment Protection Administration (PRC), and Ministry of Natural Resource and Environment (THA and VIE).

¹² Organizing and holding WGE meetings, coordinating WGE activities, reporting to WGE, etc.

17. Annual work plans and budgets will be submitted by the implementing agencies¹³ to the WGE through the EOC for review and approval. The CEP implementing partners will report every 6 months to the WGE through the EOC. Annual reports of the GMS Core Environment Program will be approved by WGE for public dissemination through print and electronic media. At the next GMS summit in 2008, a comprehensive progress report on the program will be made available to the GMS countries and the public.

18. Operationalizing the EOC will require the services of international consultants (up to 256¹⁴ person-months), national consultants (up to 144¹⁵ person-months), and GMS country specialists deputed to the EOC (up to 180 person-months). An overview of the EOC is in Appendix 3 and outline terms of reference are in Appendix 4. International consultants will be engaged individually by ADB in accordance with the *Guidelines for the Use of Consultants by the Asian Development Bank and Its Borrowers* and other arrangements satisfactory to ADB. The engagement of domestic (local) consultants will be delegated to the EOC and will be according to arrangements satisfactory to ADB. Equipment for the EOC and CEP coordination offices in GMS countries will be procured by ADB according to ADB's *Guidelines for Procurement*. Details of procurement packages are in Appendix 5. After the TA, the equipment will be transferred to national implementing agencies and partners.

19. An advance payment facility to be replenished on liquidation will be used to disburse funds to (i) national implementing agencies; (ii) implementing partners like UNEP, WWF, and IUCN, which have entered into partnership agreements with ADB for the TA implementation; and (iii) the EOC, under the Thailand Resident Mission, to cover its operating costs. Both the national implementing agencies and implementation partners will be required to maintain project accounts and have these accounts audited annually. To facilitate the timely flow of funds and reduce the administrative burden, EOC will be provided with a budget line for travel expenses under the advance payment facility, to be liquidated monthly.

IV. THE PRESIDENT'S RECOMMENDATION

20. The President recommends that the Board approve (i) ADB administering a portion of technical assistance not exceeding the equivalent of \$13,200,000 to be financed on a grant basis by the Government of the Netherlands, (ii) ADB administering a portion of technical assistance not exceeding the equivalent of \$10,000,000 to be financed on a grant basis by the Government of Sweden, (iii) ADB administering a portion of technical assistance not exceeding the equivalent of \$550,000 to be financed on a grant basis by the Poverty Reduction Cooperation Fund, and (iv) ADB providing the balance not exceeding the equivalent of \$1,220,000 from its TA funding program, for the Core Environment Program and the Biodiversity Conservation Corridors Initiative in the Greater Mekong Subregion.

¹³ National WGE coordinators and government implementing institutions in the GMS countries, as well as nongovernment partner institutions involved in field activities.

¹⁴ Up to 184 person-months are to be financed under the CEP and up to 72 person-months are envisaged as secondments by the Swedish International Development Cooperation Agency and WWF to the EOC under parallel financing arrangements.

¹⁵ Excluding EOC administrative and support staff considered under miscellaneous and administration support costs.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Prosperity in the Greater Mekong Subregion, based on equity and sustainable development</p>	<p>By 2014</p> <ul style="list-style-type: none"> • Significant reduction in incidence of poverty among ethnic minority groups and poor households (HH) living in the BCI sites and selected GMS economic corridors • Measures for mitigating negative impact of development activities in place in GMS economic corridors 	<ul style="list-style-type: none"> • Poverty surveys in 2006 with updates in 2008, 2011, and 2014 • Random HH samplings in the BCI • Environmental impact assessment reports on the GMS corridors • Impact monitoring, and forest cover conditions and biodiversity assessments • EPA and EOC reports 	<p>Assumptions</p> <ul style="list-style-type: none"> • GMS governments committed to equitable growth and sound environmental practices • Stable socioeconomic environment • Favorable prices for agricultural and forest produce • Timely funds flow and budget allocations <p>Risk</p> <ul style="list-style-type: none"> • Unchecked economic growth at the cost of the environment
<p>Outcome Sound environmental management systems and operation capacity for enhancing the development potential, performance, and impact of the GMS Economic Cooperation Program</p> <p>Phase I (2006–2008) Updated and upgraded GMS hydropower, roads, and tourism strategies that are environmentally sound and economically efficient, and effective implementation of sustainable management plans for five biodiversity conservation corridors</p>	<p>By 2014</p> <ul style="list-style-type: none"> • Work of WGE integrated with that of other GMS working groups • Cumulative environmental impact assessment models and tools integrated in GMS Economic Cooperation Program development and investment planning • EOC institutionally anchored in GMS <p>By 2008</p> <ul style="list-style-type: none"> • Impact assessments of hydropower, roads, and tourism development strategies undertaken • Integrated sustainable development planning initiated in at least two GMS countries • Establishment of biodiversity corridors initiated in at least five pilot sites in the GMS • Pro-poor biodiversity conservation management plans for three protected areas • Global Environment Facility (GEF) pipeline and investment plan for 2009–2015 developed 	<ul style="list-style-type: none"> • Annual reports of WGE and other working groups • Report and manual on model integration • Reports of users of model in GMS countries • Memorandum of understanding among GMS countries on EOC operations <ul style="list-style-type: none"> • Cumulative impact assessment reports • CEP progress reports • Monitoring reports and satellite images comparing 2005 with 2008 conditions • Investment proposals 	<p>Assumptions</p> <ul style="list-style-type: none"> • Funds can be secured beyond phase 1 for the whole program period (2006–2014) • GMS governments remain committed to mainstreaming environmental concerns in development plans • GMS countries can agree on a subregional solution to anchoring the EOC in the medium to long term • Communities and local administrations willing and able to establish biodiversity corridors and maintain them <p>Risk</p> <ul style="list-style-type: none"> • Short-term development and income needs, and investment and disbursement priorities, override long-term sustainable development concerns

