

KINGDOM OF CAMBODIA

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## *Sustainable Landscape and Ecotourism Project (SLEPC) in Cambodia*

## *Environmental and Social Management Framework (ESMF)*

រៀបចំដោយ៖ ក្រសួងបរិស្ថាន និងក្រសួងអភិវឌ្ឍន៍ជនបទ  
រាជធានីភ្នំពេញថ្ងៃទី 12/13/2019

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## **ABRIVIATION**

CCM-TS	The Central Cardamom Mountains-Tonle Sap
CMTS	Cardamom Mountain-Tonle Sap
CPA	Community Protected Area
CSLEP	Cambodia Sustainable Landscape and Ecotourism Project
EA	Executing Agency
ECOP	Environmental Code of Practice
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
IA	Implementing Agency
IEIA	Initial Environmental Impact Assessment
GRM	Grievance Redress Mechanism
MoE	Ministry of Environment
MRD	Ministry of Rural Development
NPASMP	National Protected Area Strategic Management Plan
NTFP	Non-Timber Forest Products
POM	Project Operational Manual
PSC	Project Steering Committee
SLMP	Sustainable Landscape Management Plans
SME	Small and Medium Enterprise
RGC	Royal Government of Cambodia
RPF	Resettlement Policy Framework
WB	World Bank
UNDP	United Nations Development Programme

## 1. INTRODUCTION

The GEF Additional Financing (AF) would not affect any change in the parent project's development objectives and design. It would not trigger a new safeguard policy or change the environmental category of the parent project. The AF is not expected to expand to new areas not covered by the original project or requires new safeguard instruments. The GEF financed activities which largely focused on technical assistance. As a result, there would be no major additional risks beyond what have been identified as part of the parent IDA project (P165344). Therefore, the environmental and social safeguards instruments of the parent project (P165344) is valid for the AF.

The AF will also help to mitigate environmental risks by further strengthening forest governance in the Protected Areas. With the participation of the Recipient in the Global Wildlife Program, additional financial resources will enable MoE to increase the efficiency of the monitoring system of biodiversity and better interlink wildlife and biodiversity with ecotourism attractions. The project will also have access to better technological solutions for forest, biodiversity and wildlife monitoring and will be able to better interact with conservation Non-Government Organizations (NGOs) active in the Cardamom Mountains by engaging them in key natural resource management activities of the Project.

This Environmental and Social Management Framework (ESMF) is for the proposed Sustainable Landscape and Ecotourism Project (SLEPC) in Cambodia, and prepared by Ministry of Environment (MoE), and Ministry of Rural Development (MRD) for possible financing by the World Bank (WB).

The purpose of the Environmental and Social Management Framework (ESMF) is to ensure that CSLEP's activities are screened for any negative social and environmental impacts and mitigating measures are taken into account in activity design and implementation. In other words, the ESMF is designed to ensure the CSLEP's investments do not create or result in significant adverse impacts on local livelihoods and the environment, and that potential impacts are identified, avoided or at least minimized. In particular, the ESMF attempts to lay out screening processes and environmental and social guidelines aiming at:

- (a) Preventing and/or mitigating any environmental and social impact that may be resulting from the proposed activities,
- (b) Ensuring the long term environmental sustainability of benefits from proposed activities by securing the natural resource base on which they depend, and
- (c) Facilitating, in a pro-active manner, activities that can be expected to lead to increased efficiency in the use and improved management of natural resources resulting in the stabilization and/or improvements in local environmental quality and human well-being as well.

## 2. PROJECT OBJECTIVES AND COMPONENTS

### Proposed Development Objective

The Project Development Objective is to improve protected areas management, and to promote ecotourism opportunities and NTFP value chains in the Cardamom Mountains-Tonle Sap landscape.

The Additional Financing from GEF (proposed \$4.42 million) will further strengthening forest governance and adding resources to community-based economic development. Specifically, the client is requesting additional

financing for the Project to support better outcomes from component 1.2 (PA Landscape Planning, Management and Enforcement) and component 2.2 (Promotion of NTFP Value Chains) of the Project. The implementation arrangements and indicators from the Project will remain the same.

#### Key Results

- (i) Protected areas under improved management (hectares);
- (ii) Visitors in selected community-based ecotourism sites (number);
- (iii) Community groups with an increase of 1 or more on index of natural resources value addition (%);
- (iv) Share of female entrepreneurs in targeted communities with access to business development services (%); and
- (v) Targeted community satisfied with benefits from project (%)

#### Project Description

**Component 1. Strengthen Capacity for PAs Landscape Planning and Management** (*total estimated cost US\$6.79 million; to be fully financed by IDA Credit*).

1. Since the large forest areas have been transferred from MAFF to MoE, effective from April 2016,<sup>1</sup> overall good progress has been made in managing PAs, but challenges still remain to effectively manage them including: incomplete zoning of PAs; lack of MoE-approved management plans; inadequate capacities, specifically at the local level, among staff of MoE and PDoEs for PAs planning and law enforcement in PAs; inadequate system for data and information sharing to support PAs law enforcement; yet ineffective cross-Ministerial coordination; and an inadequate revenue management system for managing PAs revenues to provide sustainable finance for can support PAs management. This component will help address these issues through strategic investments in: information and decision support systems for PAs planning and management and that support PA law enforcement; strategy development, training, logistical support, and equipment for PA law enforcement; protected area zoning, boundary demarcation, and development of management plans; and the PAs revenue management model for Cambodia.

##### **Subcomponent 1.1: Information Systems and Decision Support (ISDS)**

2. The project will support development of an ISDS that will help bring together and analyze relevant information to support decision-making for the protection and management of PAs, and landscape planning in the CMTS.<sup>2</sup> The ISDS will be developed as a cloud-based geospatial platform that can integrate data and information that is critical for PA planning and management for example biodiversity, land use spatial information, and systematically organize information collected by PDoE, rangers and communities for e.g. patrolling reports, illegal activities, and observations) that will support better planning, coordinating and implementing PA enforcement. The ISDS is aligned with MoE's strategy for Geospatial Data and Information Management and will build on existing work supported by UNDP and WCS to develop a decision support system for zoning of PAs.<sup>3</sup> *In order to*

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<sup>1</sup> 2016 Sub-decree on the Transfer of Protected Forest, Forest Conservation and Production Forest Areas, and ELCs

<sup>2</sup> Support to spatial landscape planning in the CMTS is important given the dependence of rice fields in Pursat and Battambang provinces, and fisheries in the Tonle Sap lake on hydrological and sediment regulation ecosystem services provided by forests in the Cardamom Mountains.

<sup>3</sup> MoE, 2018. Strategy for Environmental Geospatial Data and Information Management of Ministry of Environment, 2018-2022.

support this component, MoE will establish an inter-sectoral working group for the ISDS, by DATE. The project will finance:

- i. Technical support for MoE to develop and implement the ISDS;
- ii. Hardware and software needed for implementation of ISDS; and
- iii. Training for MoE staff to operate and manage the ISDS, and for stakeholders (PDoE, communities, development partners; NGOs) to use the ISDS.

### **Subcomponent 1.2: PAs Landscape Planning, Management and Enforcement**

3. The Additional Financing from GEF for component 1.2 is to support PA Landscape Planning, Management and Enforcement.

4. **Protected Areas planning and management.** This project will support the RGC in developing PAs and PAs and CPAs management plans in close cooperation with subnational authorities, NGOs and local communities.<sup>4</sup> The Government's NPASMP includes a strategic objective on the development of PAs, which this subcomponent will support. *To support activities within this sub-component, the draft NPASMP will be finalized and approved by the MoE Minister.*

- (i) The project will support MoE in enhancing the guidelines for: (i) PAs zoning; (ii) developing CPAs management plans. To support this, MoE will also identify and request the additional budget needed for monitoring the implementation of PA and CPA management plans after they are developed (planned for 2020);
- (ii) The project will undertake different activities in the PAs of the CMTS to support zoning, PA management plan development, boundary demarcation, and land registration of PAs' zoned boundaries (Table 2). Specifically:
  - The project will support activities in different types of PAs – national protected areas, wildlife sanctuaries, multiple use areas and biodiversity conservation corridor. The PA Law provides guidance on the types of activities that are allowed in each PA, and therefore this has an influence on how these different types of PAs are zoned and managed.<sup>5</sup>
  - Zoning will be undertaken in all PAs of the CMTS except the Cardamom BCC.<sup>6</sup> A preliminary map of zones was developed as part of a joint exercise between Wildlife Alliance and MoE. This activity will build on the preliminary zone map, by integrating additional biophysical spatial information through the ISDS, and undertaking additional consultations with stakeholders in PAs. Wildlife Alliance and Conservation International are working in

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<sup>4</sup> The PA Law and Draft Environmental Code provide guidance on the types of plans that can constitute landscape plans in Cambodia. These include community PA plans, community forest area plans, commercial activity management plans and river basin plans.

<sup>5</sup> **National park:** A natural area in land and/or water territories, which is established to: Protect the area's role or roles in the ecosystem for the benefits of people of all generations; Limit the use that may harm or destroy biological resources, natural resources, cultural resources, and functions/roles of the area in relation to the objectives of the established area; Serve as bases for recreation, visits, education, research, and belief, provided that these activities do not cause threats to the natural environment and local culture.

**Wildlife Sanctuary:** An area in land and/or water territories, which requires active interventions for management purposes to ensure maintenance of habitats and/or to meet necessary conditions for any species of animals or plants.

**Multiple Use Area:** An area in land and/or water territories, which is rich in natural resources that are intact and require management activities to ensure long-term protection and maintenance of biological resources and ecosystem. In the meantime, it provides natural products and services for use to meet the community needs.

<sup>6</sup> BCCs are not zoned.



Southern Cardamom National Park, Central Cardamom National Park, and Tatai Wildlife Sanctuary, and have already held consultations with communities on zoning.

- PA management plans will be developed for Southern Cardamom National Park, Central Cardamom National Park, Phnom Sankos Wildlife Sanctuary, Phnom Aural Wildlife Sanctuary, Tatai Wildlife Sanctuary, Tonle Sap Multiple Use Area, and Cardamom BCC. These protected areas were selected for development of management plans for several strategic reasons: i) these protected areas together comprise 81% of the CMTS protected areas land area, and bringing these areas under MoE approved management plans will be a significant step towards improving management of PAs there; (ii) the work of development partners in these PAs have helped with the readiness of communities and stakeholders in these PAs for PA management planning.

**Table 2: Landscape Planning Activities Supported by the Project**

Targeted Protected Areas	Activity supported by the project			
	Zoning	PA Mgt. Plans	Boundary Demarcation	Land Registration
Central Cardamom	X	X		
Southern Cardamom	X	X		
Tatai	X	X	X	
Phnom Sankos	X	X	X	X
Phnom Aural	X	X	X	X
Cardamom BCC		X		
Tonle Sap Biosphere Multiple Use Area	X	X		
Other PAs in CMTS	X			

Notes:

1. X denotes activities that will be supported by the project for the PAs
2. Mgt. plan, boundary demarcation and land registration were prioritized for selected PAs based on discussions with the government and several non-government stakeholders including those that work in the CMTS.

- Boundary demarcation will be undertaken in Tatai, Phnom Sankos and Phnom Aural Wildlife Sanctuaries. MoE has prioritized these PAs for boundary demarcation given their importance as wildlife sanctuaries and the need to prevent encroachment, destruction and disturbance of habitats.
  - Land registration of zone boundaries will be undertaken in Phnom Sankos and Phnom Aural Wildlife Sanctuaries. MoE has prioritized land registration for these areas given the threats of land encroachment and habitat disturbance and destruction already experienced there.
- (iii) The project will also finance processes for zoning and management plan development for priority CPAs that are within the target PAs. A list including 34 CPAs in the target PAs has been compiled, and CPAs for project intervention will be determined based on their readiness. Criteria for readiness are drawn from MoE's 8-step CPA development process and will include: (i) CPA is established according to MoE CPA guidelines<sup>7</sup>; (ii) CPA has a management committee approved by the Commune Sangkat; and (iii) CPA has initiated boundary demarcation and by law development.

<sup>7</sup> MoE, 2017. Guideline on Procedure and Process for Community Protected Area Establishment.

- (iv) Project financing will support training for MoE, local government, rangers and other stakeholders on PA development, and development of the various plans, and on coordinating and monitoring the implementation of these plans.

5. **Protected areas enforcement.** The project will finance technical assistance (TA) to the RGC for developing and implementing a PA enforcement framework which will include the processes, roles and responsibilities, and institutional arrangements for PA enforcement. It will develop an overall law enforcement strategy that will guide and coordinated actions in all PAs, develop priorities and action plans. An accompanying toolkit will be developed and include guidance for: ranger patrolling; use of SMART approaches;<sup>8</sup> data gathering linked to the ISDS; collaborating with law enforcement including the judicial system; using drone, satellite, and remote sensing imagery and, telecommunications in forest monitoring.

6. The strategy and toolkit will be developed through a participatory process with government agencies, and NGO partners such as Wildlife Alliance (WA) and Conservation International (CI) that support ranger patrolling in CMTS. Equipment for forest patrolling and monitoring, and rehabilitation of ranger centers in CMTS will be supported by the project, as well as training of MoE, local government, forest communities, and other stakeholders on forest monitoring and enforcement, and support for logistical coordination by provincial government on law enforcement. To accompany this strengthening of PA enforcement, MoE will determine the number of additional rangers needed for each of the targeted PAs, and additional 2020 budget needed.

7. **Sustainable finance and revenue management:** Management of PAs are challenged by lack of adequate funding for planning, capacity development, monitoring and engagement with communities. Many activities are currently co-funded by international NGOs and other partners which is not a sustainable concept in the medium-term. The collection of ecotourism fees from tourists will contribute to the financial sustainability of the targeted PAs. Fees are currently applied for tourists visiting selected PAs (e.g. Kirirom PA), but there are not yet clear policies and guidelines on adequate fees, collection and management of revenues, and an agreement on the use of the fees of the resources. International best practice shows that benefit-sharing arrangements need to be developed to determine revenue allocations from tourism activities.

8. **Beyond tourism fees, the project will analyze several other financing opportunities** (Payment for Environmental Services – PES and REDD+) and will promote studies on valuation of hydrological ecosystem services in the context of natural accounting (WAVES). The Project will also enhance design and support the Environmental and Social Fund created by MoE.

9. The project will support the design and implementation of a financial management framework for the CMTS PAs. Specifically:

- i. Analytical work to support RGC to assess current practices of fee collection and handling, analyze different financial models, learn from best practice, and design an integrated financial management system for the Environmental and Social (E&S) Fund to receive and manage fees and other potential resources from REDD+ and PES;

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<sup>8</sup> Spatial Monitoring and Reporting Tool (SMART) is a suite of best practices aimed at helping PA and wildlife managers better monitor, evaluate, and adaptively manage patrolling activities. SMART is being used in selected PAs in Cambodia.

- ii. Convene multi-stakeholder discussions on financing mechanisms (such as PES, REDD+ and tourism fees). Valuation of hydrological ecosystem services, and in the CMTS is being undertaken with support from WAVES to prepare technical underpinning for PES;
- iii. Workshops and hands-on training for capacity development at the subnational and national levels to manage fee collection and management of benefit sharing.

**2. Strengthen Opportunities for Ecotourism and NTFP Value Chains** (*total estimated cost US\$16.75 million; to be fully financed by IDA Credit*).

10. This component aims to finance critical investments as well as to strengthen the enabling environment for expanding opportunities for ecotourism and NTFP value chains in Cambodia. A specific focus within this (and Component 3) will be to enhance and strengthen the enabling environment for private sector engagement, as well as invest in critical infrastructures (connectivity, visitor centers, etc.). The resulting improvements in governance, management and regulations relating to the target areas, coupled with investments in connectivity, ecotourism/NTFP infrastructure and value addition, are expected to stimulate private sector investments.

**Sub-Component 2.1: Strengthen Opportunities for Ecotourism Development**

11. **Central to optimizing Cambodia’s ecotourism potential is establishing linkages between the main tourism gateways** of Siem Reap and Phnom Penh to the natural asset base of the CMTS through a “hub-and-spoke” model of tourism development. The hub-and-spoke model, first, enhances access to and mobility in and around the urban centers, or hubs, and then develops the “spokes” — ecotourism sites closely linked to the hubs. This approach establishes new itineraries for tourists in a way that disperses tourism-related socioeconomic benefits to communities near ecotourism locations.

12. **Four “hubs” for ecotourism development have been identified through geospatial analysis and stakeholder consultation.** Geospatial analysis was used to determine spatial clusters of potential sites for ecotourism development, existing ecotourism development, community protected areas, and community groups. The four hubs identified are in Koh Kong, Siem Reap, Pursat and Kampong Speu. Initial criteria have been developed to help identify and prioritize ecotourism locations for potential financing from this project. These criteria include accessibility, attractiveness, land use/tenure, sensitivity of location, access to services, existing ecotourism sites, socioeconomic, market demand, biodiversity, and diversity of ecotourism offering.

*Improving Enabling Environment for Ecotourism*

13. TA will be provided to develop a framework for the improvement, coordination and formalization of existing ecotourism management contracts/ agreements and the creation of national guidelines and best practices, as well as to strengthen the enabling environment for small and medium enterprise (SME) growth. This will include support to assist the RGC to design clear and consistent “*ecotourism management agreement*” modalities, to help towards the finalization of MoE policy guidelines (*prakas*) for ecotourism development in PAs (expected to be approved by the Minister by December 2019) and then in its implementation. Effectively, the project will help RGC to apply these guidelines (including on management, monitoring, benefit sharing mechanisms etc.) in the various ecotourism sites (selected using standardized criteria) within PAs.

14. The project will also support the development of business development services (BDS) within the multi-use centers, which comprise of training and technical guidance on business development for ecotourism and NTFP value chain enterprises. These BDS will help fill gaps in entrepreneurial skills and business advice and will promote competitiveness among private sector and community ecotourism groups. The facilities will provide training on business development needs including market identification and marketing, product development and management, and will assist private sector and community groups in preparing robust business plans. The BDS will include targeted services for women entrepreneurs to encourage their participation in ecotourism and related value chains.

#### *Ecotourism Infrastructure*

15. This component will be used to finance investments related to *establishing/ rehabilitating ecotourism infrastructure* in the target landscapes. As ecotourism is an activity based on the natural environment, supporting infrastructure must be designed to minimize human impacts and be in harmony with the landscape. The type and extent of infrastructure will depend upon the area's natural and cultural attributes and sensitivity as well as the style of ecotourism encouraged. Facilities will vary according to the style of ecotourism desired and the land tenure. In each ecotourism "*hub and spoke*", potential activities will include developing: (i) appropriate parking facilities, food stalls, solid waste management, shops and kiosks selling handicrafts in the community adjacent to site, (ii) visitor information centers, (iii) walking trails, observation towers, boardwalks, interpretive displays as needed at the ecotourism sites.

16. For community-based ecotourism (CBET) sites, additional financing will be available for (i) community-managed lodging (eco-lodges), (ii) potential handicraft facility and related equipment; and (iii) other environmentally appropriate facilities around the site. Communities/ CPAs can also use funds for equipment (e.g. tents, radios), and information and advertisement products

17. Initial discussions have pointed to two potential ecotourism hub-and-spoke areas ---one at Siem Reap, and a second around Koh Kong. With Siem Reap as the hub, "spokes" would be developed/ enhanced to several nearby ecotourism sites --expanding the range of offerings that showcase the natural capital. These include areas such as the Prek Toal bird sanctuary, several sites within the Kulen Mountains National Park, and across and around the Tonle Sap. Potential investments include the following:

- Floating/ lake-side interpretation center with interactive displays relating to the history, ecology, lake biodiversity, communities and heritage of the Tonle Sap;
- Improvement of nearby ecotourism facilities (accommodation, catering, services).
- Improvement of lake circuits to visit floating villages, upgrading lake cruise facilities; and
- Development of trails between Siem Reap and Tonle Sap relating to specialized ecotourism such as mountain biking, photo-hunting, special interest visitors (bird-watching, wildlife);

18. In the Koh Kong Ecotourism Hub, several offerings will be extended into the Cardamom Mountains, including potential options for private sector managed ecotourism. Connectivity will also take advantage of a planned private international airport (Dara Sakor), to diversify current ecotourism attractions. Some examples include:

- Interactive center showcasing the biodiversity, ecosystems, communities of the Cardamom mountains;

- Upgrading/ improving shelters and demarcated trails for specialized ecotourism, such as mountain biking, for photo-hunting, and special interest visitors (bird-watching, wildlife);
- Facilities at ecotourism locations including parking, water and sanitation, handicraft and food stalls etc.
- Forest canopy walkways, viewpoints and observation stations; and
- Safety infrastructure at waterfalls and cliff/overlook-sites.

