



ADB

GREATER MEKONG SUBREGION
**ENVIRONMENT
OPERATIONS CENTER**

Core Environment Program and Biodiversity Conservation
Corridors Initiative, Phase II (2012–2016)

RETA 7987

Component Strategy

Environmental Planning, Safeguards, and Monitoring

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ABBREVIATIONS

ADB	–	Asian Development Bank
BCC	–	Biodiversity Conservation Corridors Investment Program
BCI	–	Biodiversity Conservation Corridors Initiative
CEP-BCI	–	Core Environment Program and Biodiversity Conservation Corridors Initiative
DPSIR	–	Driver-Pressure-State-Impact-Response
EIA	–	Environmental Impact Assessment
EPI	–	Environmental Performance Index
EOC	–	Environment Operations Center
EPA	–	Environmental Performance Assessment
GMS	–	Greater Mekong Subregion
IAIA	–	International Association for Impact Assessment
NSEC-SAP	–	North-South Economic Corridor Strategy and Action Plan
PDP	–	National Power Development Plan (Viet Nam)
Lao PDR	–	Lao People's Democratic Republic
LUP	–	Land Use Plan(ning)
NSU	–	national support unit
PES	–	payment for ecosystem services
PPP	–	Phnom Penh Plan
PRC	–	People's Republic of China
PSR	–	Pressure-State-Response
REDD	–	reducing emissions from deforestation and forest degradation
RETA	–	Regional Technical Assistance
RSAT	–	rapid basin-wide hydropower sustainability assessment tool
SEA	–	Strategic Environment Assessment
SEF	–	Strategic Environmental Framework
SMCA	–	spatial multi-criteria analysis
VES	–	valuation of ecosystem services

In this report, “\$” refers to US dollars.

I. BACKGROUND

A. Introduction to the Greater Mekong Subregion

In 1992, the six countries along the Mekong River—Cambodia, People's Republic of China (PRC), Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand and Viet Nam—formed the Greater Mekong Subregion (GMS) with the launch of the GMS Economic Cooperation Program (the GMS Program). Facilitating regional investment, collaboration, and integration across major growth sectors, the GMS Program has successfully stimulated economic growth, helped reduce poverty and improve livelihoods in the subregion for the last 20 years. The Core Environment Program and Biodiversity Conservation Initiative (CEP-BCI) is an initiative designed to achieve an environmentally sustainable GMS Program. The first phase of the program was implemented under an Asian Development Bank (ADB) Regional Technical Assistance (RETA 6289) between 2006 and 2012. The ADB Board approved the second phase (RETA 7987) in December 2011 and it will be implemented between 2012 and 2016.

CEP-BCI Phase II aims to integrate sound environmental management, biodiversity conservation, and climate resilience measures into the GMS Program to create 'an environmentally friendly and climate-resilient GMS Program.' A programmatic approach will support activities in priority economic corridors targeted by the GMS Program and in priority transboundary biodiversity conservation corridors and landscapes.

CEP-BCI has the following four components and outputs:

- ***Component 1: Environmental Planning, Safeguards, and Monitoring***

Output: Environmental planning systems, methods, and safeguards improved

- ***Component 2: Biodiversity Landscapes and Livelihoods***

Output: Local livelihoods and the management of transboundary biodiversity conservation landscapes improved

- ***Component 3: Climate Change***

Output: Climate-resilient and low-carbon strategies developed

- ***Component 4: Institutions and Financing***

Output: Institutions and financing for sustainable environmental management improved

This paper outlines the 2012–2016 strategy and major activities for **Component 1: Environmental Planning, Safeguards, and Monitoring**.

B. Development Challenge: Transition to Environmentally Sound Planning

The rich natural resource base in the GMS has fuelled rapid economic growth and related social achievements in the region. However, unplanned utilization of these natural resources has increased the risk that the region's ecosystems will be overexploited. Rapid degeneration of the region's natural resources base in part reflects a failure to recognize the contribution of natural capital in social and economic growth sectors, resulting in inadequate investment to protect and enhance ecosystems. Severe resource depletion and degradation

have occurred throughout the subregion, including widespread deforestation of high value forests, substantial biodiversity losses, and extensive water, soil, and air pollution.

As natural resources are inextricably linked with the GMS' economic performance, continued natural resource loss and degradation will constrain the region's potential to grow further and to achieve and maintain its societal development goals. Limitations in the supply and quality of natural resources place additional financial burdens on the region's emerging productive and service sectors, and reduce the region's competitiveness in regional and global markets. Increasing demand stimulates aggressive resource exploitation, particularly in remote areas, where large land and mining concessions overlap with valuable forests that provide important ecosystem services such as water regulation and soil protection.