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Outputs</p> <p>1. Economic corridors and sector environmental assessments</p> <p>2. Biodiversity conservation</p> <p>3. Environmental performance assessments (EPAs) institutionalized and integrated, and sustainable development planning initiated</p> <p>4. Regional environmental management capacity development and institutionalization</p> <p>5. Program development, delivery, and sustainable financing</p>	<ul style="list-style-type: none"> • By 2008, valuation of natural resource assets in at least two GMS economic Corridor sections (north–south and east–west) completed • By 2007, assessment reports on hydropower, road, and tourism development strategies, and cumulative impact assessment of at least two selected sections of the GMS economic corridors, completed • By 2008, at least five biodiversity corridor sites established, poverty reduction measures and ecosystem restoration undertaken, and ecosystem service payment mechanisms developed • By 2008, all GMS countries produce EPAs to set environmental standards, and at least two countries start using integrated sustainable development planning tools and EPA results • By March 2006, Environment Operations Center operational • By 2008, report on options for anchoring EOC over medium to long term submitted to GMS countries • By 2008, report on sustainable financing prepared and at least two sustainable financing mechanisms proposed for establishment in selected GMS countries • By June 2006, program impact monitoring system operational • By 2008, investment plan for 2009–2015 developed 	<p>Sources apply to all outputs:</p> <ul style="list-style-type: none"> • Half-yearly progress reports • Consultant reports • GMS WGE annual report • Survey reports • National poverty statistics of GMS countries • ADB supervision visit reports • CEP monitoring reports 	<p>Assumptions</p> <ul style="list-style-type: none"> • Cumulative environmental impact assessment tools and expertise available • Sector and cumulative impact assessment results are fed into decision support systems by officials and stakeholders from other sectors in GMS countries • Responsive and interested stakeholders willing to participate in establishing biodiversity corridors • Central and provincial governments remain committed to GMS BCI concept and enter into partnerships with communities and NGOs to make it a reality • Disbursements and material inputs are delivered on time • Funds are delivered on time <p>Risks</p> <ul style="list-style-type: none"> • Authorities are tempted to promote unsustainable development for short-term revenue or export target gains • Communities resort to cost-cutting measures, and their restoration activities are not timely or sufficient • Inflexible ADB procedures for direct selection of implementation partners and decentralized financial management by EOC

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Activities with Milestones			Inputs
1.1 Valuation of natural resource assets in selected economic corridors			Financial:
1.2 Environmental assessment of energy (hydropower), road, and tourism development strategies			ADB: \$1,220
1.3 Environmental impact assessment in selected corridors			PRF: \$550
1.4 Development of cumulative impact assessment models and trade-off analysis at selected sites			Netherlands: \$13,200
2.1 Socioeconomic surveys and establishment of village self-help funds			Sweden: \$10,000
2.2 Land use planning			GMS countries: \$600
2.3 Land delineation and zoning			Subtotal \$25,570
2.4 Ecosystem restoration			Other Contributions:
2.5 User agreements and payments for ecosystem services			Sweden: \$700
3.1 Development of environmental performance assessment reports			USAID: \$3,000
3.2 Capacity building			GEF/Wetlands \$1,800
3.3 Integrated sustainable development planning			Partners
4.1 EOC establishment			(IUCN/NGOs): \$5,042
4.2 Establishment of knowledge center			Subtotal \$10,542
4.3 Secretariat support to WGE			
4.4 Coordination and reporting on CEP			
4.5 Institutional options study			Total: \$36,112
5.1 Review of sustainable funding options			
5.2 Development of investment proposals			
5.3 Impact monitoring			

BCI = biodiversity conservation corridors initiative, CEP = Core Environment Program, EOC = Environment Operations Center, GEF = Global Environment Facility, GMS = Greater Mekong Subregion, IUCN = World Conservation Union, NGO = nongovernment organization, PRF = Poverty Reduction Cooperation Fund, USAID = United States Agency for International Development, WGE = Working Group on Environment.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Total Cost
A. Asian Development Bank Financing^a	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultants	3,104.0
ii. Domestic Consultants	900.0
b. International and Local Travel	525.0
c. Reports and Communications	50.0
2. GMS Country Implementation ^b	3,576.0
3. Partnership Agreements ^c	11,500.0
4. Equipment ^d	240.0
5. Training, Seminars, and Conferences ^e	
a. EPA Capacity Building	200.0
b. Regional Symposia and Workshops	230.0
c. Support for WGE Meetings	130.0
d. Study Tours	100.0
e. Travel of Resource Persons	100.0
6. Surveys and Impact Monitoring	100.0
7. Miscellaneous Administration and Support Costs	680.0
8. Publications and Media Documentation	278.0
9. Contingencies	3,257.0
Subtotal (A)	24,970.0
B. Government Financing	
1. GMS Countries ^f	600.0
Subtotal (B)	600.0
Total	25,570.0

EPA = environmental performance assessment, GMS = Greater Mekong Subregion, WGE = Working Group on Environment.