## **Component 2.2: Promotion of NTFP value chains**

19. The Additional Financing from GEF for component 2.2 (Promotion of NTFP Value Chains) of the Project. The implementation arrangements and indicators from the Project will remain the same. The development of NTFP value chains has potential for supporting sustainable income generation for local communities but must be well developed and managed to prevent over-exploitation and to create jobs and income in the project areas. Opportunities range from extraction of resins and rattan, collection of fruits, cardamom, medicine plants, processing of vegetable oils to sustainable management of agarwood and bamboo. Although, some products have interesting market perspectives, several policies or incentives are yet poorly designed (fees, export taxes, management plans or licenses) which are considered prohibitive for formal businesses to engage in NTFP at large scale.

20. Under Component 1, the project will support the CPAs and PAs management plans (including NTFP and restoration plans) which will help orient economic activities within community areas in the target PAs. Priority for project interventions will be those CPAs that are closely located to ecotourism activities. The project will prioritize policy reforms, enabling environment for SMEs and will work with different Ministries to promote a more comprehensive enabling environment for NTFPs in general, but will focus on a few more promising value chains over the lifetime of the project.

21. Bamboo and cardamom value chains in the CMTS have been identified through analysis as having potential for further development and scale-up. Each of these three value chains will require different strategies for their development and eventual management. The Cambodian government with the technical assistance support from the Bank, undertake in-depth analysis of bamboo and cardamom value chains to determine the investments needed, market linkages and development, capacity building and skills of communities' development for strengthening and scaling-up bamboo and cardamom value chains.

22. The project will also finance small-scale investments for activities related to sustainable harvesting, cultivation, processing and marketing of NTFPs with the overall objective to expand livelihood opportunities for local communities in the CPAs within the targeted PAs. Support will also be provided to enhance opportunities for the private sector in select value chains and increase the income-earning opportunities for communities participating in the value chains and linked to the ecotourism industry. The types of investments that will be promoted and supported include: provision of processing equipment (e.g. hand-powered equipment), development including rehabilitation of facilities (e.g. processing factories and storage) to meet sanitation standards and to be fit for purpose, and packaging/ branding equipment.

*Component 3: Connectivity and related Rural Infrastructure in Selected Areas (total estimated cost US\$23.86 million; to be fully financed by IDA Credit).*

23. Rural roads in Cambodia lack adequate all-weather road surfaces, width, and capacity, and they are not adequate to accommodate the growing need for goods and people transport. Over 80 percent of rural roads in Cambodia are still receiving laterite or gravel surface covers, causing significant problems during the wet season due to road deformation and destruction as well as high operation and management costs and during dry season due to major dust development.

24. Extending ecotourism opportunities in the CMTS will require enhancing connectivity infrastructure to allow for an increase in visitor numbers from the identified gateways. These improvements are aimed at increased, sustainable visitor volume and reduced seasonality due to all-weather access. Specific investments may include the rehabilitation of rural roads and other related rural infrastructure to help in the development of ecotourism corridors, and linkages with main markets.

25. By adding last-mile access and support infrastructure, visitors will be offered public domain facilities that enable an appreciation of the destination. Combined with branded signage, this will help create a sense of place and comprises the (free) public domain side of a destination. The project will finance the upgrading and rehabilitation of select rural roads to all-season and climate resilient standards; road signage; and small-scale sanitation infrastructure. Cost-effective road design will be used, identifying where all-weather access is needed for the most critical road stretches, while less critical links will be sealed with concrete, accepting that they may be inundated for a few weeks each year but will not be washed away. Opportunities will also be explored to use the rural road network to strengthen flood control measures, by enhancing drainage canals and culverts and possibly raising the road levels to use as embankments. Sound engineering designs, sufficient drainage, and greening approaches will be applied to enhance the resilience of the road structures in these specific prioritized locations.

*Component 4. Project Management, Coordination, Monitoring and Evaluation (total estimated cost US\$5.76 million; US\$3.26 to be financed by IDA Credit).*

26. MoE will be the main executing agency for implementation of all three components and overall project management/coordination arrangements. MoE will closely cooperate with the Ministry of Rural Development (MRD) as implementing partner that will take responsibility for the construction of rural access roads infrastructure. Support will be provided establishing a MoE-led project coordination and implementation unit. A high-level Steering Committee will be formed to advise on and deal with emerging cross-sectoral issues. Details are elaborated in the Project Implementation Manual (PIM).

27. Component 4 will support overall project management through: (a) providing necessary key contract staff and consultants in the coordination and implementation unit to assist MoE in managing project implementation; (b) monitoring and evaluation (M&E) of project implementation; and (c) consultant and advisory services to support project implementation and capacity building of MoE and other key stakeholders.

*Component 5: Contingent Emergency Response (US\$0 million)*

28. The objective of the contingent emergency response component, with a provisional zero allocation, is to allow for the reallocation of financing to provide immediate response to an eligible crisis or emergency, when/if needed. An Emergency Response Manual (ERM) will be developed for activities under this component, detailing streamlined FM, procurement, safeguard, and any other necessary implementation arrangements. In the event the component is triggered, the Results

Framework will be revised through formal restructuring to include appropriate indicators related to the emergency response activities.

## Implementation

### Institutional and Implementation Arrangements

29. **Institutional Arrangements.** The project will be implemented over a period of six years. Institutional arrangements for implementation will follow the Government's institutional structure, with MoE in the lead as the executing agency (EA), and including MRD as an implementing agency (IA) for the related public infrastructure support under component 3. Memorandums of Understanding (MoUs) with specific departments within MoE and MRD responsible for implementing subcomponents will ensure clarity on roles and responsibilities (see Annex 1, Table 5). The EA and IA will establish their respective project implementation teams (PITs) with experts and expertise from direct and relevant technical, administration, environmental and social safeguards, procurement and finance departments. Strategic direction and guidance for the management and operation of the project will be provided by a high-level Project Steering Committee (PSC), chaired by MoE. Roles, responsibilities, and procedures are detailed in the Project Implementation Manual (PIM).

30. *Subnational levels* of government will be supported and engaged through the national line ministries for MoE and MRD, where relevant. Provincial staff of line departments will ensure coordination at the subnational level and are responsible for main field level monitoring activities. Support for their technical assignments will come from relevant Project Teams in MoE and MRD; no project investments will go directly to any subnational institutions or authorities. Where, and if necessary, they will be supported through TA/capacity building to facilitate and strengthen smooth project implementation.

31. **Project Coordination Office (PCO).** A Project Implementation Team (PIT) will be responsible for the overall coordination of project implementation, external communication, including the agreed reporting to World Bank. The PCO will be led by a Coordinator from MoE, with senior officials assigned from MRD as members of the Team. The PCO will also include members from the main technical units involved in project implementation, including senior staff responsible for financial management, procurement, M&E and communication. Consultants and contract staff could, where and when needed, fill capacity gaps on the Team. The PCO will be physically located in MoE. However, as the project is implemented through the existing government (MoE, MRD) structure, including the line departments of IA and EA, the PCO staffing will be limited in number but with efficient and effective personnel. The PCO will work under direct guidance of the Project Director appointed by MoE.

## 3. NATIONAL LEGAL FRAMEWORK VS WORLD BANK'S SAFEGUARD POLICIES

This section describes relevant requirements in the country regarding the environmental and social management and the Bank Safeguards Policies applicable for the project and subprojects, and the analysis of gaps between the government requirements and the Bank policy requirements and measures to complete the gaps.

### 3.1 National Laws and Legal Instruments



This section describes national laws, degrees, circulars, decisions, and legal instruments and technical standards relevant to the project. It is very important that the sectoral environmental and social legal instruments (e.g. energy, rural, construction, health, ...) relevant to the project are covered in this section.

In general, the environmental management is under the responsibility of the Ministry of Environment which was established in 1993. The Ministry of Environment is responsible for implementation of the Law on Environmental Protection and Natural Resources Management. At the capital and provincial levels, there are capital and provincial Departments of Environment serving as an assisting body of the Ministry of Environment. These departments are responsible for enforcement of environmental laws under the jurisdiction of the Ministry of Environment. However, day-to-day operation of these departments are under direct supervision of provincial authorities.

The legal framework requires the Initial Environmental Impact Assessment (IEIA) or Environmental Impact Assessment (EIA) based on type and activities and location of the project (Sub-decree on the Initial Environmental Impact Assessment or the Environmental Impact Assessment Process (Article 1 and 2 of Sub-decree on the Initial Environmental Impact Assessment or the Environmental Impact Assessment Process) to be done for all private or public projects and to be reviewed by the Ministry of Environment before submitting to the government for the final decision. All proposed activities and existing activities shall meet these requirements. Prakas on General Guidance No. 376 on the Sub-decree on the Initial/Full Environmental Impact Assessment Process was currently signed and put into effect by the Minister of Environment on September 02, 2008. This guidance document is aimed to implement the Initial Environmental Impact Assessment (IEIA), the Environmental Impact Assessment (EIA) and to provide general guidance and checklist. All projects require an Initial Environmental Impact Assessment or Environmental Impact Assessment based on type and activities and location of the project of the project (Article 1 and 2 of Sub-decree on the Initial Environmental Impact Assessment or the Environmental Impact Assessment Process). The Ministry of Environment is responsible for the Environmental Impact Assessment report review, required follow-up, and monitoring.

### **3.1.1 The Constitution of the Kingdom of Cambodia**

The Constitution of the Kingdom of Cambodia was promulgated by Royal Kram dated September 24, 1993 and was amended 7 times (1st: dated July 14, 1994; 2nd: promulgated by Royal Kram No. NSRKM/0399/01 dated March 08, 1999; 3rd: promulgated by Royal Kram No. NSRKM/0701/11 dated July 28, 2001; 4th: promulgated by Royal Kram No. NSRKM 0605/018 dated June 19, 2005; 5th: the supplementary Constitution promulgated by Royal Kram No. NSRKM/0704/001 dated July 13, 2004; 6th: promulgated by Royal Kram No. NSRKM /0306/006 dated March 09, 2006; 7th: promulgated by Royal Krom No. NSRKM/0208/008 dated February 13, 2008).

#### **Article 58**

State property notably consists of land, underground, mountains, sea, sea-bed, undersea-bed, coastline, airspace, islands, rivers, canals, streams, lakes, forests, natural resources, economic and cultural centers, national defense bases, other building facilities belonging to the State. The administration, the utilization and the assignment of State's properties shall be determined by the law.

#### **Article 59**

The State shall preserve and protect the environment and the balance of natural resources, by organizing a precise planning for the management, especially of the land, water, atmosphere, air,



geology, ecological systems, mines, energy, petroleum and gas, rocks, sand, gems, forests and forest by-products, wildlife, fish and aquatic resources.

#### **Article 61**

The State shall promote economic development in all fields, especially in agriculture, handicraft, industry, to begin with the remotest areas, with concern for water policy, electricity, roads and means of transportation, modern techniques and credit system.

### **3.1.2 Law on Environmental Protection and Natural Resources Management**

Law on Environmental Protection and Natural Resources Management was enacted by the National Assembly and promulgated by Royal Kram NSRKM 1296/36. This law was enacted on November 18, 1996. The purposes of this law are:

- a) to protect and promote environmental quality and public health through the prevention, reduction, and control of pollution;
- b) to assess the environmental impact of all proposed projects prior to the issuance of a decision by the Royal Government;
- c) to ensure the rational and sustainable conservation, development, management, and use of the natural resources of the Kingdom of Cambodia;
- d) to encourage and enable the public to participate in environmental protection and natural resource management.
- e) to suppress any acts that cause harm to the environment.

Under this law, developers or project proponents are required to prepare an IEIA or EIA report for the proposed or existing development project.

### **3.1.3 Law on Forestry (2002)**

Law on Forestry was officially promulgated by Royal Kram No. NSRKM/0802//016 dated August 31, 2002.

#### **Article 1**

This law defines the framework for management, harvesting, use, development and conservation of the forests in the Kingdom of Cambodia. The objective of this law is to ensure the sustainable management of these forests for their social, economic and environmental benefits, including conservation of biological diversity and cultural heritage.

#### **Article 2**

This law has extent of application to all forests, whether natural or planted. The State ensures customary user rights of forest products & by-products for local communities and as further provided in the provision of this Law or other relevant laws.

#### **Article 3**

The management of forests is under the general jurisdiction of the Ministry of Agriculture, Forestry, and Fisheries. The management of flooded forest is under a separate law. The State delegates management of protected areas to the Ministry of Environment as provisions stated in the Environmental Protection and Natural Resources Management Law of 24th December 1996 and the Royal Decree on the establishment and designation of Natural Protected areas on 1st November, 1993 and other legislations. The Ministry of Agriculture, Forestry and Fisheries has the authorization to cooperate with the Ministry of Environment, according to the provisions stated in chapter 14 of this law, on enforcement activities for all forest offenses that occur within protected areas. However, such

activities shall not affect the management jurisdiction of Ministry of Environment as provided by the Environmental Protection and Natural Resources Management Law.

#### **Article 4**

This law shall be implemented to ensure public participation in any government decision that has the potential for heavy impact on concerned general citizens, livelihoods of local communities and forest resources of the Kingdom of Cambodia. Consistent with the Cambodian code of forest management and the Environmental Protection and Natural Resources Law, an Environmental and Social Impact Assessment shall be prepared for any major forest ecosystem related activity that may cause adverse impact on society and environment. Document of the Environmental and Social Impact Assessment shall be made available for public comment. Any final decisions by the Royal Government on major forest ecosystems related activities must consider the recommendations of the final Environmental and Social Impact Assessment. The Royal Government can publicly notice any final decisions under this article.

#### **Article 31**

The clearing of forestland for the purpose of public road construction in the Permanent Forest Reserves shall be prohibited, unless approved by the Royal Government, upon request of the Ministry of Public Works and Transport after consultation with Ministry of Agriculture, Forestry and Fisheries. The clearing of forestland for the purpose of construction of forest road in the Permanent Forest Reserves shall be prohibited, unless approved by the Minister of Ministry of Agriculture, Forestry and Fisheries, upon request of the head of the Forestry Administration. All projects for public and forest road construction within the Permanent Forest Reserves shall be subject to consultation with local authorities and communities and an Environmental & Social Impact Assessment pursuant to Article 4 of this law.

New settlement along public or forest roads in the Permanent Forest Reserve shall be prohibited unless the permission of the Royal Government of Cambodia.

#### **Article 35**

In addition to other laws concerned, quarrying, soil and sand excavation, mining, and other natural resources extraction, conducted within the Permanent Forest Reserves, shall require a prior study-evaluation from the Ministry of Agriculture, Forestry and Fisheries, authorization by the Royal Government of Cambodia, and be in compliance with Article 4 of this law. Such authorization shall state the protection and restoration measures of the site for quarrying, soil and sand excavation, mining, and other natural resources extraction, whereby the holder of such rights shall be responsible to:

- Avoid causing or aggravating soil erosion, damage to growing vegetations, damage to the hydrologic systems and the quality of water;
- After project completion, to restore the site of quarrying, soil and sand excavation, mining, or other natural resources extraction, to their original state within the time frame set by the permit.

#### **Article 54**

Forest Products & By-products that are harvested shall be assessed for quality and quantity by the Forestry Administration official at the log landing within the annual forest coupe, prior to transport from the forest. The assessment of the quantity and quality of the Forest Products & By-products shall be recorded in the “Book A” with the approval of the Head of the Forestry Administration.

#### **Article 55**

Royalties and premiums shall be paid for all Forest Products & By-products all recorded in the “Book A”. The rules for payment and receipt of revenues from royalties on Forest Products & By-products shall be determined by a joint-Prakas between Ministry of Agriculture, Forestry and Fisheries and the Ministry of Economy and Finance.

### **3.1.4 Law on Protection of Cultural Heritage (1996)**

Law on Protection of Cultural Heritage was officially enacted and promulgated on January 25, 1996. Some Articles relevant to this report include as follows:

#### **Article 1**

The purpose of this law is to protect national cultural heritage and cultural property in general against illegal destruction, modification, alteration, excavation, alienation, exportation or importation.

#### **Article 2**

The national cultural heritage comprises cultural property created or discovered on national territory.

#### **Article 3**

This law shall apply to movable and immovable cultural property, whether publicly or privately owned, whose protection is in the public interest.

Except as otherwise provided elsewhere in this law, it shall apply only to cultural property that forms part of the national cultural heritage.

#### **Article 4**

For the purposes of this law, cultural property is considered to be any work produced by human agency and any natural phenomenon of a scientific, historic, artistic or religious nature which bears witness to a certain stage in the development of a civilization or of the natural world and whose protection is in the public interest.

#### **Article 37**

When construction work or any other activity bring to light cultural property such as monuments, ruins, ancient objects, remains of inhabited sites, ancient burial sites, engravings or any property likely to be of interest in the study of prehistory, history, archaeology, ethnology, paleontology or other branches of science dealing with the past or of human sciences in general, the person finding the property and the owner of the site where it was discovered are obliged to stop the construction work and immediately make a declaration to the local police, who shall transmit it to the Governor of the province without delay. The Governor shall in turn inform the competent authority and shall take the measures necessary to ensure the protection of the objects and the site.

#### **Article 39**

Movable cultural property found by chance is public property. The competent authority shall provide within three weeks a reward to the finder of the discovery, the amount of which is to be fixed by agreement or by expert opinion.

#### **Section 8: Archaeological Excavations**

#### **Article 40**

No one may carry out excavations or surveys, on land or under water, for the purpose of bringing to light cultural property likely to be of relevance to the study of prehistory, history, archaeology, ethnology, paleontology or other branches of science dealing with the past or of human sciences in general, without the prior authorization of the competent authority.

#### **Article 46**

The competent authority may authorize excavations on privately owned land, after prior notification to the owner. An inventory of the site approved by all parties must be made at the beginning of the excavator’s occupation of the site. The excavator may occupy the site for a renewable period of two years.

#### **Article 47**

The owner of land covered by Article 46 shall be entitled to return to the site, and to compensation for deprivation of use of the land and for damage caused if any.

### **3.1.5 Law on Road Traffic (2006)**

Law on Road Traffic was officially promulgated on April 11, 2014. Some Articles relevant to this report include as follows:

#### **Article 1**

This law is intended to manage and develop road infrastructure and to ensure traffic safety in the Kingdom of Cambodia.

#### **Article 2**

This law has the following objectives:

- to protect public properties, protect and promote road quality, and maintaining order to facilitate travel and road transport;
- to identify policies, strategies, and development plans for construction, reparation, and maintenance of road structure, as well as rules and regulations;
- to promote and encourage private sector to participate in the construction, reparation, maintenance, and development of road infrastructure;
- to encourage technical research and transfer of new technologies to the development of road infrastructure in the Kingdom of Cambodia;
- to develop human resources in the area of road infrastructure in the Kingdom of Cambodia.

#### **Article 3**

This law applies to all activities related to road infrastructure in the Kingdom of Cambodia.

#### **Article 24**

Road users and those involved in all roads shall comply with the provisions as stipulated in this law and the Law on Road Traffic.

This law shall be preceded in a case where any provision of the Law on Land Traffic is inconsistent with the provisions of this law.

#### **Article 25**

Users of trucking vehicles on road shall comply with the load limit as stated in Article 26 of this law and shall the weight of the vehicle shall be checked at each vehicle weighing station located on each road network and complied with technical standards for road size limit.

The technical standards for the road size limit shall be determined by Prakas of the Minister of Public Works and Transport and Prakas by the Minister of Rural Development.

#### **Article 26**

Maximum trucking weight on the road network including as follows:

1. On highways, national roads, provincial roads, municipal roads, city roads, urban roads in provinces and rural roads shall be implemented as follows:

A. Maximum weight on vehicle axle shafts shall be limited to:

- 6 (six) tons for a single axle shaft with 2 (two) wheels at the steering part;
- 11 (eleven) tons for a twin axle shaft with 4 (four) wheels at the steering part;
- 10 (ten) tons for a single axle shaft with 4 (four) with wheels;
- 19 (nineteen) tons for a twin axle shaft with 8 (eight) wheels;
- 24 (twenty four) tons for three near axle shafts with 12 (twelve) wheels.