Prioritizing resource exploitation over protecting and maintaining these ecosystem services is undermining the potential for economic diversification of GMS countries into sectors that thrive on healthy ecosystem services such as hydropower, tourism, agriculture and fisheries. It is also causing the loss of resilience mechanisms, making countries increasingly vulnerable to environmental hazards such as flood, drought, soil loss and sedimentation. Climate change will further aggravate these risks and related costs.

'Traditional' development approaches (e.g., 'environment or development;' and 'grow first—clean up later') do not adequately address the increased complexity of the region's multi-dimensional development and related cause-effect relationships. Countries need to develop and transition to sustainable development approaches if they are to maintain steady, long-term growth. This requires embracing integrated, transparent, and accountable planning systems that are able to integrate the following key strategic thrusts:

Improve understanding of natural resource stocks and flows

Economic planners need to be able to assess the full range of environmental contributions to economic performance. This includes taking stock of key natural resources such as timber, soil and water, and establishing realistic market prices following demand-supply scenarios. Environmental services (regulating, supporting, cultural) need to be recognized as an intrinsic part of economic cost-benefit calculations, and supported by transparent and robust valuation methods and tools.

Integrate environmental considerations into strategic planning and project design

Truly holistic, integrated planning frameworks and procedures are a prerequisite for properly integrating environmental considerations with economic plans and investment projects. Environmental assessment and valuation methodologies must inform planning processes. Effective planning processes should involve transparent dialogue between relevant stakeholders. Such participation will generate ownership of plans among the stakeholders and subsequently ensure effective investment decisions. Additionally, strengthening of country environmental safeguards and compliance systems should complement upstream strategic planning processes by providing support at the investment project level where impacts on people and the environment are most direct.

Incubate innovative environmental investments

In order to increase public and private sector investments in natural capital and environmental friendly technologies, there is a need to build good cases that are replicable and scalable. Planning processes need to integrate cost-benefit analyses of technological and financial innovations. In addition, those cost-benefit analyses need to incorporate market mechanisms such as reducing emissions from deforestation and forest degradation (REDD) and payment for ecosystem services (PES). Developers and stakeholders need to

conceptualize additional market mechanisms focusing on the participation of the private sector in the protection of the region's natural capital.

Establish monitoring capacity and information technology

To improve country responses to environmental issues, related state and trend information needs to be available at sufficient geographic and temporal detail. Countries need to invest more resources into spatial and statistical data infrastructure and related information systems. They can do this through awareness-raising and training on technical and analytical tools that improve the government institutions' planning performance and recognition with government peers. This process is also the prerequisite for better collaboration in data production and sharing.

II. ENVIRONMENTAL MONITORING, PLANNING, AND SAFEGUARDS DURING CEP-BCI PHASE I

A. Activities and Achievements

Introduced Strategic Environment Assessment into sector planning

Since its inception in 2006, CEP-BCI has promoted the integration of Strategic Environmental Assessments (SEAs) into sector planning processes in the GMS. During Phase I, the program completed pilot SEA activities for the tourism sector in Cambodia, national Power Development Plans in Viet Nam (PDP VI and VII), the North-South Economic Corridor Strategy and Action Plan (NSEC-SAP), the Quang Nam provincial land use plan, the tourism sector in the Golden Quadrangle, and SEA training for the Lao PDR energy sector.

Considering the different levels of conceptual understanding, technical capacity, and legal requirements for SEA in the GMS countries, CEP-BCI applied a step-wise approach to facilitate SEA understanding and uptake:

- (i) *SEA legislation under consideration*—Awareness-raising on SEA principles and procedures, introduction of SEA best practices and communication of SEA benefits (e.g., SEA training for the Lao PDR energy sector, Phnom Penh Plan (PPP) trainings for senior government officials, SEA tourism sector in Cambodia);
- (ii) *SEA legislation in place but little SEA experience*—Foreign expert-led SEA pilot application with strong focus on on-the-job training for government stakeholders (e.g., SEA of Viet Nam 's PDP VI); and
- (iii) *SEA legislation and good SEA experience*—Government and national expert-led SEA exercises with specific technical inputs and training provided by international experts to increase SEA relevance and impact (e.g., SEA of Viet Nam's PDP VII).