^a To be financed on a grant basis and administered by the Asian Development Bank (ADB): (i) Government of the Netherlands (\$13.2 million), (ii) Government of Sweden (\$10 million), (iii) Poverty Reduction Cooperation Fund (\$550,000), and (iv) ADB's technical assistance funding program (\$1.22 million).

^b The national implementing agencies (WGE coordinators) will play a pivotal role in coordinating, supervising, monitoring, and facilitating supportive policy, regulatory, and decision-making processes at the national and provincial levels in the GMS countries. These funds will be used for the effective delivery and management of crosscutting national and provincial program management activities. See para. 4, Appendix 5, for details.

^c A major element in the proposed technical assistance implementation is the involvement of partners in activities that are expected to lead to the establishment of biodiversity corridors in the selected sites, and in the provision of advice, research, studies, and monitoring during CEP implementation in phase I (2006–2008). See para. 5, Appendix 5, for details.

^d Computers, printers, projectors, and satellite images.

^e To be conducted only in ADB member countries.

^f Cambodia, People's Republic of China, Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam.

Source: ADB estimates.

GREATER MEKONG SUBREGION ENVIRONMENT OPERATIONS CENTER

A. Background and Purpose

1. The Greater Mekong Subregion (GMS) environment ministers' meeting in Shanghai, People's Republic of China (PRC), in May 2005 and the second GMS summit in Kunming, PRC, in July 2005, endorsed the implementation of the Core Environment Program (CEP) and its flagship component, the Biodiversity Conservation Corridors Initiative (BCI). The GMS environment ministers also endorsed the establishment of the Environment Operations Center (EOC) in Bangkok, Thailand, to provide operational capacity to the Working Group on Environment (WGE) and to implement the CEP and BCI.

2. The GMS WGE seeks to proactively fulfill its current mandate to (i) facilitate subregional environmental projects, (ii) ensure that environmental issues are properly addressed in subregional projects in other sectors, and (iii) harmonize environmental management within the subregion.

3. The proposed EOC facility will serve as WGE secretariat for coordinating with development partners and GMS countries. The EOC will coordinate and facilitate the timely and effective implementation of the GMS Core Environment Program in collaboration with GMS governments, local communities, and nongovernment organizations. The establishment of EOC will help maximize program synergies, and reduce the transaction costs and operational burden on implementing agencies and program partners.

B. Environment Representation in GMS Working Groups

4. The role of building sustainability and environment into GMS development programs and projects will require close linkage between the WGE and other GMS working groups. WGE needs to be in a position to assist other working groups in mainstreaming environment in their sectors. It will do so by keeping those other groups informed of environmental trends and regional concerns, helping them review strategies and programs, contributing to strategy and investment design, and preparing environment safeguards and mitigation measures. The WGE will seek to (i) make development actions more sustainable, and (ii) build environmental components into development activities. To fulfill these aims, staged development of the EOC is required.

C. Staged Development of the EOC

5. The EOC will be set up in the following steps:

- (i) Finalize funding arrangements (2005). Settle on the funding arrangements and on the secondment of international experts to the EOC with interested development partners.
- (ii) Recruit staff (2005–2006). ADB will facilitate the recruitment of the EOC staff including the EOC chief of operations, who will be recruited internationally, and staff to be seconded from development partners.
- (iii) Set up the EOC office (2006). In its first 3 years, the EOC will implement the CEP including the GMS Biodiversity Conservation Corridors Initiative.

- (iv) Recruit national staff for secondment to EOC. ADB will recruit at least two technical staff members from each member country associated with the CEP.
- (v) Prepare a detailed institutional development plan for the WGE/EOC (2006–2008). The EOC will prepare a 10-year institutional and program development plan for WGE and CEP. It will also prepare a paper on the options for the institutional anchoring of the EOC, with the projected costs, and circulate it to the GMS member countries through the WGE for their consideration.

D. Functions of the GMS Environment Operations Center

6. The overriding concern of the WGE and its EOC is to conserve the natural systems of the GMS for the ecosystem services they provide, to protect and enhance environmental quality, and to ensure sustainable development in the subregion.

7. The EOC's primary function must be to help define and keep watch on those areas that must be kept in their natural state for the broad development benefits they provide to the local, national, and subregional economies.

8. The EOC will focus on these five main tasks: (i) GMS environmental information and knowledge management; (ii) GMS environmental management and conservation; (iii) sustainable development design, environmental assessment, and oversight; (iv) coordination and liaison; and (v) acting as WGE secretariat.