B. Maximum permitted weight of vehicles shall be limited to:

- 16 (sixteen) tons for vehicles with 2 (two) axle shafts, in which the front single axle shaft includes 2 (two) wheels and the back single axle shaft includes 4 (four) wheels;
- 25 (twenty five) tons for vehicles with 3 (three) axle shafts, in which the front single axle shaft includes 2 (two) wheels and the back twin axle shaft includes 8 (eight) wheels;
- 30 (thirty) tons for vehicles with 4 (four) axle shafts, in which the front twin axle shaft includes

4 (four) wheels and the back twin axle shaft includes 8 (eight) wheels;

C. Maximum permitted weight of trailer vehicles shall be limited to:

- 35 (thirty five) tons for trailer vehicles with 4 (four) axle shafts, in which the front single axle shaft of the vehicles includes 2 (two) wheels, the back single axle shaft of the vehicles include 4 (four) wheels, and the back single axle shaft of the trailer includes 5 (five) axle shafts or more;
- 40 (forty) tons for trailer vehicles with 5 (five) axle shafts.

D. Maximum permitted weight of semi-trailer vehicles shall be limited to:

- 35 (thirty five) tons for semi-trailer vehicles with 4 (four) axle shafts, in which the front single axle shaft include 2 (two) wheels, the back single axle shaft include 4 (four) wheels, and the back twin axle shaft includes 8 (eight) wheels;
- 40 (forty) tons for semi-trailer vehicles with 5 (five) axle shafts.

Any weight of vehicles and trailers or semi-trailers that are not mentioned above shall requires a special permit from the Road Management Authority.

2. All weight applied to the vehicle axle shaft ax as stated in the first point above shall have a pressure on the surface of the road not exceeding 5 (five) kilograms/cm<sup>2</sup>.

#### **Article 27**

Road users when arriving at any ferry or high elevation road or road requiring high precaution shall comply with the order of the ferry agents or the safety agents at the target points.

Regulations on use of the ferry or high elevation road or road requiring high precaution shall be determined by Prakas of the Minister of Public Works and Transport and Prakas of the Minister of Rural Development.

#### **Article 28**

Organizing activities including cultural activities, sports, exhibitions, exhibitions, and other road ceremonies are subject to the following guidance:

1. The organizers shall submit a Road Use Application, enclosed with a traffic safety project to the sub-national administration. These activities may be carried out after obtaining permission from the sub-national administration based on levels of ceremonies and as necessary.

2. The sub-national administration shall disseminate information on road closure projects in a timely manner and take measures to protect traffic order and safety properly.

3. The sub-national administration shall cooperate with the organizers to administer urgent tasks and ensure the traffic safety.

The formality and procedure for the use of roads shall be determined by inter-ministerial Prakas between the Minister of Interior and the Minister of Public Works and Transport or inter-ministerial Prakas between the Minister of Interior and the Minister of Rural Development.

#### **Article 29**

The use of roads and other activities related to roads in the Capital, cities, and urban areas shall be implemented as follows:

A. Sidewalks and crosswalks shall be used only for purpose of pedestrian traffic.

B. Sidewalks and crosswalks may be used for other purposes in accordance with the provisions of Article 28 of this law.

C. The following activities shall not be carried out:

- Improper parking on roads, sidewalks, and crosswalk;
- Constructing a cross barrier or acceleration or similar objects on the roads without permission.
- Carrying out other activities contrary to this law.

#### **Article 48**

Penalties for violations of this law include written warning, revocation or withdrawal or suspension of certificates or licenses, transitional fines, monetary fines, and imprisonment.

**Article 62**

Any person who fails to comply with the order of the safety agents at the target points as stipulated in Article 27 of this law shall be subject to a fine of 10,000 (ten thousand) riels.

**3.1.6 Environmental Impact Assessment Sub-decree (1999)**

According to the World Bank ‘s 2018 Advisory Services and Analytics (P164300), Environmental Impact Assessment (EIA) Sub-decree (1999) and supporting guidelines developed in 2005, 2009, and 2017 include detailed provisions on the requirements, processes and institutional roles and responsibilities for conducting environmental and social (E&S) assessments.<sup>9</sup> Since 1999, Cambodia has had the EIA Sub-decree in place. This Sub-decree requires an EIA to be conducted for “every private and public project or activity,” reviewed by the Ministry of Environment (MoE), and submitted for a decision to the Royal Government, “except a special case, where a project will be approved by the Royal Government.” Specifically, the EIA Sub-decree details the institutional responsibilities of the MoE and Provisional Departments of Environment (PDoE), procedures for reviewing and approving projects, and general penalties for non-compliance. It also promotes public participation and calls for project owners to develop an environmental management plan (EMP). Project proponents can comply with this law by completing either an Initial EIA or a full EIA, with Article 8 stating that only projects that “cause a serious impact” require a full EIA.

Sub-Decree No. 72 ANRK.BK on Environmental Impact Assessment Process dated August 1999. Key relevant Articles include as follows: The objectives of this Sub-Decree are:

- To determine an Environmental Impact Assessment (EIA) upon every private and public project or activity, and it shall be reviewed by the Ministry of Environment (MoE), prior to the submission for a decision from the Royal Government;
- To determine the type and size of the proposed project(s) and activities, including existing and ongoing activities in both private and public prior to undertaking the process of EIA;
- Encourage public participation in the implementation of EIA process and take into account of their conceptual input and suggestion for re-consideration prior to the implementation of any project.

**The General Guidelines for Preparing Initial and Full EIA Reports (2009) provides a table for evaluating minimal, moderate, and serious impacts; however, definitions or criteria for determining these levels of impact are absent in these Guidelines.**<sup>10</sup> The 2009 Guidelines do help to clarify the assessment review and approval process. In addition to setting the 30-day duration and mapping the steps required by responsible institutions (Figure 1), the Guidelines also list the specific content required in EIA reports,

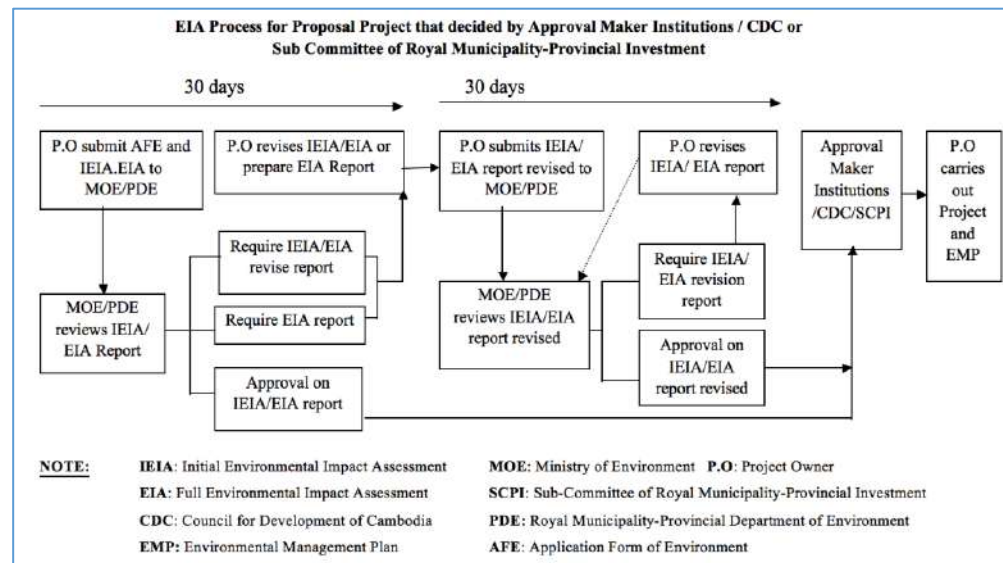
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<sup>9</sup> The EIA Sub-decree (1999) expands upon and further clarifies the provision in the 1994 Law on Investment that requires approval from the Council of Ministers for any investment project involving “possible negative impact on the environment.” A similar provision on conducting, reviewing and submitting EIAs to the Government was also included in the prior 1996 Law on Environmental Protection and Natural Resource Management—“An EIA shall be carried out on every project and activity of either private or public and shall be examined and evaluated by the MoE before it is submitted to the RGC for decision.”

<sup>10</sup> The table in Annex 2 of in the EIA Guidelines (2009) covers physical and biological natural environmental resources as well as socio-economic resources across three stages (pre-operation, operation, closure).

including a checklist of environmental<sup>11</sup> and socio-economic<sup>12</sup> impacts to analyze and a chapter on public participation.<sup>13</sup>

**Figure 1. EIA Review and Approval Process, Steps, and Responsible Institutions**



Source: EIA General Guideline for Preparing Initial and Full EIA Reports (2009).

According to a review by Sam Chanthy at AIT Thailand (2015), the Sub-Decree No. 72 ANRK.BK on Environmental Impact Assessment and the **General Guidelines for Preparing Initial and Full EIA Reports (2009)** merely mention the need for consultants, but do not characterise which entities are qualified to provide professional assessment services to clients. The ordinance under the leadership of the new Minister for Environment invited existing firms to reapply for their licences, and these were to be valid for five years.

### 3.1.6 Other Relevant Sub-Decrees

#### ➤ Sub-Decree on Water Pollution Control

Sub-Decree No. 27 ANRK.BK on Water Pollution Control was dated April 06, 1999. The purpose of this Sub-Decree is to regulate the water pollution control in order to prevent and reduce the water pollution of the public water areas to ensure the protection of human health and the conservation of biodiversity (Article 1).

- This Sub-Decree applies to all sources of pollution and all activities that cause pollution of the public water areas (Article 2). This Sub-Decree stipulate type of the pollution

<sup>11</sup> Forests (area, species, classification), fauna (rare and endangered species, migration), biodiversity, habitats, wetlands, soil, mineral resources, weather (temperature, rainfall, air speed and direction, air pressure, humidity), air quality, noise and vibration, hydrology (quality and quantity of surface and ground water, water current and flow).

<sup>12</sup> Land use, water use, energy use, education, public health, cultural heritage (historical buildings, ancient temples, pagodas, customs/traditions, ethnic minorities, indigenous people, etc.), economic status (employment and income, primary and secondary), infrastructure system, demography and settlement, tourism area.

<sup>13</sup> In this chapter, project owners shall provide a description of public consultation on: (i) Dissemination for authorities and local communities about development projects; (ii) Commentaries from relevant ministries/institutions/ departments and local authorities; (iii) Commentaries from relevant NGOs; and (iv) Local people consultation.



sources, waste discharges standards, water quality standards in other areas. For this project, some water quality standards for public water areas shall be applied.

- Sub-Decree on Solid Waste Management
  - Sub-Decree No. 36 ANRK.BK on Solid Waste Management was dated April 27, 1999. The purpose of this Sub-Decree is to regulate solid waste management with proper technical manner and safe way to ensure the protection of human health and the conservation of biodiversity.
  - This Sub-Decree applies to all activities related to disposal, storage, collection, transport, recycling, dumping of garbage and hazardous waste.
- Sub-Decree on Air Pollution Control and Noise Disturbance
  - Sub-Decree No. 42 ANRK.BK on Air Pollution Control and Noise Disturbance was dated on July 10, 2000. This Sub-Decree has a purpose to protect the environment quality and public health from air pollution and noise pollution through monitoring, curb, and mitigation activities. This Sub-Decree applies to all movable sources and immovable sources of air and noise pollution.

### **3.2 The World Bank's Safeguard Policy to be Applied**

*The project triggers the following safeguards policies:*

***Environmental Assessment (OP/BP 4.01)*** is ***triggered*** resulting from the World Bank interim guidelines on safeguards for technical assistance (2016) and potentially site-specific, reversible and localized impacts of small-scale ecotourism activities. Thus, the project is classified in category B although the Project location (s) are not yet pre-determined. Since the project is in Category B, any category A sub-projects are not expected and should not be eligible for project financing unless the project has been restructured to Category A.

***Natural Habitats (OP / BP 4.04)*** is triggered as the project will involve activities in two project area corridors. Given the fact that the ecosystems in the two project areas must be protected, it should be ensured that they don't come under increased threat landscape planning and eco-tourism activities. Adherence to the policy will ensure that the development of an ecotourism is in compliance with the objectives of protecting natural habitats.

***Forests (OP / BP 4.36)*** is triggered as the project will invest in technical assistance activities for landscape, and forest resource management and eco-tourism business planning in protected areas. The project would not cause, nor facilitate, any significant loss or damage to forest. The project-ESMF has been prepared to ensure that appropriate measures are taken to protect the remaining forest cover by limiting interventions to land that is already under the usages of land and natural assets and preventing any encroachment in adjacent forest and community protected areas. Adherence to the policy will ensure that the development of an eco-tourism business plan is in compliance with the forest policy objectives.

***Physical Cultural Resources (OP / BP 4.11)*** is triggered as a “precautionary” measure. Preliminary assessment has not brought to light any feature of archeological, or cultural importance in selected landscapes. A chance-find procedure under Environmental Code of Practice ((ECOP) or environmental protection agreement of MOE) is integrated in the ESMF.

The project would also apply the World Bank Group's Environmental, Health, and Safety



Guidelines<sup>14</sup> (called "EHS Guidelines"). The EHS Guidelines are technical references that show examples of general and specific good international industrial practices. The EHS Guidelines provide information on performance levels and measures that are usually acceptable to the World Bank and generally considered to be achieved in the new resettlement at appropriate cost, using the existing technology. The environmental assessment process may provide recommendations on limits or other measures (possibly higher or lower) and if acceptable to the World Bank, they will become requirements for a project or for a specific site.

**Involuntary Resettlement (OP/BP 4.12) and Indigenous Peoples (OP/BP 4.10)** are applied and the implementing agencies have separately prepared social safeguards frameworks: IPPF/EMPF, RPF and Process Framework. A brief description of these frameworks is shown in the Box below.

***Ethnic Minority Planning Framework (EMPF)\*:*** The Policy on Indigenous Peoples (OP/BP 4.10) is prepared to ensure that the process of development fully respects the dignity, human rights, economy, and culture of indigenous peoples. When the World Bank's preliminary examination shows that ethnic groups are likely to be present or have a collective relationship with the project area but their presence or collective relationship is unmanageable until the determination of the program or sub-project, the borrower shall prepare the EMPF prior to the evaluation. These measures need to be defined in the designated Ethnic Minority Development Plan (EMDP). EMDP should be a part of or should be included in the project application. In any case, there shall be an acceptable EMDP preparation before the final approval on the sub-project and the implementation of the sub-projects.

***Resettlement Policy Framework (RPF)\*\*:*** The Policy on Involuntary Resettlement (OP/BP 4.12) aims to prevent long-term severity, falling into poverty, and environmental harm of affected communities during the involuntary resettlement. When a project requires land acquisition or changes in access to resources due to the project, such policy shall be applied. The Bank's policy requires a policy framework to address impacts/resettlement and the borrower shall submit this framework prior to the evaluation in accordance with this policy. The Resettlement Policy Framework aims to clarify the principles of resettlement, institutional arrangements, and setting criteria to be applied to the sub-project. The Bank's policy also requires Resettlement Planning (RP) plan for the sub-project that make people leave their land or production resources involuntarily and such translocation causes i) relocation, loss of habitats, loss of properties or access to properties that are essential to production, ii) loss of income or livelihood subsistence, or iii) loss of access to higher income sources, or lower cost on business or individuals.

### 3.3. Gaps between National EIA Regulation and World Bank's Safeguard Policies

This subsection focuses on gaps between the national safeguard system and relevant Bank safeguards. There are a number of differences the two systems which need some designed gap filling

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<sup>14</sup> See EHS Guidelines via [www.ifc.org/ifcext/enviro.nsf/Content/EnvironmentalGuidelines](http://www.ifc.org/ifcext/enviro.nsf/Content/EnvironmentalGuidelines)

measures to be included in the ESMF. The World Bank safeguards policies and Cambodian legal framework on Environmental Assessment are generally aligned in principle and objective:

- Both require screening of subproject investments in order to determine which level of social and environmental assessment (e.g. EMP, IEE or EIA) is needed;
- Both require detailed ESIA for projects with more significant impacts (Category A), a less detailed EIA study for projects with less significant impacts (Category B) and no ESIA studies for projects likely to have minimal or no adverse environmental impacts (Category C);
- In the ESIA process, the environmental (including climate change, ecosystem services and no net loss concept) and social (including involuntary resettlement, cultural heritage and vulnerable groups) components are included under both systems;
- Both include the mitigation hierarchy approach;
- The Bank requires that stakeholder consultations be undertaken during planning, implementation and operational phases of the project which is equivalent to the mitigation requirements.

In addition to ESIA, the national legal framework also regulates the approach towards environmental audit and inspection.

The main discrepancies refer to:

- Although both MOE and WB requires ESMPs for Category B projects, the WB requires a standalone and more detailed document;
- National legal framework does not include some of the instruments considered in OP 4.01 such as the Strategic Environmental and Social Assessment (SESA), the ESMF or the Process Framework (PF).
- And lastly, under the national legislation, there is no specific regulation on integrated pestmanagement or organic agricultural production.

Below is an example of the analysis of the gap between the Royal Government of Cambodia's Environmental Impact Assessment Sub-Decree and O.P.4.01 of the Work Bank.

<b>Table 1 Assessment of the gap between laws/legal instruments of the Royal Government of Cambodia and the OP4.01 World Bank Environmental Assessment Policy</b>			
<b>Topic</b>	<b>OP 4.01</b>	<b>Royal Government of Cambodia</b>	<b>Gap/Measure of the Project</b>
<b>1. Environmental Assessment Process</b>			
1.1 Environmental assessment taking into consideration general natural and social aspects, considering obligations in national and international treaties and agreements.	Assessing the comprehensiveness of relevant legal frameworks and institutions, as well as the existing International Environmental Agreements, and affirming that these agreements truly state that the government cooperating with the Bank will not provide financing for the project activities contrary to these international obligations.	<p>Law on Environmental Protection and Natural Resources Management:</p> <ul style="list-style-type: none"> <li>Article 6 – An environmental impact assessment shall be done on every project and activity, private or public, and shall be reviewed and evaluated by the Ministry of Environment before being submitted to the Royal Government for decision.</li> </ul> <p>Sub-Decree 72 ANRK.BK on Environmental Impact Assessment Process (1999):</p>	OP 4.01 procedures will be applied to ensure that the sub-projects comply with the obligations in treaties or agreements, regardless of whether the environmental assessment is required or not under the national legal instruments.

**Table 1 Assessment of the gap between laws/legal instruments of the Royal Government of Cambodia and the OP4.01 World Bank Environmental Assessment Policy**

Topic	OP 4.01	Royal Government of Cambodia	Gap/Measure of the Project
		<ul style="list-style-type: none"> <li>Article 1 – An Environmental Impact Assessment (EIA) shall be conducted for every private and public project and activity, and it shall be reviewed by the Ministry of Environment (MoE), prior to the submission for a decision from the Royal Government.</li> <li>Article – Project proponents shall conduct in Initial Environmental Impact Assessment (IEIA) for any projects that require an EIA as described in annex of this Sub-Decree.</li> </ul>	
1.2 Assessment of other project options	Stating about assessment of options that may be available for investment, technical and location alternatives, as well as the "no action" option, potential impacts, mitigation feasibility, capital and current expenditures due to these impacts, appropriateness of these options under baseline condition, institutional requirements, training and monitoring relevant to these options.	Not included.	OP 4.01 procedures will be implemented to ensure that an assessment of the potential impacts of the project has reviewed options including "no action" option as well.
1.3 Project Consultant Maintenance	Borrowers should usually establish a project advisory committee composed of an independent and internationally recognized environmental specialist to provide advice on all project aspects related to Environmental Assessment.	Not included	OP 4.01 procedures will be applied to provide guidance if advice is given to borrowers to use an independent and internationally recognized environmental specialist to provide advice on project reviews.
<b>2. Public Consultation and Information Disclosure</b>			
2.1 Environmental assessment processes shall be incorporated into the public consultation and information disclosure	<p>If appropriate, the Bank may require public consultation and information disclosure.</p> <p>Borrowers shall consult with the project affected groups and the local NGOs.</p>	<p>Law on Environmental Protection and Natural Resources Management:</p> <ul style="list-style-type: none"> <li>Article 1 – The purpose of this law is: <ul style="list-style-type: none"> <li>to encourage and enable the public to participate in environmental protection and natural resource management.</li> </ul> </li> <li>Article 16 – The Ministry of Environment, following a request from the public, shall provide information on its activities, and shall encourage public participation in environmental</li> </ul>	OP 4.01 procedures shall be implemented to provide guidance on the public consultation and information disclosure to provide information to the project affected groups and local NGOs.