By the end of Phase I, this approach helped move several countries significantly forward with SEA adoption and practice. In PRC, which already has SEA legislation and good conceptual and technical capacity in place, trainings closed capacity gaps on regional SEA and land budgeting (e.g., SEA of the NSEC-SAP, PPP trainings). The program guided Viet Nam, which also had SEA legislation but comparably little implementation experience, through SEA pilots (e.g., PDP VI) toward a stage where they could lead SEA implementation autonomously (PDP VII, Quang Nam Land Use Plan [LUP]). In Cambodia and Lao PDR, the program launched initiatives to develop SEA legislation, such as onsite trainings and SEA demonstrations.

Through the nine SEAs implemented to date, CEP-BCI has trained hundreds of GMS experts on related processes and tools, and has successfully stimulated national ownership (i.e. government-led, all-national SEA teams). Similarly, owing to the program's engagement in SEA, the Environment Operations Center (EOC) has established itself as a key knowledge hub on SEA in the GMS.

Built analytical capacity to quantify impacts

Target countries and stakeholders' accept SEA much more readily when results and recommendations are derived from transparent, evidence-based quantitative analysis and valuation. For area-based plans, results should also be geographically (spatially) explicit. Throughout CEP-BCI Phase I, the program coupled strategic assessment and planning work with capacity building on, and pilot application of, spatial decision support tools. These tools

ranged from basic thematic overlays for SEA baseline assessments (all SEA) to complex, scenario-driven demand allocation models (NSEC-SAP, Quang Nam LUP) and decision-tree-based suitability and vulnerability mapping (spatial multi-criteria analysis—NSEC-SAP).

Spatial models are suitable not just for SEA processes but also for integration directly into sector and area-based plans. CEP-BCI conducted several stand-alone awareness-raising and training events, including a spatial multi-criteria analysis (SMCA) on rubber concessions in Lao PDR, PPP trainings for senior officials, and international courses on biodiversity pressure and land allocation modelling conducted by the Netherlands Environmental Assessment Agency and ITC/University of Twente, Netherlands.

CEP-BCI has established coupling SEA with strong spatial modelling components as one of its trademarks, and published its lessons learned in several papers, gaining recognition by the International Association for Impact Assessment where the program has presented related results annually since 2008.

Developed environmental monitoring and reporting skills

CEP-BCI Phase I built on the work of predecessor projects, Strategic Environmental Framework (SEF) Phases I and II, by continuing to develop and consolidate country capacity on indicator development, trend monitoring and reporting mechanisms, known as Environmental Performance Assessment (EPA). While the first round of national and regional EPA reporting (SEF Phase II) was still largely international expert-led (and written), CEP-BCI operationalized capacity in country focal organizations, enabling them to take the lead in EPA preparation. Along with handing over this responsibility, the program upgraded EPA reporting from the Pressure-State-Response (PSR) to the Driver-Pressure-State-Impact-Response (DPSIR) framework, which improves depth of reporting and understanding of cause-effect relationships. The GMS member countries successfully prepared their second round of EPA reports in 2012.

The Internet has become widely available across the GMS, including at the province and district levels, and CEP-BCI Phase I increasingly used this medium to make its knowledge and data (geographical and statistical) accessible. In 2012, the program launched a new website that combines program information with the functionality of an information system. The EOC internal geographic and statistical monitoring and information system developed a front-end tools section. It currently provides an interactive mapping tool for development projects (DevMap), an interactive Atlas of the GMS, and an indicator portal that allows users to interactively browse key GMS and national statistics.

B. Lessons Learned

Need to consolidate initial integrated planning capacity

All CEP-BCI pilot SEA and stand-alone trainings had a strong emphasis on SEA conceptual and analytical capacity development, creating important understanding of the SEA process and its benefits.

The complexity of national planning frameworks and the variety of SEA approaches, however, require continuous and case/country-specific capacity development to successfully institutionalize and operationalize SEA procedures in GMS government institutions. The program recognizes that it needs to consolidate and maintain recently-established conceptual capacity with relevant GMS government partners, and develop additional analytical skills to improve the quality (and acceptance) of national SEA and plans. Furthermore, national SEA practitioners need to have increasing access to the global SEA

community, allowing them to learn and benefit from global best practices and facilitate their adoption in the GMS.