1. Five Main Tasks of EOC

9. The five main tasks of EOC are the following:

- (i) GMS environmental information and knowledge management:
 - (a) Maintaining and sharing environmental information (from various sources including environmental assessments of development projects and sector strategies).
 - (b) Keeping track of trends and problems in subregional environment reporting.
 - (c) Analyzing and planning strategies to address current and emerging issues (such as climate change and air pollution) related to environmental and natural resource maintenance.
 - (d) Taking an active part in communications and information networking.
- (ii) GMS environmental management and conservation:
 - (a) Managing the GMS Core Environment Program.
 - (b) Setting the framework of environmental safeguards and codes of practice for key development sectors.
 - (c) Preparing the GMS environment action plan, and reviewing and revising it regularly, in keeping with GMS development programming cycles.
 - (d) Implementing the BCI.
 - (e) Attracting finance for new environmental initiatives to meet changing needs.
- (iii) Sustainable development design, environmental assessment, and oversight:
 - (a) Performing strategic environmental assessments of sectors.

- (b) Contributing to the design and sustainability of development projects.
 - (c) Carrying out environmental reviews of strategies and plans.
 - (d) Monitoring and reporting on performance.
- (iv) Coordination and liaison:
- (a) Convening regular consultative meetings of development partners and stakeholders to keep them informed of progress, and nurturing the GMS environmental partnership for the implementation of the GMS action plan and Core Environment Program.
 - (b) Convening regular consultative meetings with civil society to engage them in program development, implementation, and monitoring.
- (v) Acting as WGE secretariat. The WGE is the steering and oversight body responsible for implementing the GMS Core Environment Program. It must meet at least twice a year, with each member country convening meetings and facilitating in-country activities under the CEP. The secretariat and program support functions for the WGE have been provided by ADB from Manila, assisted as necessary by the United Nations Environment Program (UNEP) from Bangkok. The EOC will progressively take over these functions.

2. EOC Staffing Structure

10. The EOC will be supervised by an ADB project officer supported by a secretariat. The EOC operational team will be managed by the chief of operations (COO), who will be responsible for overall program delivery and effectiveness. The COO will be assisted by the following:

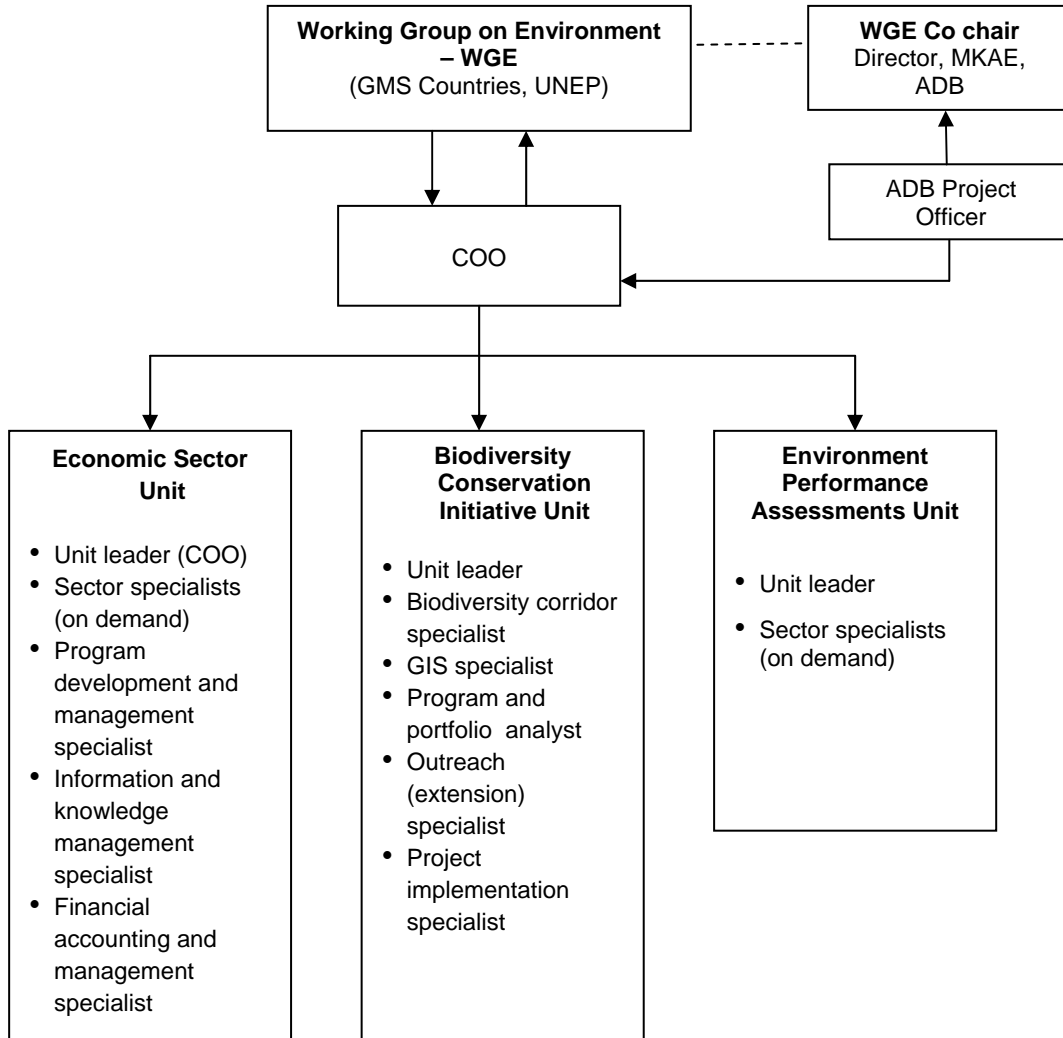
- (i) BCI unit team leader,
- (ii) EPA unit team leader,
- (iii) GMS program development and management specialist (seconded from the Swedish International Development Cooperation Agency [Sida])
- (iv) biodiversity specialist (seconded from the World Wide Fund for Nature [WWF]),
- (v) program and portfolio specialist,
- (vi) information and knowledge management specialist,
- (vii) outreach specialist,
- (viii) GIS specialist (BCI and CEP),
- (ix) project implementation specialist,
- (x) financial accounting and management specialist,
- (xi) finance and accounting staff, and
- (xii) support staff.