**Table 1 Assessment of the gap between laws/legal instruments of the Royal Government of Cambodia and the OP4.01 World Bank Environmental Assessment Policy**

Topic	OP 4.01	Royal Government of Cambodia	Gap/Measure of the Project
		<p>protection and natural resource management.</p> <p>Sub-Decree 72 ANRK.BK on Environmental Impact Assessment Process (1999):</p> <ul style="list-style-type: none"> <li>Article 1 – Encourage public participation in the implementation of EIA process and consider of their conceptual input and suggestion for re-consideration prior to the implementation of any project.</li> </ul>	
<b>3. Monitoring and Evaluation</b>			
3.1 Required internal and external monitoring	During the project implementation, the borrower shall prepare a compliance report with the measures agreed with the Bank based on the findings and results of the Environmental Assessment and the EMP implementation.	<p>Sub-Decree 72 ANRK.BK on Environmental Impact Assessment Process (1999):</p> <ul style="list-style-type: none"> <li>Article 3 – The Ministry of Environment shall take administrative measure to follow up and monitor to ensure the preparation of an Environmental Management Plan (EMP) during project construction, operation, and closure, in which this information shall be included in the approved environmental impact assessment report to be implemented by the project proponent.</li> </ul>	OP 4.01 procedures will be implemented. The Project Coordination Office (PCO), in close collaboration with the General Department for Resolution of Impacts/ Inter-ministerial Resolution Committee shall conduct an internal monitoring of resolution performance and requirement compliance of reporting for the implementation of ESMMP. This monitoring shall include progress reports, status of plan implementation, impact resolution/resettlement, location information and the number of people affected, amount of compensation, and the amount of assistance provided to the project affected households. Report on the results of the monitoring shall be prepared by the Ministry of Rural Development and submit to the Inter-Ministerial Resettlement Committee and World Bank quarterly.

## 4. POTENTIAL IMPACTS AND MITIGATION

For the projects that do not have all subprojects identified during project preparation, there are some ways that potential positive and adverse impacts and mitigation measures can still be determined for the preparation of ESMF.

In addition, the EHS Guidelines of the World Bank Group, which contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs, can also be used as technical reference for identifying project impacts and mitigation measures. Furthermore, Cambodia Environmental Impact Assessment Website<sup>15</sup> provides regulation and general guidelines on EIAs that can be used for predicting impacts and mitigation measures of various project investments. Impacts that occur during different project phases must be identified. A good practice is to create a table of impacts before construction, during construction, operation, and decommissioning. Impact should include biophysical, health, gender, resettlement, ethnic minorities, cultural resources, potential for cumulative impacts.

### 4. 1. Potential Impacts by Project Component

The subsection describes potential positive impacts and negative impacts. Originally, the project design was conceived as a project that integrated the landscapes of the Tonle Sap and the Cardamom Mountains, which was the basis for planning for a regional environmental and social assessment. After the concept stage, the project design has evolved, and it no longer involves either fisheries or agriculture investments in the Tonle Sap. Now that the fisheries component is removed, the project will no longer support investments in linked landscapes. Therefore, a regional environmental and social assessment has not been prepared.

#### Component 1: Strengthen Capacity for PAs Landscape Planning and Management

Subcomponent 1.1: Information Systems and Decision Support (ISDS)	Positive impacts to Natural Habitats and Forest policies through Technical Assistance (TA) activities, which will be reviewed for their potential environmental and social implications, risk and impacts and therefore, subject to the Bank safeguard policies, specifically the Bank “Interim Guidelines on the Application of Safeguard Policies to Technical Assistance (TA) Activities in Bank-Financed Projects and Trust Funds “Administered by the Bank (2014)”.
Subcomponent 1.2: PAs Landscape Planning, Management and Enforcement	<p>In this case, MOE and MRD would integrate environmental and social safeguards aspects into TA ToRs, consultations and progress reports. The environmental and social safeguards aspects would also be incorporated into the landscape planning and restoration activities, including activities supporting protected area management, which should be informed by assessments of biodiversity / natural habitats, current NRM uses by local communities, any customary claims, and potential risks and impacts to communities. Furthermore, environmental and social safeguard issues will be addressed in the project’s landscape planning activities, including activities supporting protected area management, which should be informed by assessments of biodiversity / natural habitats, current NRM uses by local</p>

	communities, any customary claims, and potential risks and impacts to communities (guidelines for this was prepared under the BPAMP-assisted by the World Bank).
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## Component 2: Strengthen Opportunities for Ecotourism and NTFP Value Chains

Subcomponent	Potential Impacts
Sub-Component 2.1: Strengthen Opportunities for Ecotourism Development	Innovative ecotourism infrastructure and NTFP processing can cause adverse environmental and social impacts, however, the impacts are expected to be small to moderate, reversible and readily mitigatable through the project management such as ECOP and/or EMP in the ESMF. Environmental and social safeguard issues will be addressed in the project's landscape planning activities, including activities supporting protected area management, which should be informed by assessments of biodiversity / natural habitats, current NRM uses by local communities, any customary claims, and potential risks and impacts to communities.
Component 2.2: Promotion of NTFP value chains	

## Component 3: Connectivity and related Rural Infrastructure in Selected Areas

Rural road connectivity and small-scaled sanitation are likely to bring direct and indirect impacts on surrounding environment. Direct impacts are the effects of the road works themselves on natural habitats or species of conservation concern. Induced impacts are the result of those human activities which road construction or improvement make possible, rather than of the road works themselves. The induced, indirect environmental risks associated sensitive receptors such as improvement of roads sometimes leads to the loss and degradation of natural habitats and road connectivity can link to or illegal hunting by construction workers or illegal land encroachment by outsiders. In most cases, the induced impacts of road work on biodiversity are both more serious and more difficult to control than the direct impacts.

MRD, will work with MOE and local authority to, oblige contractors to ensure their worker will not do any illegal hunting. MRD is required to agree with MOE and relevant local authorities their commitment and mitigation measures to control risks and illegal land grabbers induced by road connectivity. For example, road investments would be proceeded only after Law enforcement and capacity strengthening for landscape planning and protected area management.

The direct impacts during civil work are assessed to be limited, localized, manageable, and reversible and can be avoided or minimized through proper design and application of mitigation measures. Environmental rules for contractors, including transparent penalties for noncompliance, need to be incorporated within bidding documents and contracts. Law enforcement mechanism should be assessed as part the EMP/IEE/EIA report and operational management.

### 4.2 Positive Impacts

The project is expected to have a highly positive environmental impact through addressing priority objectives of landscape, forest and ecotourism restoration. This project is fully consistent with the Bank's Natural Habitats and Forest policies. Potentially adverse environmental and social impacts

are expected to be site-specific, reversible and readily mitigatable through the sub-project management. The Project location (s) are not yet identified, potential adverse environmental impacts that may arise because of typical sub-projects are:

- Increased pollution in or degradation of soil and water from the expansion of intensive farming, livestock, aquaculture and/or production forestry, including from the use of pesticides and fertilizer.
- Impacts associated with small-scale construction works.
- Increased pollution from the improper disposal of construction materials and/or hazardous substances.
- Potential acquisition of small parcels of land, partial damages to private structures, and impacts to crops and trees
- Potential restrictions for communities and IPs to access NTFPs, natural resources, and sources of livelihoods
- Community infrastructure investments and other project activities may impact unknown physical or intangible cultural heritage.

#### 4.2.1 Negative environmental impacts

The construction of rural road and small-scaled ecotourism infrastructure is likely to bring direct impacts on surrounding environment. Potentially adverse environmental and social impacts are expected to be site-specific, reversible and readily mitigatable through the sub-project management. However, considering its scale, location and type, the Project may also trigger many negative environmental impacts arising out of its construction phase and operation phase. This section mainly illustrates range of anticipated cumulative negative potential risks/ impacts, brief explanations of those issues and typical activities causing environmental impacts, social impacts and visual impacts.

Negative environmental impacts of ecotourism infrastructure services

	Potential Impacts/ Risks	Description of the issues/risks	Typical activities that cause the potential impacts/risks
<b>CONSTRUCTION PHASE</b>			
1.	Damages or loss of vegetation cover and trees including disturbance to natural landscape and natural habitats	Vegetation cover and/or trees at the construction site (road, drainage system, etc.) or any other location to be used by the Project may be removed or disturbed during construction phase. This impact can be avoided, minimized or mitigated.	<ul style="list-style-type: none"> <li>• site clearance for construction site, camps,</li> <li>• construction material exploitation and/or storage</li> </ul>
2.	Loss or degradation of valuable natural/ ecological resources	<ul style="list-style-type: none"> <li>• If sand, gravel and stones from river bed is extracted, flowing pattern of river may be seriously affected. The river may scour around bridge piers and abutments and endanger their stability. The river</li> </ul>	<ul style="list-style-type: none"> <li>• Site clearance</li> <li>• Construction</li> <li>• Extraction natural resource for construction</li> </ul>



	Potential Impacts/ Risks	Description of the issues/risks	Typical activities that cause the potential impacts/risks
		<p>may erode other sections of the river beds and banks and thereby cause serious problems elsewhere</p> <ul style="list-style-type: none"> <li>• Some sites may be very important to local communities in cultural/religious/historical/archaeological aspects.</li> <li>• If construction takes place at or nearby such sensitive socio-environmental features, threats or serious/ permanent damages may be caused to such sites.</li> <li>• Human access to undisturbed area may cause damages to (from plant collection/removal, wildlife catching, hunting, fire setting, littering, etc.) damage to vegetation cover as habitats of wildlife or cause fire risks.</li> </ul>	<p>materials at important sites particularly gravel from river beds, etc.</p>
3.	Degrade existing landscape	<ul style="list-style-type: none"> <li>• This impacts may occur when vegetation cover/top soil is removed, or a man-made structures are introduced into least disturbed nature, or when new structures obstruct view to existing beautiful landscape</li> </ul>	<ul style="list-style-type: none"> <li>• Site clearance</li> <li>• Construction of new facilities in areas with beautiful/valuable landscape</li> </ul>
4.	Unsuccessful land acquisition	<ul style="list-style-type: none"> <li>• Small amounts of land may need to be acquired either by donation or through compensation for agriculture, livestock and fisheries activities as well as small-scale productive infrastructure (e.g. post-harvest processing equipment, storage facilities and poultry shed, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of contractor at the work site</li> <li>• Construction commencement or ongoing activity</li> </ul>
5.	Physical Cultural Resources are present at a sub-project location	<ul style="list-style-type: none"> <li>• During the planning or construction of a sub-project, physical, cultural, and religious resources are identified</li> </ul>	<ul style="list-style-type: none"> <li>• site clearance for construction site, camps,</li> <li>• construction material exploitation and/or storage</li> <li>•</li> </ul>
6.	Solid Waste generation	<ul style="list-style-type: none"> <li>• Excavation works generate waste</li> </ul>	<ul style="list-style-type: none"> <li>• Excavation</li> <li>• Construction</li> </ul>



	Potential Impacts/ Risks	Description of the issues/risks	Typical activities that cause the potential impacts/risks
		<ul style="list-style-type: none"> <li>Waste is also be generated from unused materials: timber/glass/metal, packaging materials or by the workers: lunch containers, leftover food, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Workers daily domestic activities</li> </ul>
7.	Wastewater generation	<ul style="list-style-type: none"> <li>Wastewater generated by workers from washing and toileting.</li> <li>Uncontrolled generation of wastewater may cause environmental pollution, nuisance, and health concerns to workers and the public</li> </ul>	<ul style="list-style-type: none"> <li>Excavation</li> <li>Use of construction materials</li> <li>Workers domestic activities at the sites</li> </ul>
8.	Chemicals, hazardous wastes generation	<ul style="list-style-type: none"> <li>Used Oil, paints, lubricant, batteries, and asbestos-containing materials are toxic.</li> <li>Some of the solid waste may be cross-contaminated with oil, paints, etc. that may be toxic and pose public health risk</li> </ul>	<ul style="list-style-type: none"> <li>Site clearance</li> <li>Vehicle maintenance</li> <li>Painting</li> <li>Construction building, other type of infrastructure</li> <li></li> </ul>
9.	Dust, air pollution	<ul style="list-style-type: none"> <li>Exposure to high level of dust and smoke may have health impact: affect respiratory system, eyes</li> </ul>	<ul style="list-style-type: none"> <li>Site clearance</li> <li>Excavation</li> <li>Running engine Machinery</li> <li>Construction material loading and unloading</li> </ul>
10.	Noise and Vibration	<ul style="list-style-type: none"> <li>Noise disturb hearing/listening activities and may cause stress/headaches</li> <li>Vibration may cause cracks /damages to existing structures</li> </ul>	<ul style="list-style-type: none"> <li>Pile driving</li> <li>Soil compaction</li> <li>Loading and unloading construction materials</li> </ul>
11.	Increased erosion risks/siltation/sedimentation	<ul style="list-style-type: none"> <li>Slope become less stable when ground surface is disturbed; water can run faster and can erode the soil on bare slop where vegetation cover does not exist. Therefore, erosion, land slide risks</li> </ul>	<ul style="list-style-type: none"> <li>Site clearance</li> <li>excavation activities create unsealed/barren area without</li> </ul>

	Potential Impacts/ Risks	Description of the issues/risks	Typical activities that cause the potential impacts/risks
		<p>would be increase if a building is located on a hilly slope or construction activities disturb slopes.</p> <ul style="list-style-type: none"> <li>The eroded top soil will ends up at downslope then being wash down further by rain water causing highly turbid water and river bed/stream siltation/sedimentation</li> </ul>	<p>vegetation cover during and after construction</p> <ul style="list-style-type: none"> <li>Construction works carried out on steep and/or weak slopes</li> </ul>
12.	Water quality degradation	<ul style="list-style-type: none"> <li>Waste and wastewater, construction materials from construction may be leaked or disposed of into water sources nearby construction sites or downstream of construction sites.</li> <li>Water quality in streams and rivers may also be degraded if soil from slopes in the catchment run into water bodies due to erosion/landslide initiated by earthworks at the sites.</li> <li>Careless water use activities by workers, for example washing working tools directly at water sources.</li> <li>Oil, fuel or any other liquid substance used during construction, including on-site machinery maintenance, may be leaked or spilled into the soil. Then rainwater may wash such contaminant to nearby water bodies</li> </ul>	<ul style="list-style-type: none"> <li>Construction of bridges on streams, river beds</li> <li>Construction waste and waste water discharge</li> <li>Tools and machinery washing and maintenance</li> </ul>
13.	Impacts Cultural sites such as church, historical site, grave yard, etc.	<ul style="list-style-type: none"> <li>Cultural sites may be affected with dust, noise from material and waste loading/disposals</li> <li>Some artefacts may expose during execution of earthworks at the sites</li> </ul>	<ul style="list-style-type: none"> <li>Dust and noise generated activities</li> <li>Loading/unloading construction materials and wastes</li> </ul>
14.	Social disturbance to local community:  traffic/ transportation water supply irrigation	<ul style="list-style-type: none"> <li>If the works are carried out on or near existing road or drainage system, construction activities may disturb or disrupt traffic on the existing roads.</li> </ul>	<ul style="list-style-type: none"> <li>Site clearance</li> <li>Excavation</li> <li>Machinery operation</li> <li>Temporary blockage of</li> </ul>

	Potential Impacts/ Risks	Description of the issues/risks	Typical activities that cause the potential impacts/risks
	farming Community meetings events/ etc. Non-local workers/migrants	<ul style="list-style-type: none"> <li>Excavation may also cause loss to vegetation cover or disturbance to the ground</li> <li>Excavation works may disrupt the operations thus the services provided by local existing facilities such as water supply, drainage, power supply etc. if the pipes/lines cross excavated areas</li> <li>Stockpiles formed from excavated materials</li> <li>If construction activities takes place near farming area, access to farm land may be interrupted; materials, waste, and wastewater from construction sites may enter farms causing productivity reduction and social conflicts</li> <li>If a construction site is located near community center, material loads or noise from material cutting, drilling, welding, may block access to community centers or disturb hearings in public meetings.</li> </ul>	<p>rivers/streams/ existing irrigation canal for construction</p> <ul style="list-style-type: none"> <li>Temporary block of road for construction of connection section to new alignment</li> </ul>
15.	<ul style="list-style-type: none"> <li>Health/ sanitation /hygiene in local community</li> </ul>	<ul style="list-style-type: none"> <li>Stagnant water formed from disturbed area at construction site is favor for mosquito breeding, which is a vector of water-borne diseases</li> <li>Waste generated from workers staying at the site may attract vermin and insects</li> <li>Wastewater generation may cause nuisance and health risks to human</li> </ul>	<ul style="list-style-type: none"> <li>Excavation create holes or low laying spots</li> </ul>
16.	<ul style="list-style-type: none"> <li>Safety risk to community</li> </ul>	<ul style="list-style-type: none"> <li>Construction-related activities may cause safety risks for local community, particularly children if they access to open holes or present at the site during materials transports/loading/unloading.</li> </ul>	<ul style="list-style-type: none"> <li>Transportation of materials/wastes</li> <li>Materials loading/unloading</li> <li>Excavated holes</li> <li>Machinery operations</li> </ul>
17.	<ul style="list-style-type: none"> <li>Workers health and safety</li> </ul>	<ul style="list-style-type: none"> <li>Unprotected holes at the sites, exposure to traffic at road side, improperly</li> </ul>	<ul style="list-style-type: none"> <li>General construction</li> </ul>

	Potential Impacts/ Risks	Description of the issues/risks	Typical activities that cause the potential impacts/risks
		installed electrical wires, operating and handling of construction plants, machinery and tools may cause safety risks to workers •	activities, operations of tools and plants •
• OPERATION PHASE			
1.	• Water/soil pollution	• Leakage or discharge of wastes and wastewater generated from the facilities provided •	• Water use activities taking place at buildings/shelters •
2.	• Water/soil pollution	• Untreated discharge of wastewater contaminating water bodies • Inappropriate disposal of wastes • Effluent from septic tank can pollute groundwater or surface water, particularly if piped to an open drain • Partly treated effluent from septic tank can easily pollute the groundwater in the dug well, even after many years; • Polluted surface water from around the septic tank may percolate into the groundwater	• Sanitation facility
3.	• Visual impacts	• If the facility outstands in public area and degrade the surrounding landscape value • Solid waste	• Sanitation/drainage facilities • Solid waste
4.	• Nuisance, odor, • Unhygienic condition, public health risks •	• Septic tank effluent is smelly thus may cause nuisance to the public when being felt/seen • Solid waste • Septic tank effluent is only partially treated thus can spread infection and disease thus pose health risk. • Lack of proper drain around public taps create muddy mess around the tap or in the yard. Standing water become	• Sanitation • Solid waste

	Potential Impacts/ Risks	Description of the issues/risks	Typical activities that cause the potential impacts/risks
		mosquito breeding ground and cause inconvenience for water users <ul style="list-style-type: none"> <li>• Open or missing facet can spill a lot of water in a day. Valuable water that other users may need is wasted</li> </ul>	
6.	<ul style="list-style-type: none"> <li>• Unhygienic condition, public health risks</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Muddy condition/siltation at public tap lead to unhygienic conditions and/or mosquitoes breeding</li> <li>• Solid waste</li> </ul>	<ul style="list-style-type: none"> <li>• Water supply</li> <li>• Solid waste</li> </ul>
7.	<ul style="list-style-type: none"> <li>• Conflict with downstream water demands</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• When inflow water is partly stored at upstream of a water source by one group of water users, other groups may have less access to the water they need and that may need to social conflict between different community groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Water supply</li> </ul>
8.	<ul style="list-style-type: none"> <li>• Weather extreme events/natural disasters such as storms.</li> </ul>	<ul style="list-style-type: none"> <li>• Weather extreme events or natural disasters can damage the facilities provided by the project or interrupt the services provided by these facilities.</li> <li>• In some cases, weather extreme events such as cyclones may not directly cause damages to the facilities but damages the objects in the surroundings and these objects cause damages to the facilities provided by the Project, for example tree fallings into water towers</li> </ul>	<ul style="list-style-type: none"> <li>• Torrential rain</li> <li>• Geographic site damage</li> </ul>

#### 4.2.2 Potential Social Impacts

Ethnicity in Cambodia. Based on the latest population survey (Ministry of Planning 2013), there are 24 groups of indigenous minorities in Cambodia. The predominant dwelling areas of the indigenous populations are in the extremities of sparsely populated areas of the north and northeast of Cambodia: Kratie (Stieng, Kraol, Mel, Phnong, Kuoy, Thmaun), Mondulkiri (Phnong, Stieng, Kraol, Roong, Rhade), Ratanakiri (Tampuon, Jarai, Kreung, Brao, Lun, Kravet, Kachac), Stung Treng (Kuy, Phnong, Kravet, Kreung, Khmer Khe, Lun, Brao), Preah Vihear (Kuy), and Kampong Thom (Kuy); as well as the mountainous massifs in Koh Kong (Poar), Pursat (Poar), Kampong Speu (Suoy) and Sihanoukville (Saoch). These areas are mainly along the national borders of Viet Nam, Lao People's Democratic Republic (Lao PDR), and Thailand. In contrast, the central areas and the banks of the Mekong River are the domain of the Khmer. The lack of population studies leads to a difficult situation in quantifying the number of ethnic groups in Cambodia. MRD stated that indigenous ethnic minorities

may either live in their own communities within the broader Khmer communities or have fully integrated into Khmer communities but still retain some of their ethnic character and in some cases language. Fieldwork in potential provinces confirmed that those who self-identified as indigenous stated that they can communicate using the predominant Khmer language while still are able to use their indigenous language. Most of them stated that they have been living in the broader Khmer communities for more than a generation.