Besides continuing its efforts to operationalize SEA capacity, CEP-BCI needs to leverage additional entry points to 'green' strategic planning processes. In order to ensure that the intended program outcome and impact is achieved, SEA interventions need to target the most relevant plan to deliver strategic results. Selection criteria for proposed SEAs need to be based on critical analysis and prioritization of environmental issues. In addition, effective SEA must enable policy conditions and technical capacity. CEP-BCI Phase II consultation missions unanimously identified country interest to embed individual environmental valuation tools (e.g., scenario development, land demand modelling, and SMCA) directly into area-based and sector planning processes. CEP-BCI Phase II needs to (i) improve decision making at the policy, plan and program levels; (ii) strengthen national environmental safeguard systems; (iii) apply ADB safeguards requirements to investment projects to ensure the environmental soundness and sustainability of developments; and (iv) facilitate the integration of environmental considerations into project decision-making processes. Strengthening environmental safeguard systems and application will both improve investment project performance and enhance development impacts at the strategic planning level.

Support the development of environmental legislation and policy

Despite SEA having been introduced to the GMS broadly, only three out of six countries have passed legal requirements for SEA. Countries that don't have SEA legislation (Cambodia, Myanmar) or are still in the early stages of drafting SEA law (Lao PDR) therefore need to be supported in developing SEA (pilot) guidelines that are pragmatic and tailored to the needs of the individual country and sectors. In combination with SEA pilot projects, such guidelines will increase the commitment of relevant ministries to develop and adopt full-fledged SEA legislation. Countries with SEA legislation in place need to be supported in reviewing the efficiency and effectiveness of SEA laws, guidelines and institutional capacities, including recommendations for improvement.

While some GMS countries have robust environmental safeguards systems in place, other countries at an earlier stage of system development would greatly benefit from program support. Specifically, Myanmar is currently in the process of formulating new or updating existing environment and natural resources laws, and requires substantive assistance in putting in place corresponding rules, procedures and guidelines. CEP-BCI is well positioned to engage in strategically important safeguards work in Myanmar, where tasks include the integration of environmental content into the new Foreign Investment Law, the revision of draft Environmental Conservation Rules, and preparation of Environmental Impact Assessment (EIA) procedures. Similarly, CEP-BCI can make important contributions to strengthening national capacity for efficient application, monitoring compliance, and enforcement of existing and new EIA regulations in Cambodia, Lao PDR and Viet Nam.

Develop information systems that integrate with planning

Understanding development trends and cause-effect relationships between development and environment is an important prerequisite both for sound strategic planning and project design. In addition, it is important to evaluate performance of environmental investments to ensure their sustainability. Strategic plans and investment decisions will only integrate recommendations concerning environmentally and socially beneficial actions if the recommendations are supported by credible data and analysis. Bilateral and multilateral investments increasingly focus on output based payment mechanisms, which demand robust monitoring systems. Similarly, market mechanisms such as REDD and PES also

warrant meticulous monitoring. Currently in the GMS, environmental data is often not readily available, is outdated, or simply does not exist.

In order to achieve the above-mentioned monitoring objectives, databases and information systems must meet analytical and data collection/collation requirements. Data must: (i) be available for recent years and past periods, (ii) have sufficient geographic resolution/disaggregation to fit multiple planning levels, (iii) have enough thematic depth to allow for application of advanced models, and (iv) encourage collaboration and transparency in data sharing.