11. Under the CEP, the main collaborating partners of the EOC will be the following:

- (i) Stockholm Environment Institute;
- (ii) Sida;
- (iii) Government of the Netherlands–Directorate General for International Cooperation;
- (iv) Netherlands Environmental Assessment Agency (nature, land, and biodiversity team);
- (v) United Nations Environment Programme;

- (vi) NGOs and other international and national civil society partners (WWF, World Conservation Union); and
- (vii) Regional and international environment and/or development research institutions and networks.

Figure A3: Environment Operations Center Setup



ADB = Asian Development Bank, COO = chief of operations, GMS = Greater Mekong Subregion; MKAE = Agriculture, Environment and Natural Resources Division, Mekong Department, ADB; UNEP = United Nations Environment Programme, WGE = Working Group on Environment.
Source: ADB staff.

OUTLINE TERMS OF REFERENCE FOR CONSULTANT STAFF FOR THE ENVIRONMENT OPERATIONS CENTER

A. Chief of Operations (COO) (international; 36 person-months)

1. This consultant's tasks will be as follows:
 - (i) In collaboration with the ADB officer responsible for technical assistance (TA) supervision, staff, establish, and operate the Environment Operations Center (EOC) in Bangkok, Thailand.
 - (ii) In collaboration with team members, other international and national consultants recruited for specific activities, and collaborating partners, assist the national coordination units in the GMS countries in drawing up annual work plans and budgets.
 - (iii) Convene, organize, and facilitate meetings of the GMS Working Group on Environment (WGE) to deliberate on work plans and budgets, secure the necessary approvals, take minutes of the meetings and disseminate these to all relevant parties (GMS countries, development partners, ADB, and collaborating partners).
 - (iv) In collaboration with other specialists, study the options for anchoring EOC institutionally in the GMS and submit a paper with the findings and detailed costs to the GMS countries through the WGE for review and consideration.
 - (v) Lead the planning and management of CEP/EOC institutional capacity development.
 - (vi) Identify private-public sector partnership options and opportunities for the sustainable financing of CEP, and develop and implement a business plan.
 - (vii) Prepare semiannual consolidated progress reports (technical and financial) and submit these to the WGE and ADB at the semiannual and annual meetings.

B. BCI Unit Leader (international; 36 person-months)

2. This consultant's tasks will be as follows:
 - (i) In collaboration with the TA supervising officer from ADB and the COO, staff, establish, and operate the BCI unit of the Environment Operations Center in Bangkok and define, in collaboration with the TRM, the common facilities and operating costs to be shared.
 - (ii) In collaboration with team members, other international and national consultants recruited for specific activities, and collaborating partners, assist the national coordination units in the GMS countries in drawing up annual work plans and budgets.
 - (iii) In close coordination with the World Wide Fund for Nature (WWF) and other conservation and development NGOs and research institutions, design generic technical guidelines for implementing biodiversity conservation interventions.
 - (iv) In conjunction with external institutions (United Nations Environment Programme [UNEP] and the nature, land, and biodiversity team of the Netherlands Environmental Assessment Agency), establish in the EOC indicators, benchmarks, monitoring formats, and a data storage and retrieval system with baseline and updated data in easily accessible electronic form.
 - (v) Coordinate the planning and monitoring of BCI implementation.
 - (vi) Monitor progress toward the TA milestones, inform ADB of problem areas, and recommend corrective action.

C. EPA Unit Leader (international; 36 person-months)

3. The tasks of the EPA unit leader will be as follows:

- (i) In collaboration with team members, other international and national consultants recruited for specific activities, and collaborating partners, assist the national coordination units in the GMS countries in drawing up annual work plans and budgets for the EPA component.
- (ii) In conjunction with external institutions, establish in the EOC indicators, benchmarks, monitoring formats, and a data storage and retrieval system with baseline and updated data on GMS environmental trends and indicators.
- (iii) Coordinate the planning and monitoring of EPA-specific subregional and national activities.
- (iv) Maintain effective communication and coordination with the partner institutions and other relevant agencies collaborating on the EPA implementation.
- (v) Monitor progress toward RETA milestones, inform ADB of problem areas, and recommend corrective action.