As found in the population census, the Government stated that 264,600 people belonged to ethnic minority groups living in the country, or about 4% of the population. The Cham, also named Khmer Islam, were the second largest ethnic community in Cambodia after the Khmer majority. The Chinese community, with a population of 34,500, was the third largest group, and somewhat surprisingly, the fourth largest group was the highland ethnic peoples called the Phnong or Mnong. The Vietnamese community was classified as the seventh largest group. Until 1992, the ethnic Chinese and Vietnamese were classified as ethnic Cambodian groups alongside the indigenous minorities and the Cham.

Except for Phnom Penh, all proposed project provinces are areas where MRD recognized the presence of ethnic minority households, either living within or maintaining separate communities or agricultural lands within the broader Khmer communities. It is therefore very likely that during project implementation, some sub-project activities will include some ethnic minority households. However, given the nature of proposed project interventions and the livelihood patterns of ethnic minorities in the project provinces, potential social risks related to them are considered minor, and mainly relate to the need to consult on civil works and to adapt and translate training materials on issues such as pesticide use, agricultural related information as well as the various awareness raising packages.

## **5. PROCEDURES FOR SCREENING, REVIEW, AND CLEARANCE**

To ensure the sustainable management of natural resources, protection of the environment and biodiversity, the projects that are proposed in component 1 and component 2 and that may cause severe environmental and social impacts, such subprojects require a clear Environmental and Social Impact Screening, Assessment study, and preparation of environmental and social safeguards instruments (such as ECOP, EMP, IEE or EIA).

This section can be broken into the following subsections: i) Safeguard screening and scoping impact assessment; ii) Development of mitigation measures and public consultation; iii) Review, Approval, and Disclosure of Subproject Safeguards Instruments; and iv) Implementation, monitoring, supervision, and reporting.

### **5.1 Screening and Flow Diagram**

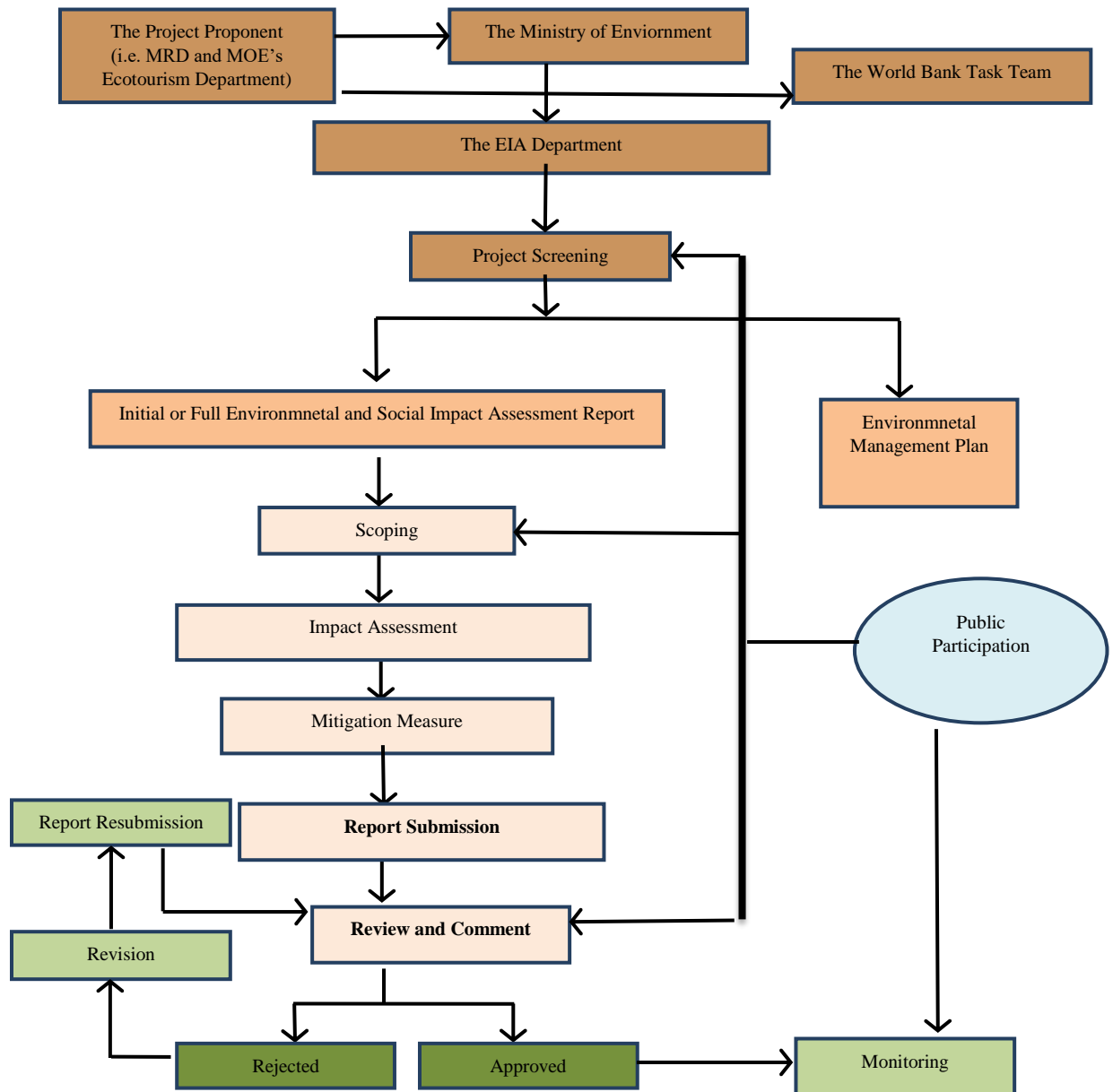
The screening process includes Annex 1: Environmental and Social Screening Forms and Annex 7. negative list, which includes sub-projects or investment activities that are prohibited from receiving financing from the World Bank. The screening purposes are to: (i) identify the World Bank safeguard policies triggered; (ii) classify subprojects into B or C categories; and (iii) to determine if types of safeguard instrument needs to be prepared for the sub-project. For example:

- subproject under Category C or subproject (e.g. installing tourist signages) which has minor or low environmental impacts would require ECOP and/or environmental protection contract

(see Annex 2). The implementing agency is not required to prepare an IEE or EIA report if the subproject is required for ECOP or environmental protection contract as it is not stipulated in the annex of EIA sub-decree.

- subproject under Category B (i.e. road improvement) or subproject that has moderate to substantial environmental risks, MOE's EIA Department requires the proponent to prepare TORs (in Annex 5) in order to assess type of safeguard instruments such as EMP or IEE/EIA.
- Subproject under Category A, which has high environmental risks, requires EIA report. MOE and MRD should immediately discuss the case with the World Bank as a Category "A" subproject is unexpected and should not be eligible for project financing unless the project has been restructured to Category A.

### Flow Diagram of the Environmental and Social Impact Assessment Process



### **5.1.1 General Requirements of the Environmental and Social Impact Assessment Processes**

Generally, the screening is determined by MoE's EIA department on national legislation and the World Bank based on the Bank safeguards policies. To analyze environmental impact in the IEE or EIA, analysis needs to be made on three things: (1). Type of impact, (2). Prediction of possible scale and scope of impact, and (3). Determine impact notions.

The Project Owners shall submit TOR to MOE's EIA Department for consultation meeting to determine types of subprojects requiring an EMP or IEE or EIA.

### **5.1.2 Identifying and Addressing Issues**

The ministry itself shall be responsible for identifying all relevant issues that may be raised by the ministry's experts, decision makers, professionals, the public, or project proponents and that will evolve into the process of the Environmental and Social Impact Assessment. The responsible ministry still reviews and consider these issues in the consultation phase and later, despite the failure of other ministries, project proponents or the public to raise concerns in the scoping phase. Careful review of a request is necessary for the selection of all issues.

In general, there will be different comments regarding the proposed projects. Some comments may be important enough to be considered and properly documented. Key issues to consider include the following:

- Project activities causing impacts
- Impact on existing environmental resources
- Social impact
- Specific site of activity and specific site of impact
- When the activity and impact occur
- The causal relationship that the activity causes direct, indirect, or accumulative impacts.

### **5.1.3 Identifying the Significance of the Impact**

The MoE shall determine the extent of the impact of the proposed project. This determination is the basis of MoE, DEIA guidelines to prepare initial or full environmental and social impact assessment reports, and the World Bank Safeguards Policies. The MoE, DEIA shall consider Check List Matrix List and Overlay tables (Annex 3: Summary table for the extent of the environmental impact and mitigation measures).

## **5.2 Scoping**

Scoping is the first stage to be conducted in an EIA after the conclusion of subproject screening. It is a process to determine the extent of an IEIA or EIA and data needed to collect and analyze the impact of the project on the environment and society in which such study requires a term of reference to prepare environmental and social impact assessment reports.

### **5.2.1 Scope**

It is completed to determine what issues to be addressed in the Environmental and Social Impact Assessment Report. Each proposed project activity. Purposes of determining the scope include

- Engaging the public impacted;



- Identifying problems that will occur; areas/boundary
- Reviewing the existing environmental resources and other relevant documents;
- Identifying possible options.

### **5.2.2 Consideration of Scope**

To determine the scope, the project proponent shall focus on the following:

- Involving participants from government institutions, relevant local authorities and the affected communities, indigenous people, non-governmental organizations, and other interested groups;
- Villages, communities might be effected
- Identifying issues related to the proposed project activity that may cause significant impacts and analyzing those issues deeply in the Environmental and Social Impact Assessment Report;
- For problems that are unexpected to cause significant impacts on the environmental quality and society, the environmental and social impact assessment reporters only briefly describe the causes of those impacts;
- Identifying possible options for consideration.

### **5.3 Term of Reference**

Term of Reference is a description of all work to be done when undertaking an initial or full environmental and social impact assessment, in accordance with the scope of the study to assess the environmental impacts (Annex 5: Term of Reference Model for Infrastructure and Tourism Development Projects).

The Term of Reference will describe the scope of the environmental and social impact assessment report and is a major roadmap for the MoE, reporters, and report reviewers;

The Term of Reference format shall be in accordance with the Prakas on the Term of Reference of the Ministry of Environment.

### **5.4 Environmental and social impact assessments**

During each phase of development project operations, there will impacts on the physical, biological, and socio-economic resources. Therefore, the environmental and social impact assessment shall take into account all project related activities including any specific technology in the project description for the proposed project. The impact of the project activities is well reported.

### **5.5 Impacts and mitigation measures**

Direct, indirect and direct impacts are assessed in the Environmental and Social Impact Assessment Reports.

- Direct Impact: is an impact that occurs at the same time and place as the proposed project activity.
- Indirect impact: is an impact occurs later or far from the proposed project activity.
- Cumulative impact: is an impact that may be small for any project, but when the project of the past, present and future is reviewed cumulatively, the impact may be significant. In general, direct and indirect impacts are analyzed together. Analysis

of the cumulative impact should be completed to all resources raised as problems and may be cumulated as the impacts of the proposed project. The initial scoping process will help determine the cumulatively affected resources by the proposed project activities.

- Adverse impact: is an impact that is caused by the existence of the project that adversely impacts economic resources and the society.

## **5.6 Environmental Management Plan (EMP)**

In this section, the project proponent shall have sufficient funds for the environmental protection and shall create a group of qualified professionals, proper tools, approaches and analysis for the environmental quality monitoring in close collaboration with relevant ministries, institutions and units to reduce the negative impact of the project on environmental, natural and socio-economic resources. The Environmental Management Plan focuses on the following key components:

- Summary of major adverse impacts and mitigation measures;  
Training programs;
- Environmental monitoring program during the project construction, operation, and completion phases Projects;
- Budget plan for implementation of the Environmental Management Plan;
- Plan for the Environmental and Social Fund.

Environmental management plan (EMP): A project's EMP consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The plan also includes the actions needed to implement these measures. EMPs are essential elements of EA reports for Category A projects<sup>16</sup>; for many Category B projects, the EA may result in a management plan only. To prepare a management plan, the borrower and its EA design team (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements.

Preparation of Environmental Management Plan (EMP) and public consultation. An EMP describes the basic principles and activities to be carried out to mitigate potential negative impacts. EMP will briefly describe the subproject description; environmental and social background of the subproject area, including a good map showing locations of the subproject and site-specific activities and/or process as appropriate; the potential impacts and proposed mitigation measures; and the implementation and monitoring arrangement and budget. A generic outline of an EMP is provided in Annex C of OP 4.01 and is included in Annex 3. Public consultation is to be carried out as part of the EMP preparation. For each subproject, the EMP will clearly define actions to assess and mitigate associated risks as well as to mitigate potential impacts during site clearance and construction and to reduce the risks during operation. At a minimum the EMP will include a standard ECOP (Annex 2) and site-specific mitigation measures, including environmental

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<sup>16</sup> projects under EIA Guidelines of MOE can be meant subprojects under the ESMF or the World Bank OP 4.01.

monitoring program. Technical guidelines for the preparation and example of an EMP are provided in Annex 3.

### **5.7 Public Consultation**

The purpose of public participation in the public participation process is to provide the project affected people and other stakeholders with the opportunity to access information and consultations about projects or activities to comment on the projects or activities and allow for effective and meaningful participation in all phases of the environmental and social impact assessment process.

The public participation may take place at different levels of direct engagement and communication. This public participation is called the level of public participation. It starts at the simplest level of notification (delivery of information) to the people affected by the project and stakeholders. The two next levels, including "consultation" and "direct engagement," are more participated by the project affected people and stakeholders. The public participation may have many forms, but it is part of giving prior feedbacks to project proponent. At the highest level of the public participation is "collaboration". At these two levels of the public participation, the project affected people are exposed to a high level direct engagement project in this process that shall become a partner and equal to the project proponent.

### **5.8 Decisions**

The MOE's EIA Department will review and approve on the initial or full Environmental and Social Impact Assessment reports, in accordance with the procedures and process of review and comment.

### **5.9 Making Approved Projects Publicly Accessible**

It shall be ensured that the report is publicly accessible and information shall be disseminated to the public through appropriate means and media, such as the Ministry of Environment's website and documentation at the Municipality/Provincial Hall and the Department of Environment, and the Commune/Sangkat office.

### **5.10 Project Monitoring**

In terms of project management, the project proponent shall comply with all monitoring requirements specified by the regulatory body, and the project proponent shall timely provide environmental monitoring reports to the regulatory body and collaborate with the relevant specialized officials of the relevant ministries in monitoring the implementation of the Environmental Management. Implement. The process of monitoring the implementation of the Environmental Management Plan shall be in accordance with:

- Responsibilities of the ministry to conduct in section in accordance with environmental protection agreements;
- Community complaints.

A value of the monitoring is the timely identification potential problems. For example, the best way to reduce the impact on water quality is to timely identify the levels in the samples and mitigation measures before a mistake in the applied standards occurs. The monitoring plan should

be linked to its specific mitigation measures, so if the monitoring shows that there is a problem (e.g. if the water quality is below the standard), specific mitigation measures will be implemented by the project proponent/ operator. The project proponent shall have sufficient fund to implement the monitoring plan and mitigation plan for the problem identified.

## **6. IMPLEMENTATION ARRANGEMENT**

### **6.1 Responsibility for the Implementation of the Environmental and Social Management Framework**

The two implementing agencies: MOE and MRD experienced with the Bank-funded past projects such as Kh-DRM and Kh-CASDP (on-going) and BPMAP (completed), however, the environmental and social safeguards focal points are relatively new to the Bank safeguards policies. Moreover, the MOE-implemented BPAMP was quite a different project than the proposed project and only involved in one protected area with heavy input from international consultants and it's not certain that this experience would be very relevant for the proposed project regarding environmental safeguards.

Since the project locations would be determined during implementation, MOE and MRD have prepared an Environmental and Social Management Framework (ESMF) to ensure that the CSLEP's activities or individual subprojects will all be screened and assessed for compliance with the government's and the Bank safeguards policies during implementation. The ESMF is designed to ensure the CSLEP's subprojects do not create or result in significant adverse impacts on local livelihoods and the environment, and that potential impacts are identified, avoided or at least minimized. The ESMF includes environmental and social screening and impact assessment guidelines aiming at:

- (a) Preventing and/or mitigating any environmental and social impact that may be resulting from the proposed activities,
- (b) Ensuring the long term environmental sustainability of benefits from proposed activities by securing the natural resource base on which they depend, and
- (c) Facilitating, in a pro-active manner, activities that can be expected to lead to increased efficiency in the use and improved management of natural resources resulting in the stabilization and/or improvements in local environmental quality and human well-being as well.

Implementation of the EMP, IEE or EIA will be complied with the government system for the project management and implementation, in particular led by the Ministry of Environment. ECOP for minor impact subproject (e.g. signage investment) is required by the WB and not MOE. The Ministry of Environment is responsible for and take lead in the Environmental and Social Impact Assessment process, with the Department of Environmental Impact Assessment as an assisting body.

The Ministry of Environment is the project implementing agency, in cooperation with the Ministry of Tourism, the Ministry of Water Resources and Meteorology, the Ministry of Agriculture, Forestry and Fisheries, the Ministry of Land Management, Urban Planning and

Construction, the Ministry of Economy and Finance, the Ministry of Mines and Energy, the Ministry of Culture and Fine Arts, and relevant institutions for any related projects. At the national level, MOE and MRD responsible for the implementation, management, efficiency, and coordination with relevant ministries or institutions and investors or project proponents. The Environmental Impact Assessment (EIA) Department of MOE is responsible for review and approve TORs and implementation of EMP, IEE and EIA at subproject level.

EIA Department which stays under the umbrella of Ministry of Environment's structure since 1994 is the responsible institution for the EIA. Prakas on Organization and Functioning of the Department, however, was officially promulgated in December 2005.

All process of preparing, evaluating, reviewing, and approving the environmental and social impact assessment reports shall be complied with the existing national procedures, laws, and legal instruments.