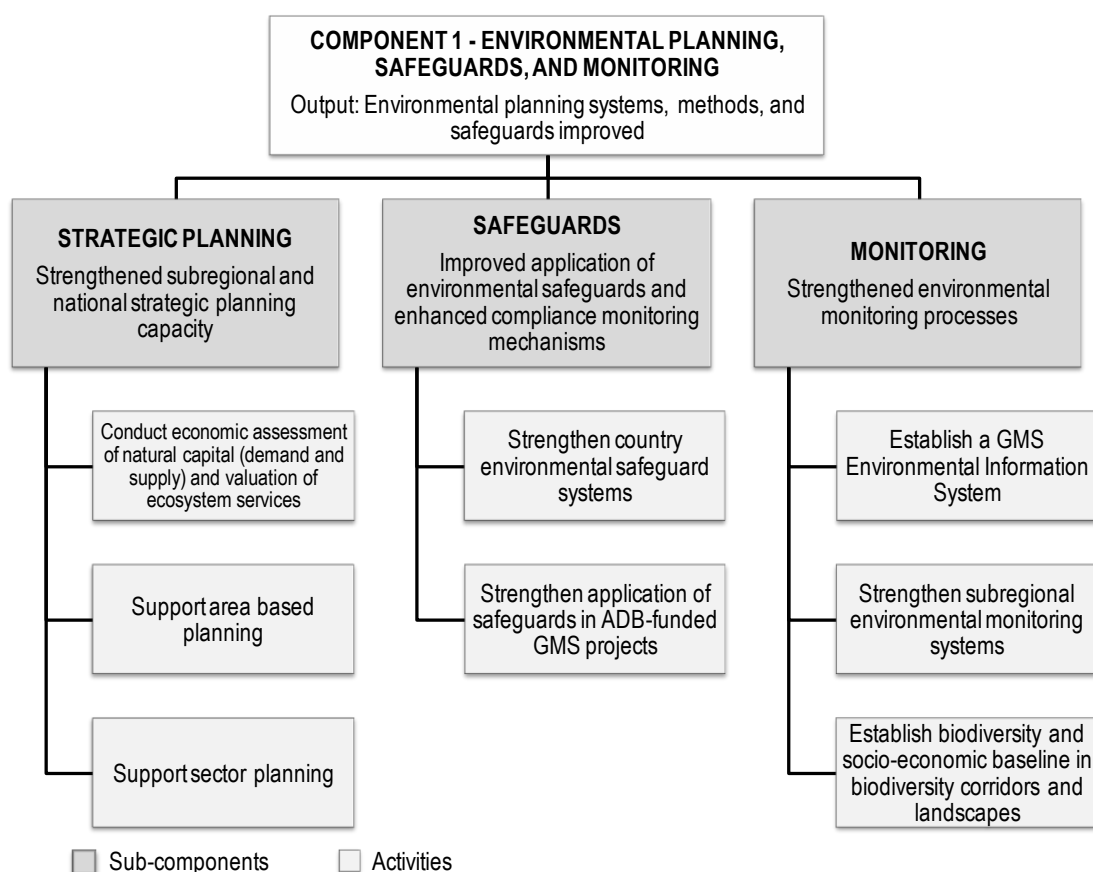
III. COMPONENT OVERVIEW AND PRIORITY ACTIVITIES

A. Aim and outcome

The overall aim (output) of Component 1: Environmental Planning, Safeguards, and Monitoring is to improve environmental planning systems, methods and safeguards application at the regional, national and sub-national level. To achieve this output, the component has the following three objectives:

- (i) Operationalize economically, environmentally and socially sound strategic planning procedures that integrate environmental considerations in area-based and sector plans;
- (ii) Enhance the application of environmental safeguards, including compliance monitoring mechanisms; and
- (iii) Establish or strengthen databases and information systems to support efficient and effective environmental performance monitoring and evaluation as well as their seamless integration into planning processes.

Figure 1: Structure of Component 1: Environmental Planning, Safeguards, and Monitoring



B. Subcomponent activities and outputs

Component 1 has three subcomponents: Strategic Planning, Safeguards, and Monitoring. This section provides an overview of each of these subcomponents, including their respective outputs, major activities, and the milestones and indicators to track progress.

Subcomponent 1.1: Strategic Planning

The output of this subcomponent is ‘strengthened sub-regional and national strategic planning capacity’. Work under this subcomponent will support economically, environmentally, and socially sound strategic planning procedures for area-based and sector plans. Activities under this subcomponent will include action research to establish sound methods and GMS capacity to assess, quantify and monetize natural capital stocks and flows. The subcomponent will also emphasize building GMS institutional capacity and commitment to use environmental planning tools and processes and integrate them into area-based and sector plans.