D. Program Development and Management Specialist (international; 36 person-months)

4. The specific tasks of the program development and management specialist will be as follows:

- (i) Facilitate the identification and assessment of current threats to the natural assets in the economic corridors, giving special attention to the GMS Economic Cooperation Program portfolio and investment pipeline.
- (ii) Facilitate the establishment in each GMS country of sector-specific task forces for hydropower and tourism with specific terms of reference, and review the experience so far with environmental assessment and mitigation for ADB-sponsored and other GMS infrastructure projects in energy and tourism.
- (iii) Facilitate the conduct of strategic environmental assessments of the hydropower and tourism sectors in the GMS and recommend needed reorientations in the GMS sector programs and investments.
- (iv) Report on cumulative environmental assessments of the potential impact of proposed GMS development programs on natural assets and ecosystem services in the economic corridors.
- (v) Taking the assessments and trends into account, define a framework of environmental safeguards for each development zone, to conserve the natural assets in the economic corridors.
- (vi) Prepare codes of practice for the energy and tourism sectors, including the use of economic and policy instruments to ensure that pricing structures and sector revenue streams contribute to protection.

E. Biodiversity Corridors Specialist (international; 36 person-months)

5. The biodiversity corridor specialist will be responsible for the following tasks:

- (i) Working closely with BCI partners (government and nongovernment) in the GMS countries, as well as BCI unit staff, identify, map, and record the status (baseline information) of important natural systems, environmentally sensitive areas, and biodiversity hotspots, including the location of protected areas and potentially significant linkages between them.

- (ii) Identify measures to be undertaken at subregional and country levels to prevent and mitigate landscape and habitat fragmentation of the priority biodiversity corridors, as well as regulate trade in endangered species.
- (iii) In conjunction with other specialists, give technical advice to partners on restoration and ecosystem connectivity activities in areas identified for such measures.
- (iv) Monitor and report on progress in establishing biodiversity corridors and pro-poor interventions for indigenous and minority groups living in biodiversity corridor areas, and seek linkage with poverty reduction efforts through payment schemes for ecosystem services.
- (v) Prepare guidelines and codes of practice for establishing and consolidating biodiversity corridors for possible nationwide application in the GMS countries.

F. Program and Portfolio Specialist (international; 36 person-months)

6. The program and portfolio analyst will have the following responsibilities:
- (i) Update the inventory of ADB's and developing member countries' development and investment programs and projects relevant to the BCI and CEP.
 - (ii) Identify and review protected areas and forest sector development strategies and plans relevant to the BCI.
 - (iii) Identify and review provincial and district development plans relevant to the BCI.
 - (iv) Coordinate data and information gathering and reporting by the domestic consultants.
 - (v) Maintain a database of key environmental and developmental indicators for the GMS countries with particular emphasis on the BCI.
 - (vi) Train and supervise domestic consultants in participatory data and information gathering, validation, and verification.
 - (vii) Provide technical support to the BCI unit leader in organizing and facilitating country consultations, and in carrying out project preparation and feasibility studies for the BCI.

G. Outreach (Extension) Specialist (international; 36 person-months)

7. The outreach specialist will undertake the following tasks:
- (i) Maintain and update a mailing list of all stakeholders, interested parties, and collaborating and development partners within and outside the GMS.
 - (ii) Disseminate information to and communicate with relevant stakeholders to facilitate the work of the CEP and BCI, particularly during conferences, workshops, and training.
 - (iii) Prepare the annual schedule of workshops, meetings, and training courses, in close collaboration with the international and national implementation teams.
 - (iv) With the assistance of specialists, organize and prepare modules and PR and media materials for implementing the BCI and establishing an effective outreach delivery mechanism for the initiative.
 - (v) Prepare media statements and write short articles and news clips for the media (newspapers and radio).
 - (vi) Survey regularly and report on media and public perceptions of the BCI.
 - (vii) Organize the logistics and coordinate with relevant parties in holding workshops, meetings, and training courses on the approved schedule.
 - (viii) Update the BCI Web site regularly.

H. Financial Accounting and Management Specialist (national; 36 person-months)

8. The tasks of the financial accounting and management specialist will be as follows:
- (i) Assist the COO and all EOC unit leaders in devising guidelines for setting up and making disbursements, issuing invoices, and settling claims.
 - (ii) Identify accountants in partner organizations and train them in opening and maintaining project account ledgers.
 - (iii) Follow up timely disbursements to partner organizations.
 - (iv) Follow up the monthly liquidation of advance and imprest account facilities used by partner organizations under the CEP, and ensure that partners in the GMS countries submit properly documented claims on time so that payments can also be made on time and field activities are implemented smoothly.
 - (v) Administer the administration and miscellaneous budget line for EOC operations and for travel advances and liquidation by consultants and EOC staff, and submit liquidation requests to the ADB head office to initiate the replenishment of the EOC advance payment facility operated through the TRM.
 - (vi) Provide timely financial reports to the COO and unit leaders for submission to the WGE.

I. Information and Knowledge Management Specialist (national; 36 person-months)

9. The main tasks and responsibilities of this consultant will be as follows:
- (i) Assess information requirements, information flows, data formats, and scope of data generation.
 - (ii) Assess system requirements, data storage and retrieval systems, Web hosting, Web security, ID authentication requirements, and system management specifications and costs.
 - (iii) Together with the COO and the BCI unit leader, present to the WGE a detailed assessment report showing options and costs of installing, operating, updating, and maintaining the MIS; compatibility of upgrades and interface with other systems; and resources required to sustain the MIS after it is handed over to GMS institutions.
 - (iv) Set up and test the MIS in the EOC, and test system accessibility, download speeds, and security features in the GMS countries.
 - (v) Improve the MIS on the basis of the results of the test, and get it into operation in stages, starting within 9 months of the first phase of EOC and BCI.
 - (vi) Submit semiannual reports on MIS operations and feedback from users.
 - (vii) Improve and update the MIS, and connect system enhancements approved by the WGE.
 - (viii) Maintain the MIS and submit a report on future operations and recommendations with cost projections by the end of phase 1 (2008).
 - (ix) Upload MIS updates on the Web regularly.