### **Institutional Responsibilities of ESMF**

<b>Community/Agency</b>	<b>Responsibility</b>
Implementing agencies: MOE and MRD	<p>MOE and MRD will be responsible for managing the environmental and social management framework. Each subproject will complete ES screening report to confirm whether ECOP (or environmental protection agreement) or EMP or IEE/EIA is required. ECOP (for WB and the environmental protection contract for MOE) is required for minor or low environmental risks at subproject level. EMP or IEE/EIA is required for moderate or substantial environmental risks at subproject.</p> <p>The Ministry of Environment and relevant ministries or institutions are responsible for monitoring the project implementation, as well as the compliance with the environmental protection of the project. The Ministry of Environment and relevant ministries or institutions are ultimately responsible for the implementation of the environmental and social management framework. The Ministry of Environment and relevant ministries or institutions will 1) Cooperate closely with local authorities in joining the community during project preparation and implementation, 2) Monitor and manage the implementation of the environmental and social impact assessment framework, 3) Ensure that the system of the environmental and social impact assessment is properly organized and functioned, and 4) prepare a report on the monitoring of the environmental management plans submitted to the World Bank. To effectively implement the project and ESMF, the Ministry of</p>

	Environment agreed to assign a new environmental safeguards person before the project implementation.
MOE's and MRD's Environmental Safeguards Focal Points and DEIA	Role of the Environmental Safeguards Focal Points assigned by MOE to coordinate MOE's EIA Department, for submitting the subproject documents (i.e. TORs and EMP/IEE/EIA) to MOE's EIA department.
EIA Department of MOE	<p>Department of EIA is responsible for monitoring the implementation of Project activities. Department of EIA will be responsible for: i) screening subprojects against eligibility criteria, for environment and social impacts, policies triggered and instrument/s to be prepared; ii) reviewing the subproject EIAs/EPCs and EMPs prepared by consultant to ensure quality of the documents.</p> <p>Role of MOE's EIA department includes reviewing, approving and monitoring environmental safeguards documents submitted by the implementing agencies (i.e. MOE and MRD).</p>
Register EIA Consultancy Firm	Through the coordination of their environmental safeguards focal points, Project Owner will hire a registered national EIA firm to prepare TORs of EMP or IEE or EIA at subproject level. The firm will assist Project Owner to prepare EMP or IEE or EIA and consultation with World Bank before submitting to MOE's EIA department for review and approval.
Contractor	<ul style="list-style-type: none"> <li>- Based on the approved EMP and environmental specifications/requirements in the bidding and contractual documents, the Contractor is responsible for establishing a site-specific EMP for each construction site area, submit the plan to the subproject owner/implementing agency and CSC for review and approval before commencement of construction. In addition, it is required that the Contractor get all permissions for construction (traffic control and diversion, excavation, labor safety, etc. before civil works) following current regulations.</li> <li>- The contractor is required to appoint a competent individual as the contractor's on-site <i>Safety and Environment Officer (SEO)</i> who will be responsible for monitoring the contractor's compliance with the EMP requirements and the environmental specifications.</li> <li>- Take actions to mitigate all potential negative impacts in line with the objective described in the EMP.</li> <li>- Actively communicate with local residents and take actions to prevent disturbance during construction.</li> <li>- Ensure that all staff and workers understand the procedure and their tasks in the environmental management program.</li> <li>- Report to the MAFF and the concerned ministries (PTs) on any difficulties and their solutions.</li> </ul>

	Report to local authority and MAFF and the concerned ministries (PTs) if environmental accidents occur and coordinate with agencies and keys stakeholders to resolve these issues.
Local community	- Community has the right and responsibility to routinely monitor environmental performance during construction to ensure that their rights and safety are adequately protected and that the mitigation measures are effectively implemented by contractors and the MAFF and the concerned ministries (PTs)/SUBPROJECT OWNER. In case of unexpected problems, they will report to CSC/ MAFF and the concerned ministries (PTs)/SUBPROJECT OWNER.
Sub-national administrations: Province, District and Commune	- Liaise with contractor and national implementing agency to disseminate mitigation measures and coordinate for complaints from local community people regarding EMP implementation.

## 6.2 Reporting Arrangements

Reporting on ESMF implementation is not done separately as the safeguard performance will be included in progress reports. Project proponents will prepare progress reports on project implementation once a year.

## 7. CAPACITY BUILDING AND TRAINING

Environmental and social risk of the project is rated substantial at this stage due to intensive support needed by both MOE and MRD during the project implementation. MRD has implemented World Bank-funded projects outside the scope of protected area. If not sufficiently and timely enforced, the improved roads and road connectivity can facilitate illegal activities such as illegal land encroachment. MOE implemented the World Bank-assisted BPAM project, however, it was a decade ago and a different project management team (PMT) implemented this project. Furthermore, the country suffers high exogenous environmental and social risks such as being vulnerable to climate change and natural disasters, and degradation of natural capital. To mitigate any potential risk, MOE and MRD developed an ESMF to avoid, minimize and reduce possible temporary and site-specific impacts on the environment and people. Adverse environmental and social risks can be managed with the project-environmental and social safeguard instruments (e.g. ESMF for project; ESMP/IEE for sub-project, Indigenous Peoples Framework, Resettlement Policy Framework, Process Framework, etc), and set-aside safeguards budget for consultants to provide hands-on and continued capacity building to the environmental and social safeguard focal points of MOE and MRD.

To ensure that the ESMF is effectively implemented, MOE and MRD would be assessed for its capacity to manage environmental and social impacts and risks and to implement national laws and the World Bank's requirements. In this case, training needs assessment (TNA) would



be carried out by the Safeguards Consultants during the project implementation. The TNA will consider all participants who will have responsibilities for implementing the ESMF. It will distinguish among their different training needs in terms of raised awareness, sensitization to the issues, and detailed technical training:

- Awareness-raising for participants who need to appreciate the significance or relevance of environmental and social issues.
- Sensitization to the issues for participants who need to be familiar enough with the issues that they can make informed and specific requests for technical assistance; and
- Detailed technical training for participants who will need to analyze potentially adverse environmental and social impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans.

To ensure that capacity for safeguard planning and implementation, the project has allocated sufficient budget (in Chapter 8) to training, capacity building and technical assistance, especially in the early years. These efforts will not only benefit the Bank project, but will also build local capacity to undertake other development initiatives funded locally or by other donors.

### **7.1 Institutional Capacity Assessment**

An assessment of the existing institutional capacity to implement the ESMF is presented in this section. It focuses on the following important aspects:

- the national institutional structure, and its authorities at all relevant levels, to address environmental and social management issues specific to the project and subprojects;
- existing laws, policies and regulations for environmental and social management, including those for administering permits and licenses;
- the number and qualifications of staff (civil servants, community organizations, external consultants) to carry out their ESMF responsibilities;
- budget resources to support staff in their work.

### **7.2 Training**

The ESMF specifies that, as part of project preparation, a training needs assessment (TNA) may be carried out. The TNA will consider all participants who will have responsibilities for implementing the ESMF. It will distinguish among their different training needs in terms of raised awareness, sensitization to the issues, and detailed technical training:

- Awareness-raising for participants who need to appreciate the significance or relevance of environmental and social issues.
- Sensitization to the issues for participants who need to be familiar enough with the issues that they can propose specific technical solutions to address those issues
- Detailed technical training for participants who want to know how to analyze potentially adverse environmental and social impacts and want to prescribe mitigation measures and prepare environment management plan.
- The Ministry of Environment will develop a training plan based on the result of an institutional capacity evaluation by identifying topics, agenda, resources



(venues, trainers, and training tools, materials, etc.) according to types of training.

## 8. ESMF IMPLEMENTATION BUDGET

This section of the ESMF presents the estimated budget needed for project implementation. For this process, MOE has planned budget for implementing the following main activities:

- Institutional development activities;
- Training and strengthening capacities of institutions, consultants, local authorities involved in the project;
- Employing consulting companies for the evaluation and preparation of environmental and social impact assessment reports;
- Cost for project operation, coordination, and management
- Monitoring and evaluation;
- Reporting.

The project allocated a budget plan of 1,000,000 USD for the implementation of the Environmental and Social Management Framework: implementing, monitoring and reporting the project-environmental and social safeguards compliance. The budget would cover costs of hiring registered and qualified EIA firm, site visits, staff training, equipment, and other related purposes. The detailed budget plan for implementing the environmental and social management framework is below.

### The Budget Plan for Project Implementation

No.	Description	Dollar
1	Cost on project operation and management	200,000
2	Cost on tools, materials, and facilities for project implementation	100,000
3	Cost on strengthening capacity, meetings, workshops, forums, and trainings	100,000
4	Cost on employing consultants and registered EIA firms for the preparation of the IEE or EIA reports and the Environmental Management Plan (EMP) at subproject level.	500,000
5	Incidental cost (10%)	100,000
<b>Total</b>		<b>1,000,000</b>

## 9. GRIEVANCE REDRESS MECHANISIM (GRM)

### 9.1 Dispute Resolution Mechanism

All types of disputes arising during the preparation of environmental and social impact assessment reports for sub-projects of the two components, the parties to the dispute may choose the court system or out-of-court mechanisms as follows.

#### 9.1.1 Out-of-Court Dispute Resolution Mechanism

##### A. Resolution Procedures between Parties to the Dispute

- Identify the scope of the mediation (for example, to which extent it can be

mediated and to which extent it cannot be mediated)

- Create the options of mediation, such as:
  - Payment of compensation based on mutual understanding and agreement
  - Restoration of damage (Restoration of original condition)
  - Make contracts between parties to the dispute
- Decision makers
  - Affected people/ the elderly/chieftain or/and community representatives authorized by the community members
  - Company chairman/authorized company representative

#### B. Resolution Procedures at the Sub-National Level

- Commune/Sangkat Authority
  - The parties to the dispute shall file a written complaint to the authority.
  - In case where the parties are not satisfied with the decision of the commune/Sangkat authority, the parties shall file a complaint to the city, district, or Khan authority.
- Municipal or Provincial Authority
  - The parties to the dispute shall file a written complaint to the authority.
  - In case where the parties are not satisfied with the decision of the municipal or provincial authority, the parties shall file a complaint to the national administration.

#### C. Resolution Procedures at the National Level

- The parties to the dispute shall file a written complaint to the responsible ministry or institution.
- In case where the parties are not satisfied with the decision of the responsible ministry or institution, the parties shall file a complaint to the competent court.

### **9.1.2 Judicial Mechanism**

The parties to the dispute shall file a complaint to the competent court in accordance with the procedures and provisions contained in the Code of Civil Procedure and Code of Criminal Procedure of the Kingdom of Cambodia.

## **10. ESMF CONSULTATION AND DISCLOSURE**

### **10.1 Public Consultation**

The public consultation process and public disclosure process during the phase of preparation of environmental and social impact assessment reports is outlined in detail in 5.7 and 5.9 of this document. Consultation during ESMF preparation. MOE and MRD organized a public consultation of the draft ESMF at Himawari Hotel on 21 December 2018. List of participants is in Annex 6. Key comments during the consultation are to encourage the sub-owners to continue meaning public consultations including gender consideration and screen environmental risk category (A, B, and C) for this project and subproject. The comments were addressed in Chapter 5. There is no specific provision to address percentage of gender engagement in MOE's EIA general guidelines. Public consultations will be conducted during each subproject design and

implementation. The public consultation is specifically required by the World Bank's environmental and social safeguard policies and the government's sub-decree No 72 ANRK.BK on Environmental Impact Assessment (EIA) Process. The consultation covered country laws and regulations relevant to the consultation and disclosure process and was used to inform and involve stakeholders in the environmental and social process.

## 10.2 Disclosure of the ESMF

Disclosure of the ESMF. MOE and MRD disclosed the ESMF on their websites in December 2018. The updated ESMF, integrating the consultation comments, was disclosed in MOE's website [www.moe-govt.kh](http://www.moe-govt.kh) and on official facebook at [www.facebook.com/314699302002531/posts/1304089593063492](https://www.facebook.com/314699302002531/posts/1304089593063492) on 13 February 2019.

## REFERENCES

- MoE (1996): Law on Environmental Protection and Natural Resources Management  
MoE (2008): Law on Protected Area  
MoE (1999): Sub-decree on Environmental Impact Assessment Process  
MoE (1999): Sub-decree on Water Pollution Control  
MoE (1999): Sub-decree on Solid Waste Management  
MoE (2000): Sub-decree on Air Pollution Control and Noise Disturbance  
MoE (2009): Guideline on Environmental Impact Assessment: *Sub-decree on Environmental Impact Assessment (1999)*  
MoE (2018): Prakas on ToR of IEE & EIA process for Development of Infrastructure and Tourism Sector  
World Bank (2018): *Cambodia: Sustainable Landscape and Ecotourism Project (P165344)*  
World Bank (2018): *Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)*

## LIST OF ANNEXES

Annex 1: Environmental and Social Screening Checklist for Subproject

*This subproject screening checklist is intended for the use of SUBPROJECT OWNER/ the implementing agencies so that they can determine the appropriate type of safeguards documentation that will be required by the World Bank for the subproject, in conformance with the ESMF.*

## NAME OF PROJECT

Subproject Name:

Subproject Location: (e.g. region, district, etc.)

Type of activity: (e.g. new construction, rehabilitation, periodic maintenance)

Subproject Owner and Address:

Environmental Category of the Main Project: (e.g., A or B)

### 1. Technical Environmental Screening

1. The technical environmental screening of each proposed subproject is to determine the appropriate extent and type of EA. The outcome of this screening is used to classify the subprojects into one of three categories, depending on the type, location, sensitivity, and scale of the subproject and the nature and magnitude of its potential environmental impacts (OP 4.01, paragraph 8).

- (a) Category A: A proposed sub-project<sup>17</sup> is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.
- (b) Category B: A proposed subproject is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas - including wetlands, forests, grasslands, and other natural habitats - are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects.
- (c) Category C: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

#### *Notes:*

- *Category A Screening Criteria is applied for precautionary purpose. The expected answer is “no” to all questions.*
- *Since the main project has been categorized as a Category B (and not Category A), then any subproject is presumed to be in Category B or C.*

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<sup>17</sup> sub-project can be equivalently referred to project under MOE’s EIA general guidelines.

## Category A Screening Criteria

The following set of screening questions is intended to determine if the subproject has the potential to cause significant adverse impacts (i.e., is the subproject a Category A). *The expected answer is “no” to all questions.*

<b>Table 1. Category A Screening Criteria</b>			
<b>Screening Questions</b>	<b>Yes</b>	<b>No</b>	<b>Remarks</b>
<b>1. Does the subproject have the potential to cause significant adverse impacts to natural or critical natural habitats?</b>			
Leads to loss or degradation of sensitive Natural Habitats defined as: land and water areas where (i) the ecosystems' bio-logical communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the area's primary ecological functions. Important natural habitats may occur in tropical humid, dry, and cloud forests; temperate and boreal forests; mediterranean-type shrub lands; natural arid and semi-arid lands; mangrove swamps, coastal marshes, and other wetlands; estuaries; sea grass beds; coral reefs; freshwater lakes and rivers; alpine and sub alpine environments, including herb fields, grasslands, and paramos; and tropical and temperate grasslands.			<p>Indicate location and type of natural habitat and the kind of impacts that could occur, e.g., loss of habitat and how much, loss of ecosystem services, effects on the quality of the habitat. State why these impacts are or are not significant.</p> <p>Note that the Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs.</p>
Leads to loss or degradation of Critical natural habitat, i.e., habitat that is legally protected, officially proposed for protection, or unprotected but of known high conservation value. Critical habitats include existing protected areas and areas officially proposed by governments as protected areas (e.g., reserves that meet the criteria of the World Conservation Union [IUCN] classifications, areas initially recognized as protected by traditional local communities (e.g., sacred groves), and sites that maintain conditions vital for the viability of these protected areas. Sites may include areas with known high suitability for bio-diversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species.			<p>Note that the Bank cannot fund any projects that result in significant conversion or degradation of critical natural habitats.</p> <p>Indicate location and type of critical natural habitat and state why they are or are not significant.</p>
<b>2. Does the subproject have the potential to cause significant adverse impacts to physical cultural resources?</b>			
Leads to loss or degradation of physical cultural resources, defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. They may be located in urban or rural settings, above or below ground, or under water. Their cultural interest may be			<p>Describe location and type of cultural resources and the kind of impacts that could occur. State the level of protection (local, provincial, national or international). Are any of these sites considered important to preserve in situ, meaning that the resources should not be removed from their current location?</p>

at the local, provincial or national level, or within the international community.			State why impacts are or are not significant.
Potentially results in a contravention of national legislation, or national obligations under relevant international environmental treaties and agreements, including the UNESCO World Heritage Convention or affect sites with known and important tourism or scientific interest.			Describe any impacts that might contravene national or international legislation concerning cultural resources. If considered not significant, explain why.
<b>3. Does the subproject have the potential to cause significant adverse impacts on the lands and related natural resources used by ethnic minorities?</b>			
Potentially result in impacts on lands or territories that are traditionally owned, or customarily used or occupied, and where access to natural resources is vital to the sustainability of cultures and livelihoods of minority peoples. Potentially impact the cultural and spiritual values attributed to such lands and resources or impact natural resources management and the long-term sustainability of the affected resources.			Describe the type and extent of impacts and the significance of alterations to the resources of the affected minorities.  Note that an Ethnic Minority Development Plan will also be required in accordance with World Bank OP 4.10.
<b>4. Does the subproject have the potential to cause significant adverse effects to populations subject to physical displacement?</b>			
Leads to physical displacement of populations dependent upon lands or use of specific use of resources that would be difficult to replace or restore? Otherwise lead to difficult issues in the ability of the subproject to restore livelihoods?			Indicate the numbers of households affected and the resources that will be difficult to replace to achieve livelihood restoration.  Note that a Resettlement Action Plan will need to be prepared in accordance with World Bank OP 4.12.
<b>5. Does the subproject have the potential to cause irreversible impacts or impacts that are not easily mitigated?</b>			
Leads to loss of aquifer recharge areas, affects the quality of water storage and catchments responsible for potable water supply to major population centers.			Name the water bodies affected and describe magnitude of impacts.
Leads to any impacts such that the duration of the impacts is relatively permanent, affects an extensive geographic area or impacts have a high intensity.			Describe any impacts considered to be permanent, affecting a large geographic area (define) and high intensity impacts.
<b>6. Does the subproject have the potential to result in a broad diversity of significant adverse impacts?</b>			
Multiple sites in different locations affected each of which could cause significant losses of habitat, resources, land or deterioration of the quality of resources.			Identify and describe all affected locations.
Potential, significant adverse impacts likely to extend beyond the sites or facilities for the physical works.			Identify and describe the types of impacts extending beyond the sites or facilities of the physical works.
Transboundary impacts (other than minor alterations to an ongoing waterway activity).			Describe the magnitude of the transboundary impacts.
Need for new access roads, tunnels, canals, power transmission corridors, pipelines, or borrow and disposal areas in currently undeveloped areas.			Describe all activities that are new that are required for the main activity to function.

Interruption of migratory patterns of wildlife, animal herds or pastoralists, nomads or semi-nomads.			Describe how migrations of people and animals are affected.
<b>7. Is the project highly contentious and likely to attract the attention of NGOs or civil society nationally or internationally?</b>			
Considered risky or likely to have highly controversial aspects.			Describe perceived risks and controversial aspects
Likely to lead to protests or people wanting to demonstrate or prevent its construction.			Describe the reasons that subproject is highly unwelcome.

2. If the answer is yes to any of the above screening questions, the subproject is likely to be considered a Category A. If so, MOE and/ MRD is required to immediately discuss the results of this screening with the World Bank since any category A sub-projects are not expected and should not be eligible for project financing.

3. There are some differences in the Bank and the government requirements for a Bank category A project in terms of TORs of EIA/EMP, consultation, content and structures of the EIA report. Two separate EIAs to satisfy the Bank and the government requirements will be needed.

## Category C Screening Criteria

4. The following set of screening questions is intended to determine if the subproject has the potential to cause minimal or no adverse impacts (i.e., is a Category C).

<b>Table 2. Category B or C Screening Criteria</b>			
<b>Screening Questions</b>	<b>Y</b>	<b>N</b>	<b>Remarks/Explanation to why Y or N</b>
1. Subproject activities are limited to training, technical assistance and capacity building.			Describe activities.
2. Training, technical assistance and capacity building do not require use of chemicals, biological agents, pesticides.			Support this statement.
3. There is no infrastructure to be demolished or built.			Support this statement.
4. There are no interventions that would affect land, water, air, flora, fauna or humans.			Support this statement.
5. If scientific research is being performed, the research is of such a nature that no hazardous or toxic wastes are created and the research does not involve recombinant DNA or other research that would create dangerous agents should they be released from contained, laboratory conditions			If yes, discuss with the World Bank environmental specialists.

## Category B Screening

5. After the screening for Category A and Category C are applied and if the conclusion is reached that the subproject is not A and is not C, then the subproject should be categorized as B.

6. Many of the subprojects to be proposed will be Category B. They may have similar types of impacts to Category A, but the impacts are not irreversible, and they are less extensive, less intensive, less adverse, more easily mitigated, not likely controversial and not unprecedented.

7. Category B also requires an EIA or other EA instrument in accordance with the WB OP 4.01. The PCO will apply the criteria of the national regulation to determine whether to prepare an EIA or an EPC in according with the Law on Environmental Protection and associated EA Decree and Circular. In most cases, an EMP consistent with World Bank policy will be required. For other case, a simplified EMP or an ECOP should suffice.