Table 1: Activities, Milestones, and Indicators for Subcomponent 1.1

Activities	Milestones	Indicators	Scope
Conduct economic assessment of natural capital (demand and supply) and valuation of ecosystem (VES) services <i>(In coordination with component 2.1, i.e., update of ecosystem profiles)</i>	2014 Awareness of value and financial costs related to ecosystem services increased 2015 VES methodologies being used in strategic planning procedures	- Research partnerships between government, universities and regional think tanks established - Regional and national ecosystem service value maps available interactively online and in publications - VES method and statistics/maps used in area-based and/or sector plans	- Design a customized analytical framework, based on existing natural capital valuation and accounting systems such as TEEB, WAVE, Ecological footprint and Biocapacity, WWF’s Natural Capital project, etc - Identify science and research partners and establish collaboration - Develop ecosystem service maps following and necessary baseline data - Design tools and guidelines to apply the assessment framework in specific planning contexts
Support area-based planning <i>(In coordination with Component 2.1)</i>	2013 Environmental assessment/valuation methodology mainstreamed into GMS Program’s Master Plan and Red River basin plan 2014 Capacity of national SEA practitioners (national support units (NSUs), government, universities, national think tanks) to support greening of sector strategies and plans improved 2015 SEA guidelines adopted and followed by	- Documented changes in the GMS Program’s Master Plan and Red River basin plan based on SEA analytical inputs - Pilot planning support tools and procedures on three area-based plans - At least three GMS-based universities trained in SEA and related tools - SEA partnerships between government, universities and academic institutions formalized - SEA guidelines in place and followed in one more GMS country (Lao PDR) and development underway in two more GMS countries (Cambodia, Myanmar)	- Identify entry points (institutions, plans) for pilot demonstrations of the VES methodology - Apply/field-test the VES framework, tools and methods, including multi-stakeholder consultation, development of planning scenarios, and application of trajectory models (e.g., system dynamics) - Carry out trainings and awareness-raising for senior decision-makers - Develop capacity on remote sensing and GIS thematic modelling methods (on-the-job) for government technical staff and university staff - Integrate VES outputs into relevant EOC online platforms (library, map portal, statistics portal) - Support selected government agencies in integrating the VES method into their plans in advance - Identify opportunities to develop financing mechanisms for ecosystem services of high value

	concerned sector line agencies GMS area-based plans have ecosystem services, investment into natural capital, and climate change mitigation aspects built in		
Support sector planning	2013 Initial SEA awareness raised in energy sector in Cambodia and Lao PDR 2014 Environmental planning tools introduced and capacity built for energy sector 2015 Environment/ecosystems services values (cost-benefits) incorporated in national power/energy development plans	• At least 30 government officials, researchers and practitioners trained in SEA application in energy/power development plans • At least one institution/university in each county is capable of applying SEA in energy/power development plans • SEA of energy/power development plan conducted in at least two additional countries, energy mix and demand-supply optimization objective achieved	12. Facilitate broad stakeholder awareness-raising amongst high-level decision makers 13. Develop analytical framework/model to incorporate environmental cost-benefit in energy/power development processes 14. Support energy sector SEA guidelines 15. Facilitate dialogue to establish clear roles, responsibilities, and cooperation mechanisms among energy and environmental line agencies 16. Strengthen energy line agencies' capacity in modelling, scenario building, and impact assessment, and improve databases and capacity for their use 17. Improve environmental line agencies' capacity to appraise energy SEA

Subcomponent 1.2: Safeguards

The output of this subcomponent is 'improved application of environmental safeguards and enhanced compliance monitoring mechanisms'. CEP-BCI will achieve this output by building the capacity of environmental agencies to conduct environmental screening and EIA review, monitoring, and compliance. The program will also strengthen the capacity of sector line agencies to conduct project EIAs in line with national safeguard regulatory requirements. The building of safeguards capacity will extend to improving compliance with multilateral environmental agreements in the movement of wildlife, timber, and other natural resources.

Table 2: Activities, Milestones, and Indicators for Subcomponent 1.2

Activities	Milestones	Indicators	Scope
Strengthen country environmental safeguard systems	2013 GMS safeguards gap analysis completed, country-specific strengthening priorities identified Safeguards and monitoring capacity development plan and priority training commenced 2015 Technical support and capacity development resulting in greater equivalence, and harmonization of GMS country safeguards with good international practice	• Safeguards diagnostic report • Capacity development action plans in at least 4 GMS countries • EIA procedures, standards and guidelines developed in at least one country • At least four capacity development workshops completed • At least four safeguards-related training events delivered annually • Enhanced EIA regulations and supporting guidelines in place in at least two countries • Documented improvement in safeguards application at national and sub-national levels • Improved ADB country performance assessment (CPA) scoring for environmental safeguards	1. Conduct GMS country safeguards equivalence diagnostic study and prepare action plan 2. Support strengthening of country environmental safeguard systems in Cambodia and Myanmar, and enforcement and compliance monitoring capacity in Lao PDR, Myanmar and Viet Nam 3. Develop capacity (as identified in an action plan and responsive) for environmental safeguards application and compliance monitoring in Cambodia, Myanmar, and Viet Nam 4. Use rapid basin-wide hydropower sustainability assessment tool (RSAT) as a scoping tool in developing EIA and cumulative impact assessment guidelines for water sector development in Cambodia 5. Design and implement quantitative indicators to assess effectiveness of GMS country efforts to ensure compliance with pollution prevention and control regulation (tentatively in Lao PDR)
Strengthen application of safeguards in ADB-funded GMS projects	2015 Safeguards better integrated into planning and project implementation in targeted GMS countries and sectors Demonstration application of RSAT in support of water resources planning processes and cumulative impact assessments Improved safeguards and decision support tool application in land use planning (LUP) and decision making	• Demonstrated improved EIA and compliance monitoring in at least 3 countries • Incorporation of RSAT into Viet Nam river basin SEA guidelines • Application of RSAT in Myanmar river basins identified for potential ADB investment • Consistent application of safeguards and decision support tools in LUP processes in 1 or more countries	6. Support compliance monitoring and implementation of environmental management plans of selected ADB projects 7. Support development of SEA guidelines for river basin planning in Viet Nam 8. Support ADB in testing RSAT in selected river basins in Myanmar 9. Collaborate with regional institutions (e.g., USAID RDMA, ARREST) to strengthen compliance for multi-lateral agreements on forest and wildlife trade 10. GIS and safeguards support and capacity development for LUP in selected GMS countries