J. Geographical Information System (GIS) Specialist (national; 36 person-months)

10. The consultant will have the following responsibilities:
- (i) Review and analyze spatial decision support systems in the GMS, taking into account work already done at UNEP and in the GMS countries under the Strategic Environmental Framework (SEF) II and its predecessor projects and in the BCI preliminary design phase.

- (ii) Review and update satellite images and data relating to topography, land cover and land use, biodiversity, river and water body network, socioeconomic and administrative data, investment and developmental data (project investments), and environmental impact (emissions, carbon sinks, erosion, flooding, etc.).
- (iii) Establish data presentation formats following ADB guidelines for logos and spelling, and interface these formats with the MIS so that clients can have access to data in a user-friendly format and project staff implementing CEP and BCI in the GMS country offices can produce GIS maps and presentations.
- (iv) Collaborate closely with other GMS country institutions and partners involved in monitoring and spatial mapping (e.g., the nature, landscape, and biodiversity team of the Netherlands Environmental Assessment Agency).
- (v) Submit half-yearly progress reports to the BCI unit leader and assist in preparing presentations to the WGE and ADB.

K. Project Implementation Analyst (national; 36 person-months)

11. The specific tasks of this consultant will be as follows:
- (i) Monitor the implementation of BCI pilot projects and ensure the timely delivery of funds, information, and knowledge.
 - (ii) Organize BCI-related subregional and national technical workshops, meetings, and training courses, in close collaboration with the international and national implementation teams and the outreach specialist.
 - (iii) Coordinate with relevant ADB and non-ADB parties in BCI implementation.
 - (iv) Monitor the progress of activities and output of the BCI unit.
 - (v) Review and revise cost estimates and budgets for BCI activities.

L. Officers Deputed from GMS Countries (180 person-months)

12. The deputed officers will have the following responsibilities:
- (i) Report to EOC and be assigned or attached to a particular sector, area of work, and team of consultants by the COO.
 - (ii) Study reports and data files and gain familiarity with the most current and updated thinking in the area of specialization pursued by the GMS country officer.
 - (iii) Assist and facilitate the in-country field work of the international team members.
 - (iv) Help collect data and information from relevant line agencies, development partners, and nongovernment organizations for the implementation of the CEP/BCI action plan.
 - (v) Assist in the assessment of institutional capacity-building needs.
 - (vi) Facilitate in-country dissemination of information and reports.
 - (vii) Submit a half-yearly report to the COO on the progress of work and a final report on lessons learned and skills gained, and how these can be used in the workplace in the country.

PROCUREMENT PACKAGES

A. Consultants

- The proposed expertise and level of consulting effort is summarized in Table A5.1:

Table A5.1: Expertise and Level of Effort Proposed

International Expertise	PM	\$'000	Regional/National Expertise	PM	\$'000
Chief of operations (COO) and unit leader, economic sector unit	36	720	Information and knowledge management specialist	36	108
BCI unit leader and development planning and management specialist	36	720	GIS specialist	36	180
EPA unit leader and environmental performance assessment specialist	36	720	Financial accounting and management specialist	36	72
Program and portfolio specialist	36	432	Project implementation specialist ^a	36	
Outreach specialist	36	432	Subtotal	144	360
Short-term consultants (on demand; additional pm to be funded from contingencies)	4	80			
Subtotal	184	3,104			
Secondments to EOC					
Program Development Specialist (Sida – parallel financing)	36		Sector specialists from GMS countries in EOC	180	540
Biodiversity specialist (WWF – parallel financing)	36				
Total International PM	256		Total Regional/National PM	324	
Total Cost		3,104	Total Cost		900

BCI = Biodiversity Corridors Conservation Initiative, COO = chief of operations, EPA = environmental performance assessment, GIS = geographic information system, GMS = Greater Mekong Subregion, PM = person-months, SIDA = Swedish International Development Cooperation Agency, WWF = World Wide Fund for Nature.

^a To be funded from contingencies budget line.

Source: ADB estimates.

- In addition, the Environment Operations Center (EOC) will need to hire short-term consultants (on demand). The cost of the services will be financed from the contingencies budget line.

- The administrative and support staff have not been included here as these will be hired by the EOC under the administration and miscellaneous budget line.