8. The issues that may need to be addressed in a Category B safeguards document are variable and will depend upon the type of subproject, its location and surrounding land uses and the kinds of construction and operational procedures that will be used.

## Environmental and Social Impact Checklist



<b>Table 3. Potential Environmental and Social Impacts to be Addressed</b>							
	<b>Does the subproject entail these environmental impacts?</b>	<b>No</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>	<b>Not known</b>	<b>Remarks</b>
1.	Encroachment on historical/cultural areas						
2.	Encroachment on an ecosystem (e.g. natural habitat sensitive or protected area, national park, nature reserve etc....)						<i>Describe and briefly assess impact's level</i>
3.	Disfiguration of landscape and increased waste generation						
4.	Removal of vegetation cover or cutting down of trees during clearance for construction						
5.	Change of surface water quality or water flows (e.g. Increase water turbidity due to run-off, waste water from camp sites and erosion, and construction waste) or long-term.						<i>Indicate how and when this occurs.</i>
6.	Increased dust level or add pollutants to the air during construction						<i>Indicate how and when this occurs</i>
7.	Increased noise and/or vibration						<i>Indicate how and when this occurs</i>
8.	Resettlement of households? If yes, how many households?						
9.	Use of resettlement site that is environmentally and/or culturally sensitive						<i>Briefly describe the potential impacts</i>
10.	Risk of disease dissemination from construction workers to the local peoples (and vice versa)?						<i>Note estimated number of workers to be hired for project construction in the commune/district and what kind of diseases they might introduce or acquire.</i>
11.	Potential for conflict between construction workers and local peoples (and vice versa)?						
12.	Use of explosive and hazardous chemicals						

13.	Use of sites where, in the past, there were accidents incurred due to landmines or explosive materials remaining from the war						
14.	Construction that could cause disturbance to the transportation, traffic routes, or waterway transport?						
15.	Construction that could cause any damage to the existing local roads, bridges or other rural infrastructures?						
16.	Soil excavation during subproject's construction to cause soil erosion						
17.	Need to open new, temporary or permanent, access roads?						<i>Estimate number of and length of temporary or permanent access roads and their locations</i>
18.	Separation or fragmentation of habitats of flora and fauna?						<i>Describe how.</i>
19.	Long-term impacts on air quality						
20.	Accident risks for workers and community during construction phase						
21.	Use of hazardous or toxic materials and generation of hazardous wastes						
22.	Risks to safety and human health						<i>Describe how.</i>
<b>Does the subproject entail land acquisition or restriction of access to resources?</b>							
23.	Acquisition (temporarily or permanently) of land (public or private) for its development						<i>List land areas for permanent and temporary land acquisition, type of soils, duration and purpose of acquisition</i>
24.	Use land that is currently occupied or regularly used for productive purposes (e.g., gardening, farming, pasture, fishing locations, forests)						
25..	Displacement of individuals, families or businesses						
26.	Temporary or permanent loss of crops, fruit trees or household infrastructure						

27.	Involuntary restriction of access by people to legally designated parks and protected areas						
<i>If the answer to any of the questions 23-27 is "Yes", please consult the ESMF; preparation of a Resettlement Plan (RP) is likely required.</i>							
<b>Does the subproject entail effects on ethnic minority peoples?</b>							
28.	Ethnic minority groups are living within the boundaries of, or nearby, the subproject.						
29.	Members of these ethnic minority groups in the area potentially could benefit or be harmed from the project.						
<i>If the answer to questions 28 or 29 is "Yes", please consult the ESMF; and preparation of an Ethnic Minority Development Plan (EMDP is likely required.</i>							

9. MOE or MRD need to submit the screening report to the World Bank for review regarding the categorization.

## Annex 2: Environmental Code of Practice (ECOPs) or Environmental Protection Agreement

### Part 1. Objectives

This Environmental Codes of Practice (ECOP) or Environmental Protection Agreement is applied to manage minor to low environmental impacts of any **Small-Scaled Infrastructure** investments such as rehabilitating sanitation and ecotourism facilities. The ECOPs will apply to manage small scale infrastructure investments subproject. ECOP will be a mandatory part of construction contract or bidding documents so that contractor complies with environmental covenants. MOE and MRD will be responsible for monitoring of compliance with ECOP and preparing the required reports.

ISSUES/RISKS	MITIGATION MEASURE
<b>1) Dust generation/ Air pollution</b>	<ul style="list-style-type: none"> <li>The Contractor implement dust control measures to ensure that the generation of dust is minimized and is not perceived as a nuisance by local residents, maintain a safe working environment, such as: <ul style="list-style-type: none"> <li>water dusty roads and construction sites;</li> <li>covering of material stockpiles;</li> <li>Material loads covered and secured during transportation to prevent the scattering of soil, sand, materials, or dust;</li> <li>Exposed soil and material stockpiles shall be protected against wind erosion.</li> </ul> </li> </ul>
<b>2) Noise and vibration</b>	<ul style="list-style-type: none"> <li>All vehicles must have appropriate “<i>Certificate of conformity from inspection of quality, technical safety and environmental protection</i>” following Decision No. 35/2005/QD-BGTVT; to avoid exceeding noise emission from poorly maintained machines.</li> </ul>
<b>3) Water pollution</b>	<ul style="list-style-type: none"> <li>Portable or constructed toilets must be provided on site for construction workers. Wastewater from toilets as well as kitchens, showers, sinks, etc. shall be discharged into a conservancy tank for removal from the site or discharged into municipal sewerage systems; there should be no direct discharges to any water body.</li> <li>Wastewater over permissible values set by relevant national technical standards/regulations must be collected in a conservancy tank and removed from site by licensed waste collectors.</li> <li>At completion of construction works, water collection tanks and septic tanks shall be covered and effectively sealed off.</li> </ul>
<b>4) Drainage and sedimentation</b>	<ul style="list-style-type: none"> <li>The Contractor shall follow the detailed drainage design included in the construction plans, to ensure drainage system is always maintained cleared of mud and other obstructions.</li> <li>Areas of the site not disturbed by construction activities shall be maintained in their existing conditions.</li> </ul>
<b>5) Solid waste</b>	<ul style="list-style-type: none"> <li>At all places of work, the Contractor shall provide litter bins, containers and refuse collection facilities.</li> <li>Solid waste may be temporarily stored on site in a designated area approved by the Construction Supervision Consultant and relevant local authorities prior to collection and disposal.</li> <li>Waste storage containers shall be covered, tip-proof, weatherproof and scavenger proof.</li> <li>No burning, on-site burying or dumping of solid waste shall occur.</li> <li>Recyclable materials such as wooden plates for trench works, steel, scaffolding material, site holding, packaging material, etc. shall be collected and separated on-site from other waste sources for reuse, for use as fill, or for sale.</li> <li>If not removed off site, solid waste or construction debris shall be disposed of only at sites identified and approved by the Construction Supervision Consultant and included in the solid</li> </ul>

ISSUES/RISKS	MITIGATION MEASURE
	waste plan. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas, such as in areas of natural habitat or in watercourses.
<b>6) Chemical or hazardous wastes</b>	<ul style="list-style-type: none"> <li>• Used oil and grease shall be removed from site and sold to an approved used oil recycling company.</li> <li>• Used oil, lubricants, cleaning materials, etc. from the maintenance of vehicles and machinery shall be collected in holding tanks and removed from site by a specialized oil recycling company for disposal at an approved hazardous waste site.</li> <li>• Unused or rejected tar or bituminous products shall be returned to the supplier's production plant.</li> <li>• Store chemicals in safe manner, such as roofing, fenced and appropriate labeling.</li> </ul>
<b>7) Disruption of vegetative cover and ecological resources</b>	<ul style="list-style-type: none"> <li>• Areas to be cleared should be minimized as much as possible.</li> <li>• The Contractor shall remove topsoil from all areas where topsoil will be impacted on by rehabilitation activities, including temporary activities such as storage and stockpiling, etc.; the stripped topsoil shall be stockpiled in areas agreed with the Construction Supervision Consultant for later use in re-vegetation and shall be adequately protected.</li> <li>• The application of chemicals for vegetation clearing is not permitted.</li> <li>• Prohibit cutting of any tree unless explicitly authorized in the vegetation clearing plan.</li> <li>• When needed, erect temporary protective fencing to efficiently protect the preserved trees before commencement of any works within the site.</li> <li>• The Contractor shall ensure that no hunting, trapping shooting, poisoning of fauna takes place.</li> </ul>
<b>8) Traffic management</b>	<ul style="list-style-type: none"> <li>• Before construction, carry out consultations with local government and community and with traffic police.</li> <li>• Significant increases in number of vehicle trips must be covered in a construction plan previously approved. Routing, especially of heavy vehicles, needs to take into account sensitive sites such as schools, hospitals, and markets.</li> <li>• Installation of lighting at night must be done if this is necessary to ensure safe traffic circulation.</li> <li>• Place signs around the construction areas to facilitate traffic movement, provide directions to various components of the works, and provide safety advice and warning.</li> <li>• Employing safe traffic control measures, including road/rivers/canal signs and flag persons to warn of dangerous conditions.</li> <li>• Avoid material transportation for construction during rush hour.</li> <li>• Signpost shall be installed appropriately in both water-ways and roads where necessary.</li> </ul>
<b>9) Interruption of utility services</b>	<ul style="list-style-type: none"> <li>• Provide information to affected households on working schedules as well as planned disruptions of water/power at least 2 days in advance.</li> <li>• Any damages to existing utility systems of cable shall be reported to authorities and repaired as soon as possible.</li> </ul>
<b>10) Restoration of affected areas</b>	<ul style="list-style-type: none"> <li>• Cleared areas such as disposal areas, site facilities, workers' camps, stockpiles areas, working platforms and any areas temporarily occupied during construction of the project works shall be restored using landscaping, adequate drainage and revegetation.</li> <li>• Trees shall be planted at exposed land and on slopes to prevent or reduce land collapse and keep stability of slopes.</li> <li>• Soil contaminated with chemicals or hazardous substances shall be removed and transported and buried in waste disposal areas.</li> </ul>

ISSUES/RISKS	MITIGATION MEASURE
<b>11) Worker and public Safety</b>	<ul style="list-style-type: none"> <li>• Training workers on occupational safety regulations and provide sufficient protective clothing for workers in accordance with applicable national laws.</li> <li>• Install fences, barriers, dangerous warning/prohibition site around the construction area which showing potential danger to public people.</li> <li>• The contractor shall provide safety measures as installation of fences, barriers warning signs, lighting system against traffic accidents as well as other risk to people and sensitive areas.</li> <li>• If previous assessments indicate there could be unexploded ordnance (UXO), clearance must be done by qualified personnel and as per detailed plans approved by the Construction Engineer,</li> </ul>
<b>12) Communication with local communities</b>	<ul style="list-style-type: none"> <li>• the contractor shall coordinate with local authorities (leaders of local communes, leader of villages) for agreed schedules of construction activities at areas nearby sensitive places or at sensitive times (e.g., religious festival days).</li> <li>• Disseminate project information to affected parties (for example local authority, enterprises and affected households, etc.) through community meetings before construction commencement.</li> <li>• Provide a community relations contact from whom interested parties can receive information on site activities, project status and project implementation results.</li> <li>• Inform local residents about construction and work schedules, interruption of services, traffic detour routes and provisional bus routes, blasting and demolition, as appropriate.</li> <li>• Notification boards shall be erected at all construction sites providing information about the project, as well as contact information about the site managers, environmental staff, health and safety staff, telephone numbers and other contact information so that any affected people can have the channel to voice their concerns and suggestions.</li> </ul>
<b>13) Chance find procedures</b>	<p>If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:</p> <ul style="list-style-type: none"> <li>• Stop the construction activities in the area of the chance find;</li> <li>• Delineate the discovered site or area;</li> <li>• Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Department of Culture and Information takes over;</li> <li>• Notify the Construction Supervision Consultant who in turn will notify responsible local or national authorities in charge of the Cultural Property (within 24 hours or less);</li> <li>• Relevant local or national authorities would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;</li> <li>• Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;</li> </ul>

ISSUES/RISKS	MITIGATION MEASURE
	<ul style="list-style-type: none"> <li>• If the cultural sites and/or relics are of high value and site preservation is recommended by the professionals and required by the cultural relics authority, the Project's Owner will need to make necessary design changes to accommodate the request and preserve the site;</li> <li>• Decisions concerning the management of the finding shall be communicated in writing by relevant authorities;</li> <li>• Construction works could resume only after permission is granted from the responsible local authorities concerning safeguard of the heritage.</li> </ul>

### Part 2 – Contractor's Workers Environmental Code of Conducts

This is an example for typical project, but that for a specific project, some other requirements might be relevant. For example, washing hands protocol, agreeing to attend STD workshops.

DO:	DO NOT
<ul style="list-style-type: none"> <li>♦ USE THE TOILET FACILITIES PROVIDED – REPORT DIRTY OR FULL FACILITIES</li> <li>♦ CLEAR YOUR WORK AREAS OF LITTER AND BUILDING RUBBISH AT THE END OF EACH DAY – use the waste bins provided and ensure that litter will not blow away.</li> <li>♦ REPORT ALL FUEL OR OIL SPILLS IMMEDIATELY &amp; STOP THE SPILL FROM CONTINUING.</li> <li>♦ SMOKE IN DESIGNATED AREAS ONLY AND DISPOSE OF CIGARETTES AND MATCHES CAREFULLY. (Littering is an offence.)</li> <li>♦ CONFINE WORK AND STORAGE OF EQUIPMENT TO WITHIN THE IMMEDIATE WORK AREA.</li> <li>♦ USE ALL SAFETY EQUIPMENT AND COMPLY WITH ALL SAFETY PROCEDURES.</li> <li>♦ PREVENT CONTAMINATION OR POLLUTION OF STREAMS AND WATER CHANNELS.</li> <li>♦ ENSURE A WORKING FIRE EXTINGUISHER IS IMMEDIATELY AT HAND IF ANY "HOT WORK" IS UNDERTAKEN e.g. welding, grinding, gas cutting etc.</li> <li>♦ REPORT ANY INJURY OF WORKERS OR ANIMALS.</li> <li>♦ DRIVE ON DESIGNATED ROUTES ONLY.</li> <li>♦ PREVENT EXCESSIVE DUST AND NOISE</li> </ul>	<ul style="list-style-type: none"> <li>♦ REMOVE OR DAMAGE VEGETATION WITHOUT DIRECT INSTRUCTION.</li> <li>♦ MAKE ANY FIRES.</li> <li>♦ POACH, INJURE, TRAP, FEED OR HARM ANY ANIMALS – this includes birds, frogs, snakes, etc.</li> <li>♦ ENTER ANY FENCED OFF OR MARKED AREA.</li> <li>♦ DRIVE RECKLESSLY OR ABOVE SPEED LIMIT</li> <li>♦ ALLOW WASTE, LITTER, OILS OR FOREIGN MATERIALS INTO THE STREAM</li> <li>♦ LITTER OR LEAVE FOOD LYING AROUND.</li> <li>♦ CUT TREES FOR ANY REASON OUTSIDE THE APPROVED CONSTRUCTION AREA</li> <li>♦ BUY ANY WILD ANIMALS FOR FOOD;</li> <li>♦ USE UNAPPROVED TOXIC MATERIALS, INCLUDING LEAD-BASED PAINTS, ASBESTOS, ETC.;</li> <li>♦ DISTURB ANYTHING WITH ARCHITECTURAL OR HISTORICAL VALUE</li> <li>♦ USE OF FIREARMS (EXCEPT AUTHORIZED SECURITY GUARDS)</li> <li>♦ USE OF ALCOHOL BY WORKERS DURING WORK HOURS</li> <li>♦ WASH CARS OR MACHINERY IN STREAMS OR CREEK</li> <li>♦ DO ANY MAINTENANCE (CHANGE OF OILS AND FILTERS) OF CARS AND EQUIPMENT OUTSIDE AUTHORIZED AREAS</li> <li>♦ DISPOSE TRASH IN UNAUTHORIZED PLACES</li> <li>♦ HAVE CAGED WILD ANIMALS (ESPECIALLY BIRDS) IN CAMPS</li> <li>♦ WORK WITHOUT SAFETY EQUIPMENT (INCLUDING BOOTS AND HELMETS)</li> <li>♦ CREATE NUISANCES AND DISTURBANCES IN OR NEAR COMMUNITIES</li> <li>♦ USE RIVERS AND STREAMS FOR WASHING CLOTHES</li> <li>♦ DISPOSE INDISCRIMINATELY RUBBISH OR CONSTRUCTION WASTES OR RUBBLE</li> <li>♦ SPILL POTENTIAL POLLUTANTS, SUCH AS PETROLEUM PRODUCTS</li> </ul>

	<ul style="list-style-type: none"> <li>♦ COLLECT FIREWOOD</li> <li>♦ DO EXPLOSIVE AND CHEMICAL FISHING</li> <li>♦ USE LATRINES OUTSIDE THE DESIGNATED FACILITIES; AND</li> <li>♦ BURN WASTES AND/OR CLEARED VEGETATION.</li> </ul>
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**KINGDOM OF CAMBODIA  
NATION RELIGION KING  
&Y'**

**THE ENVIRONMNETAL MANAGEMENT PLANS FOR  
INFRASTRUCTURE AND TOURISM PROJECT  
OF**

Company ..... (Khmer)  
..... (English)

Prepared by: .....

Month..... Year.....

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## **CHAPTER 1. INTRODUCTION**

- 1.1 Overview: Briefly describe the background and reasons why the project was developed and overall status of the project.
- 1.2 Objective of Environmental Management Planning
- 1.3 Methodology: At this point, describe the need for information - data, data collection methods, and data analysis.

## **CHAPTER 2. PROJECT DESCRIPTION**

In this chapter, the project shall be detailed as stated in the Feasibility Study Report or Master Plan of the company, with the followings:

- 2.1 Company/Project’s Background and Experience
- 2.2 Project Site (shall be attached with administration map of the area and project location)

2.3 Project Type/Scale and Time of Project Activity (phase prior to project operation, during project operation and project completion)

2.4 Working Action Plan: E.g. (1) Source and quantity of raw materials to be used, (2) Machinery demand, (3) Demand for domestic and foreign labor force, (4) quantity of finished products (5) Income-expense, (6) Production chain, (7) Waste management plan, etc.

2.5 Project Working Activity Program

### **CHAPTER 3. ENVIRONMENTAL MANAGEMENT PLAN**

In this section, the project proponent is required have sufficient fund for the environmental protection and establishing a group with qualified professionals, proper tools, approaches, and schedules for the environmental quality monitoring, in close collaboration with relevant ministries/institutions and entities to mitigate the adverse impacts of the project on the Environment.

An Environmental Management Plan include:

3.1 Summary of Key Adverse Impacts and Mitigation Measures

3.2 Training Program

3.3 Environmental Monitoring Program During Project Construction, Operation, and Completion Phases.

In which, the project proponent shall specify:

- Institution responsible for the project monitoring;
- Determination of the parameters to be monitored;
- Monitoring approach;
- Any environmental regulation or guideline to be applied for the monitoring;
- The program and period to be monitored;
- Direct evaluation of the monitoring results by the project proponent;
- Quarterly reporting to the Ministry of Environment and relevant ministries/institutions.

### **CHAPTER 4. CONCLUSION AND RECOMMENDATION**

In the conclusion, the project proponent/company owner needs to demonstrate investment by highlighting mitigation measures for adverse impacts, positive sustainability of the Environment and improvement of the livelihood of the relevant communities when the investment occurs in a project area.

In this chapter, the project proponent shall ensure and be responsible for the environmental management plan and recommendations relevant to the project.



#### Annex 4: Summary of the Environmental Impacts and Mitigation Measures

Environmental and Natural and Socio-Economic Resources	Adverse Impacts	Identifying Scope of Impacts			Mitigation Measures	Remarks
		Minor	Medium	Major		
1. Impacts during the phase prior to the project operation						
A. Environmental and Natural Resources						
- Physical resources						
- Biological resources						
B. Socio-Economic Resources						
1.2 Impacts during the project construction phase						
A. Environmental and Natural Resources						
- Physical resources						
- Biological resources						
B. Socio-Economic Resources						
2. Impacts during the project operation phase						
A. Environmental and Natural Resources						
- Physical resources						
- Biological resources						
B. Socio-Economic Resources						
3. Impacts during the project completion phase						
A. Environmental and Natural Resources						
- Physical resources						
- Biological resources						
B. Socio-Economic Resources						

## Annex 5: EIA Term of Reference Model

This term of reference model identifies project activities, scope, study methodology, and format of the initial or full Environmental and Social Impact Assessment Report for use in the Ministry of Environment, by project proponents, consulting companies, and stakeholders relevant to the infrastructure and tourism development projects.