Subcomponent 1.3: Monitoring

The output of this subcomponent is ‘strengthened environmental monitoring processes’. CEP-BCI will achieve this by ensuring that databases and information systems in the GMS effectively support environmental performance monitoring and evaluation and are integrated into pre-planning decision making. Activities under this subcomponent will identify relevant data and indicators for tracking GMS as well as CEP-BCI performance. Statistical and geographic databases to capture and maintain monitoring data will support this work. The program will support the development of interactive tools and reporting formats, with the aim of efficiently sharing monitoring data with planners and decision-makers. The program will support GMS country capacity building, enabling countries to take over the maintenance of a regionally consistent and consolidated environmental monitoring and information system that serves both country and regional needs.

While Monitoring is nestled under Component 1, other program components, particularly Biodiversity Landscapes and Livelihoods, as well as Climate Change, will also engage in substantial data collection and production. Close coordination will ensure that all data generated under CEP-BCI is high quality and can be integrated with the database, dissemination tools, and reporting formats.

Table 3: Activities, Milestones, and Indicators for Subcomponent 1.3

Activities	Milestones	Indicators	Scope
Establish a GMS Environmental Information System (In coordination with Component 4.1)	2013 Transition from static program website to interactive knowledge portal completed 2014 CEP-BCI online knowledge portal enhanced with customization and analytical functions (custom factsheets, carbon emissions calculator, etc.) 2015 CEP-BCI online knowledge portal (EIS, etc.) recognized as a key resource center for development practitioners in the GMS	- Indicator portal receives at least 100 hits per month within 6 months from launch and at least 2,500 hits within the first 18 months (total) - At least 100 hits per month for GMS Interactive Atlas and DevMap - At least five EOC GIS data downloads per month and at least five external websites using WMS service within the first 18 months from launch - At least two new knowledge management/sharing tools developed and deployed that complement existing tools and strengthen the programs as a knowledge hub and information clearinghouse - EOC and NSU staff works on and shares key documents (internal) though cloud-based collaboration tool	- Review pros and cons of online collaboration and knowledge sharing mechanisms and tools (e.g., document library, blog, guestbook, wiki, GPS-based photo library, carbon calculator, EIA screening map tool) feasible for integration into EOC website - Integrate customizable factsheet function into indicator portal, allowing users to create custom GMS/country factsheets from whole EOC indicator database - Mobilize one national staff consultant to be stationed at ADB headquarters for maintaining DevMap dataset - Integrate GMS Map Portal into website (tools section), dedicated to distributing EOC spatial data (as JPEG maps, interactive maps, downloads and WMS service) - Review collaboration and backup tools and implement best option for EOC/NSU internal knowledge sharing and collaboration (e.g., Sharedrive, cloud) - Land allocation model software improved and made available freely through EOC website (including capacity building)
Strengthen subregional environmental monitoring systems	2013 EOC Environmental Information System contains enough quality data/indicators to satisfy most relevant national-level monitoring needs 2014 Environmental Information System databases maintained by NSUs (EOC quality control) 2015 National and ADB performance reporting documents make use of Environmental Information System data	- Five national/two provincial EPA reports and one subregional EPA synthesis report published and disseminated - One prefecture-level EPA report published and disseminated - At least 80 quality-checked DPSIR indicators available 'on demand' (combined national, landscape and site level) and updated on an annual basis - At least three new geographic layers of regional importance developed - All existing NSUs have 1 data support staff in place - At least two new EOC environmental reporting formats established,	- Carry out EPA at prefecture level in Xishuangbanna, PRC - EOC Statistical and GIS Analysts (GMS nationals) develop amended list of national and regional priority indicators - Identify and develop relevant and GMS-suitable environmental indices (e.g., EPI, ecological footprint) - Assess national data needs and review data sources for indicator and index development, including (i) quality of method, (ii) consistency of monitoring (assessed and published in regular and suitable periods at consistent quality), and (iii) data sharing restrictions - Identify geographic layers of regional importance (and not existing) and set up methods/implementation arrangement to develop and