B. GMS Country Implementation

- The national implementing agencies or WGE coordinators in the GMS countries will play a pivotal role in coordination, supervision, monitoring, and the provision of policy, regulatory, and decision-making support at the national and provincial levels. In particular, the cost estimates given below for the effective delivery of this role cover the following crosscutting program management activities at the national and provincial levels:

- (i) National and Provincial Activities**
 - (a) National coordination meetings and annual workshops
 - (b) Site preparation during phase 1
 - (c) Provincial planning and zoning
 - (d) Environmental impact assessments (EIAs) in potential (new) sites where major infrastructure projects are planned (e.g., overall impact of the economic corridor)
 - (e) Policy, legislative, and regulatory support
 - (f) Field-level exchange visits, and site and study tours

- (ii) Project Office (National and Provincial)**
 - (a) National coordinating unit (office equipment)
 - (b) Project office, provincial (office equipment)
 - (c) Support staff
 - (d) Operating cost
 - (e) Travel, national and provincial (vehicle hire and per diem)
 - (f) Steering committee
 - (g) National consultants

Table A5.2: Indicative Program Management Costs of the National Implementing Agencies
(\$)

Country	Costs
Cambodia	500,000
People's Republic of China	700,000
Lao PDR	362,000
Thailand	1,500,000
Viet Nam	514,000
Total	3,576,000

Lao PDR = Lao People's Democratic Republic.
Source: ADB estimates

C. Partnership Agreements

5. A major element in the proposed technical assistance implementation is the involvement of partners in the implementation of activities that are expected to lead to the establishment of biodiversity corridors in the selected sites, and the provision of advice, research, studies, and monitoring in phase I (2006–2008) of CEP implementation. The following are some of the activities to be implemented through partnership agreements:

Table A5.3: Some Activities to be Covered by Partnership Agreements

Core Environment Program Component	Subcomponent/Activity
Component 1: Sector Assessments in Economic Corridors	<ul style="list-style-type: none"> • Studies and research • Surveys, data collection, analysis, assessments • Spatial planning and design • Development of analytical models and decision support systems • Monitoring • Capacity building and training • Study tours
Component 2: Biodiversity Conservation	<ul style="list-style-type: none"> • Poverty reduction • Harmonization of land management and governance regimes • Restoration of ecosystem connectivity • Capacity building • Sustainable financing
Component 3: Environmental Performance Assessments and Integrated Sustainable Development Planning	<ul style="list-style-type: none"> • Studies, research, reports • Surveys, data collection, analysis, assessments • Development of environmental performance assessment models and decision support systems • Monitoring • Capacity building and training • Study tours
Component 4: Environment Operations Center	<ul style="list-style-type: none"> • Studies, research, and proposal reviews • Program preparation and design • Impact monitoring • Support to technical advisory panel (independent review panel) • Capacity building, training, workshops • Study tours
Component 5: Sustainable Financing	<ul style="list-style-type: none"> • Advisory services • Policy and regulatory work • Field studies and data collection • Proposal design and writing • Financial instrument analyses

Source: ADB estimates.

Table A5.4: Indicative Partnership Agreements

GMS Country/Site	Potential Partners	Costs (\$)
Cambodia		
Cardamom Mountains	Wild Aid, FFI, CI	1,200,000
Eastern Plains	WWF–WCS	1,000,000
Aural Protected Area	FFI	300,000
People's Republic of China		
Xishuangbanna	XTBG	700,000
Lao PDR		
Xe Pian–Dong Hua Sao	WWF–IUCN	1,000,000
Viet Nam		
Quang Nam Province	WWF–IUCN (BCI)	1,000,000
Greater Annamite Ecoregion (GAE)	WWF (GAE)	4,800,000
Regional		
Technical Advisory Panel	IUCN TAP Secretariat	700,000
Poverty Reduction ^a	IUCN–PA	500,000
EPAs and SEAs	SEI–UNEP	300,000
Total		11,500,000

BCI = Biodiversity Conservation Corridors Initiative, CI = Conservation International, EPA = environmental performance assessment, FFI = Fauna and Flora International, IUCN = World Conservation Union, PA = protected area, SEA = sector environment assessment, SEI= Stockholm Environment Institute, TAP= technical advisory panel, UNEP = United Nations Environment Programme, WCS = Wildlife Conservation Society, WWF = World Wide Fund for Nature, XTBG= Xishuangbanna Tropical Botanical Garden.

^a Safeguarding Biodiversity for Poverty Reduction in the Mekong Region.

Source: ADB estimates.

D. Equipment (Environment Operations Center)

6. The EOC will procure office equipment for its operations, as well as high-resolution satellite images for natural resource (forest cover) and biodiversity corridor monitoring (vegetation cover, size, settlements, new infrastructure development). The procurement will follow ADB's *Guidelines for Procurement*. High-resolution satellite images may be procured from a single source (Digital Globe, Ikonos Big Bird, or National Aeronautics and Space Administration [NASA]), as few companies currently provide this product in the public domain.

Table A5.5: Equipment to Be Procured by Environment Operations Center

Equipment^a	2006	2007	2008	Total
Servers (1 intranet; 1 finance, etc.; UPS)	7,000			
Desktop computers, 14, with LCD screens	12,000	2,000		
Laptops, 5 (for field work)	6,000			
Heavy-duty color printer, LAN-enabled	5,000			
Laser printer, LAN-enabled	2,000			
Heavy-duty photocopy machine	5,000			
Landline and mobile telephones and fax machine	1,000			
Purchase of high-resolution satellite images	100,000		100,000	
Total	138,000	2,000	100,000	240,000

LAN = local area network, LCD = liquid crystal display, UPS = uninterruptible power supply

^a Videoconference facilities of Thailand Resident Mission to be used/shared.

Source: ADB estimates.