		making use of and publicizing statistical and geographical databases (e.g., 'Environmental Performance Update', EPI or ecological footprint report) • At least ten external publications (reports, journal papers, conference presentations) make use of EOC data • EOC data used to support country performance assessment exercises in at least 3 GMS countries	maintain at least 3 of them (e.g., forest cover map, hydropower plants, province-level poverty map, hazard risk map) 12. Establish NSU monitoring capacity, including (i) IT infrastructure to store and retrieve statistical and geographical data, and (ii) staff (one Statistical and one GIS Analyst) collecting, preparing and feeding data into NSU and EOC database, and (iii) training 13. Engage with ADB country environmental analysis (CEA), country environment note (CEN), country program strategy (CPS) and CPA exercises
Establish biodiversity and socio-economic baseline in biodiversity corridors and landscapes (In coordination with Component 2.2)	2013 Site level monitoring system for Biodiversity Conservation Corridors Investment Program (BCC) and BCI in place 2014 BCC site progress monitored and published annually 2015 BCC site data included in provincial plans and safeguards	• Indicators of key drivers, pressures, state and responses identified for BCI/BCC sites in at least 3 GMS countries. • Ten key indicators on BCC sites online and maintained annually • At least 1 external publication (per site) makes use of site level monitoring data	14. Consult and agree with BCC implementing agencies/consulting firms on common list of BCC priority indicators 15. Set up of data format and reporting mechanism for BCC performance indicators between BCC, NSUs and EOC 16. Upgrade of EOC indicator portal user interface to accommodate indicators for additional geographical levels (landscape, site)

C. Implementation arrangements, budget and cost estimates

Implementation arrangements and component progress monitoring will align with the CEP-BCI Phase II Inception Report and RETA 7987 technical assistance paper. Table 4 shows cost estimates for the four components of CEP-BCI Phase II over the period 2012–2016 and the budget allocated for 2012–2013 work plan. Table 5 shows the estimated budget breakdown by subcomponent and activity, excluding ADB and EOC administrative costs.

Table 4: Budget Estimate by Components in \$'000

No.	Components	Amount (2012–2016)	%	Amount (2012–2013)	%
1	Environmental planning systems, methods, and safeguards improved	7,300	26	3,019	31
2	Management of trans-boundary biodiversity conservation landscapes and local livelihoods improved	4,700	17	1,758	18
3	Climate-resilient and low-carbon strategies developed	5,700	20	2,126	22
4	Institutions and financing for sustainable environmental management improved	6,800	24	1,917	19
	EOC Administrative Cost	2,200	8	652	7
	ADB Administrative Fee	1,400	5	415	4
Total		28,100	100	9,886	100

Source: CEP-BCI Phase II Inception Report, June 2012

Table 5: Budget Estimate by Subcomponent and Activity in \$'000

No.	Subcomponent/activity	Phasing (start date)	Estimate
1.1	Build sub-regional and national planning capacities		2,500
	• Economic assessment of natural capital (demand and supply) and valuation of ecosystem services	2012	500
	• Planning support (e.g., SEA, spatial decision support) to area-based plans ¹	2012	1,200
	• Planning support (e.g., SEA, spatial decision support) to regional master plan and sector development plans ²	2012	800
1.2	Capacity building for environmental safeguards		800
	• Development of environmental safeguards and compliance capacity	2012	800
1.3	Strengthen country environmental monitoring processes		1,200
	• GMS Environmental Information System	2012	800
	• Development and maintenance of performance indicators and indices for sub-regional and national level reporting ³	2012	400
	• Monitoring of biodiversity and socio-economic state and trends in biodiversity conservation corridors	2012	300
Total			4,500

¹ Combined with 'Support spatial development planning for management of ecosystem services' and changed from 'land-use plans' to 'area-based plans'

² Combined 'Planning support to power/energy development plans' and 'Planning support to GMS Program's Master Plan'

³ Development of Environmental Performance Index and follow up on EPA