### 1. Introduction

Project proponents and consulting companies shall describe the key followings:

- Vision, perspective, and objectives of the investment to contribute to national economic development in infrastructure and tourism sectors;
- Legal obligations that requires investment companies to prepare term of reference for the preparation of an initial or full Environmental and Social Impact Assessment report;
- The importance of term of reference in the preparation of an Environmental and Social Impact Assessment Report for an infrastructure and tourism development project.

### 2. Objectives of Term of Reference:

The key objectives of Term of Reference include:

- Is a roadmap to prepare an initial or full Environmental and Social Impact Assessment report, with the highest quality and accuracy;
- Determine the scope and methodology of the study of existing environmental resources, such as physical, biological, and socio-economic resources;
- Identify stakeholders and the public for consultation;
- Define the format of an initial or full Environmental and Social Impact Assessment report, composition of Study Groups and schedule of study plans.

### 3. Project description

Project proponents and consulting companies shall demonstrate:

- Importance of project presence;
- Analysis of project options;
- Company's background and experience related to project implementation;
- Capital sources and project types (public or private sector or development partners);
- Legal instruments related to the project;
- Geographical location: Demonstrating the geographical location, boundary, land size, and project location relative to the main areas by connecting the administrative map (Datum Coordinate System: UTM\_WGS1984\_48N) and Google Map;
- A summary of project activities (project cycle and duration) includes:
  - A plan for the allocation of land for the project (land for construction, infrastructure, green area, and parking, according to the master plan, etc.). (attached with templates of land allocation plan, building plan, architectural plan layout, use of land, layout, building, plan, etc.);
  - Project implementation plan;
  - Construction techniques;
  - Demand for machinery, equipment, materials, and other facilities;

- Demand for raw materials (construction materials and equipment)
- Demand for human resources-labor force and the number of tourists (position, nationality, and salary during construction and operation phases);
- Demand for energy consumption;
  - State or private electricity (power consumption);
  - Generator (the number of forces);
  - Solar system;
- Water demand (source and quantity)
- Solid-liquid waste management plan:
  - Solid waste: shall identify sources and types of waste generated from the project activities, and describe the location, storage and waste management.
  - Wastewater: the location of a treatment plant, techniques, functions, process of the treatment plant, size, capacity, and the final wastewater discharge location.
  - Sludge: management of sludge from a wastewater treatment plant.
  - Gaseous waste: management of gas from generators or other machines
  - Hazardous waste: (plaster, paint, etc.).
- Establishment of a rainwater harvesting system in the project area
- Staff health and safety management/- workers, tourists, and people
- Risk management (natural disaster, fire protection system, hazard labelling, emergency alerts, safety stairs, training on rescue, evacuation, infirmary, and lawyers to handle in case when a risk occurs).
- Period of project activity.

#### **4. Scope and Methodology of Study**

Regarding defining of scope and methodology of the study of an initial or full Environmental and Social Impact Assessment report, or Environmental and Social Impact Assessment Reports, project proponents and consulting companies shall assess the existing environmental resources that cover the project area and around project sites such as physical resources, biological resources and economic-social resources.

In data collection, project proponents and consulting companies shall base on:

Secondary data: collected and extracted from technical documents of key projects, including company technical reports, master plans, and relevant documents.

Primary data: conducting field surveys in and around the project site, focusing on physical, biological, and socio-economic resources, and using detailed and scientific methods.

##### **4.1 Existing Environmental Resources**

###### **● Physical Resources:**

###### **❖ Soil:**

- Geology: Defining methodology and use of the existing data.
- Topography: Studying about elevation and classification of watersheds by linking the map and sources and defining the methods and tools – survey materials.

- Classification of soil and soil nutrition: Studying about soil type, soil nutrient level, and soil suitability (low, medium, or high).
- Soil quality and texture: Determining the number of samples based on the soil type and size in the project area, and specifying the location (coordinates). The parameters to be analyzed include:
  - Soil chemical properties: Nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), sodium (Na), organic matter, C/N ratio, total phosphorus, dissolved phosphorus, cation-exchange capacity (CEC), acid or base (pH), nitrogen (N), electrode conductivity, etc.
    - Soil physical properties: Moisture, alluvial clays (%), soft alluvium (%), rough alluvium (%), soft sand (%), and rough sand (%).
    - Specifying sampling methods, including the comparative national standards. In a case where the national standards are not applicable, the comparative international standards shall be applied.
- Mining resources and existing data (if any).
- Soil Mechanic can be resilient to high-rise buildings.
  - **Climate:** Determining temperature data, rainfall regime, humidity, and wind direction-speed, using data in the last 5 years of the Ministry of Water Resources and Meteorology or Department of Water Resources and Meteorology and data related to floods and natural disasters that occurred in and around the project area. *Note: In case where climate data is not available in the province where the project is located, the data of the surrounding provinces shall be used.*
  - ❖ **Air quality:** Analyzing at least two air samples, in which one sample is taken at the project site and another sample is taken at the site of the population based on residential location, geographical location or wind direction (for an initial Environmental and Social Impact Assessment report, at least one sample shall be studied and for a full Environmental and Social Impact Assessment report shall be studied) by setting at least 08 parameters including CO, NO<sub>2</sub>, SO<sub>2</sub>, TSP, O<sub>3</sub>, Pb, PM10, and PM2.5.

Table 1: Parameters and Standards for Air Quality Control

No.	Parameter	Measure	MOE's Standard	Duration
1	Carbon Monoxide (CO)	mg/m <sup>3</sup>	20	8 hours
2	Carbon Dioxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	0.1	24 hours
3	Sulfur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	0.3	24 hours
4	Ozone (O <sub>3</sub> )	mg/m <sup>3</sup>	0.2	1 hour
5	Lead (Pb)	mg/m <sup>3</sup>	0.005	24 hours
6	Total Suspended Particles (TSP)	mg/m <sup>3</sup>	0.33	24 hours
7	Particulate Matter (PM10)	mg/m <sup>3</sup>	0.05	24 hours
8	Particulate Matter (PM2.5)	mg/m <sup>3</sup>	0.025	24 hours

*Note: The analytical approach is based on practical methods.*



- **Air Quality Analysis:** Project proponents and consulting companies may request an analysis at Laboratory of the Ministry of Environment's Laboratory. In the case where project proponents and consulting companies use private laboratories or other facilities, those private laboratories or other facilities shall be officially recognized by the Ministry of Environment.
- **Comparative Standard:** Project proponents and consulting companies shall compare the review results to the air quality standards in Table 1 above.
- **Noise and vibration:**
  - Project proponents and consulting companies measure at least 2 noise and vibration samples, in which one sample is taken at the project site and another sample is taken in the urban or public area (schools, hospitals, pagodas, sacred places) to obtain basic data for the future verification.
- **Noise and vibration measurement:** Project proponents and consulting companies may request an analysis at Laboratory of the Ministry of Environment's Laboratory. In the case where project proponents and consulting companies use private laboratories or other facilities, those private laboratories or other facilities shall be officially recognized by the Ministry of Environment.
- Duration of noise and vibration measurement: 24 hours by recording 24 hours by recording data every hour.
- **Comparative Standard:** Project proponents and consulting companies shall compare the noise measurement results to the noise standards as stipulated in Table 1 below.

Table 2: Parameters and Standards for Noise

No.	Site	Duration		
		From 06 : 00 to 18 : 00	From 18 : 00 to 22 : 00	From 22 : 00 to 06 : 00
9	Quiet areas - Hospital - Library - School - kindergarten	45 dBA	40 dBA	35 dBA
2	Residential areas - Hotel, administrative place - Villa, flat	60 dBA	50 dBA	45 dBA
3	Commercial, business, and mixed areas	70 dBA	65 dBA	50 dBA
4	Light industries mixed with residential areas	75 dBA	70 dBA	50 dBA

*Note: The analytical approach is based on practical methods.*

- For vibrator standards, project proponents and consulting companies shall schedule from 06:00 to 18:00 and from 18:00 to 06:00 and the results of vibration measurement shall be compared to the noise standards as stipulated in Table 3 below.

➤ ស្តង់ដារប្រៀបធៀប៖ លទ្ធផលនៃការពិនិត្យស្ទង់ការស្រោច និងក្រុមហ៊ុនទីប្រឹក្សា ត្រូវប្រៀបធៀបនឹងកម្រិតកំណត់ស្តង់ដារគុណភាពខ្យល់ក្នុងតារាងទី១ ខាងលើ។

❖ សំឡេង និងវិញ្ញ័យ៖

- ម្ចាស់គម្រោង និងក្រុមហ៊ុនទីប្រឹក្សាត្រូវរៀបចំកម្រិតសំឡេង និងវិញ្ញ័យយ៉ាងតិច ០២ សំណាក ដោយ០១សំណាកយកទៅទីតាំងគម្រោង និង០១សំណាកទៀតយកទៅ តំបន់ទីប្រជុំជន ឬតំបន់សាធារណៈ) សាលារៀន មន្ទីរពេទ្យ វត្តអារាម ទីសក្ការបូជា (ដើម្បីទទួលបានទិន្នន័យគោលសម្រាប់ធ្វើផ្ទាំងនៅពេលអនាគត
- ការវាស់កម្រិតសំឡេង និងវិញ្ញ័យ៖ ម្ចាស់គម្រោង និងក្រុមហ៊ុនទីប្រឹក្សាអាចសុំធ្វើការវិភាគនៅមន្ទីរពិសោធន៍ក្រសួងធម្មនិយម។ ក្នុងករណី ម្ចាស់គម្រោង និងក្រុមហ៊ុនទីប្រឹក្សាប្រើប្រាស់មន្ទីរពិសោធន៍កងជន ឬឧបករណ៍ផ្សេងៗទៀត ត្រូវមានការទទួលស្គាល់ជា ផ្លូវការពីក្រសួងធម្មនិយម
- រយៈពេលវាស់កម្រិតសំឡេង និងវិញ្ញ័យ៖ ២៤ម៉ោង ដោយធ្វើការកាត់ត្រាតាមទិន្នន័យ ០១ ម៉ោងម្តង
- ស្តង់ដារប្រៀបធៀប៖ លទ្ធផលនៃការវាស់កម្រិតសំឡេង ម្ចាស់គម្រោង និងក្រុមហ៊ុន ទីប្រឹក្សាត្រូវប្រៀបធៀបនឹងស្តង់ដារកម្រិតសំឡេង ដូចមានចែងនៅក្នុងតារាងទី ២ ខាងក្រោម។

តារាងទី២៖ ប៉ារ៉ាម៉ែត្រ និងស្តង់ដារសម្រាប់កម្រិតសំឡេង

ល.រ	ទីតាំង	តំបន់ពេល		
		តំបន់ ៦ព្រឹកដល់ម៉ោង ១៨ល្ងាច	តំបន់ ១៨ល្ងាចដល់ម៉ោង ២២យប់	តំបន់ ២២យប់ដល់ម៉ោង ៦ព្រឹក
១	តំបន់ស្ថាប័នស្រៀម - មន្ទីរពេទ្យ - បណ្ណាល័យ - សាលារៀន - មន្ត្រីប្រតិបត្តិការ	៤៥ dBA	៤០ dBA	៣៥ dBA
២	តំបន់លំនៅដ្ឋាន - សណ្ឋាគារ ទីកន្លែងរដ្ឋបាល - ភូមិត្រី៖ ផ្ទះល្វែង	៦០ dBA	៥០ dBA	៤៥ dBA
៣	តំបន់ពាណិជ្ជកម្ម សេវាកម្ម និងផ្ទះ	៧០ dBA	៦៥ dBA	៥០ dBA
៤	សហគមន៍ក្នុងស្រុក លាយ ផ្ទះនៅក្នុងតំបន់លំនៅដ្ឋាន	៧៥ dBA	៧០ dBA	៥០ dBA

កំណត់សម្គាល់៖ វិធីសាស្ត្រវិភាគផ្នែកលើវិធីសាស្ត្រជាក់ស្តែង

- ចំពោះស្តង់ដារវិញ្ញ័យ៖ ម្ចាស់គម្រោង និងក្រុមហ៊ុនទីប្រឹក្សាត្រូវកំណត់ម៉ោងចាប់ពី ៦ព្រឹក ដល់ ១៨ល្ងាច និងពីម៉ោង ១៨ល្ងាច ដល់ម៉ោង ៦ព្រឹក ហើយលទ្ធផលនៃការវាស់កម្រិតវិញ្ញ័យ ត្រូវប្រៀបធៀបនឹងស្តង់ដារកម្រិតសំឡេង ដូចមានចែងនៅក្នុងតារាងទី៣ ខាងក្រោម។

Table 3: Parameters and Standards for Vibration

No.	Duration	Vibration Standard in (dBA)
1	From 06:00 to 18:00	65
2	From 18:00 to 06:00	60

❖ **Hydrology:** Studying about the final source of waterway systems, flow, stream, discharge of water, name/shape and length/function/size of waterway system (public water source), located in and near the project site. Project proponents and consulting companies shall define the survey radius of the waterway system (upstream and downstream of the project site) at least 1 km around the project site, as well as attach the waterway system map. (Note: For projects located near the public water sources).

❖ **Surface Water Quality**

- Defining the number of samples and sampling locations is based on actual geographical situation and natural waterway systems, which may be adversely impacted by the projects. At least two samples are taken, in which one sample is taken from a natural source located near the project site, and another sample is taken at the wastewater discharge point from the final treatment plant of the project.
- Specifying surface water sampling methods for analysis of water quality and parameters to be analyzed, including the determination of water quality standards.
- Parameters and standards

Table 4: Parameters and Standards for Surface Water Quality

No.	Parameters	Measure	River water	Lake and Reservoir	Sea
1	Acid or base pH	-	6.5-8.5	6.5-8.5	7.0-8.3
2	Total Dissolved Solid (TDS)	mg/l	<1000	<1000	<1000
3	Total Suspended Solid (TSS)	mg/l	25-100	1-15	<60
4	Dissolved Oxygen (DO)	mg/l	7.5-2.0	7.5-2.0	7.5-2.0
5	Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/l	1-10	<30	<30
6	Chemical Oxygen Demand (COD)	mg/l	<50	1-8	2-8
7	Oil and Grease	mg/l	<5.0	<5.0	0
8	Detergent	mg/l	<5.0	<5.0	0
9	Sulphate (SO <sub>4</sub> )	mg/l	<300	<300	<300
10	Total Nitrogen (TN)	mg/l	0.1-0.6	0.1-0.6	0.2-1.0
11	Total Phosphorus (TP)	mg/l	0.005-0.05	0.005-0.05	0.02-0.09
12	Lead (Pb)	mg/l	<0.01	<0.01	<0.01
13	Arsenic (AS)	mg/l	<0.01	<0.01	<0.01
14	Cadmium (Cd)	mg/l	<0.001	<0.001	<0.001
15	Iron (Fe)	mg/l	<1	<1	<1
16	Mercury (Hg)	mg/l	<0.0005	<0.0005	<0.0005

17	Total Coliform	MPN/10 0ml	< 5000	< 1000	< 1000
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*Note: - The number of parameters may require further analysis, if necessary (such as heavy metals, etc.)*

*- The analytical method is based on practical methods.*

Table 5: Parameters and standards for wastewater discharges from commercial buildings, residential buildings, satellite cities, and resorts or recreational areas

No.	Parameters	Measure	Standard Limits	
			Admissible Pollutant Limit for Discharge in Sewage System	Admissible Pollutant Limit for Discharge in Public Water Sources
1	pH	-	5-9	6-8
2	Total Suspended Solid (TSS)	mg/l	<150	<80
3	Oil and Grease	mg/l	<20	<5
4	Biochemical Oxygen Demand (BOD <sub>5</sub> ) (5 day at 20 °C)	mg/l	<80	<30
5	Chemical Oxygen Demand (COD) (Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup> )	mg/l	<120	<50
6	Detergents –LAS	mg/l	<15	<7
7	Total Nitrogen (T-N)	mg-N/l	<10	<6
8	Total Phosphorus (T-P)	mg-P/l	<1	<0.5
9	Ammonia (NH <sub>3</sub> )	mg/l	<8	<5
10	Coliform	MPN/10 0ml	-	500-2500

*Note: - The number of parameters may require further analysis, if necessary (such as heavy metals, etc.)*

*- The analytical method is based on practical methods.*

#### ❖ Groundwater Quality

- Briefly describing groundwater sources in and near the project areas.
- Defining the number of samples and sampling locations is based on actual geographical situation and waterway systems that can be adversely impacted by the project.
- Specifying method for groundwater sampling for the analysis of water quality and the parameters to be analyzed, including determining the water quality standards
- Parameters and standards

- Groundwater quality monitoring: Project proponents and consulting companies may request an analysis at the laboratory of the Ministry of Environment. In the case where of the Project proponents and consulting companies use private laboratories or other facilities, the private laboratories or other facilities shall be officially recognized by the Ministry of Environment.
- Comparative Standard: Project proponents and consulting companies shall compare the review results to the water quality standard limits in Table 6 below.

Table 6: Parameters and Standards for Groundwater Quality

No.	Parameter	Measure	Standard
1	pH	-	6.5-8.5
2	Turbidity	NTU	5
3	Electrode Conductivity (EC)	NTU	500-1500
4	Total Dissolved Solid (TDS)	mg/l	800
5	Total Hardness (as CaCO <sub>3</sub> )	mg/l	300
6	Chloride (Cl)	mg/l	250
7	Fluoride (F)	mg/l	1.5
8	Nitrate (NO <sub>3</sub> )	mg/l	50
9	Sulfate (SO <sub>4</sub> )	mg/l	250
10	Iron (Fe)	mg/l	0.3
11	Arsenic (As)	mg/l	0.05
12	Mercury (Hg)	mg/l	0.001
13	Chromium (Cr)	mg/l	0.05
14	Manganese (Mn)	mg/l	0.1
15	Aluminum (Al)	mg/l	0.2
16	Benzene (C <sub>6</sub> H <sub>6</sub> )	mg/l	0.01
17	Dichloromethane (CH <sub>2</sub> Cl <sub>2</sub> )	mg/l	-
18	Cadmium (Cd)	mg/l	0.003
19	Total Coliform	MPN/100ml	0
20	E-coli	MPN/100ml	0

*Note: - The number of parameters may require additional analysis, if necessary (such as heavy metals)*

*For benzene and dichloromethane parameters do not require any analysis if they cannot be analyzed by the laboratory of the Ministry of Environment.*

*- The analytical methodology based on practical methods.*

- ❖ **Mapping:** Project proponents and consulting companies shall carefully do mapping for the locations for every sampling of soil quality, air quality, noise and vibration,

surface water and groundwater.

- **Biological Resources**

- **Forest resources:** A brief description of the forest status in the project site, attached with the Forest Cover Map 2002, 2006 and 2010 or the latest officially updated Forest Cover Map of the Forestry Administration and survey objectives, scope, and methodology for the forest resource survey.

*Note: In cases where the forests in the project site is already cleared, the survey of the reserved and protected forests or the forest along the catchment and natural water sources in or near the project site will be studied for a sample representation (1 km radius).*

- **Survey Objectives:** To know about the presence/absence of species, categories, density, wood size, carbon stock estimation (based on the national guidelines or legal instruments or references that national institutions or organizations/programs/development partners previously implemented), vulnerability, description of roles of forest resources (Analysis of roles and status of the forest and ecosystem).
- **Methods and Tools-Survey Materials:** Forest assessment or Forest Inventory by calculating a sample plot according to national inventory technique and attaching a sample plot location map, or other scientific methods depending on the actual forest situation. In addition, interviews with focal persons and other stakeholders are required.
- **Methodology of data analysis:** Data analysis methods such as SPSS, Excel or analysis program or other software shall be specified.

*Note: For projects located in urban areas, forest resource studies are not required.*

- ❖ **Wildlife and Biodiversity Resources:** The purpose of the study, limitation (the study is conducted in and around the project site in the radius of 01-02 km) and the methodology for the study of wildlife and biodiversity resources, study aid tools.

- **Study Objectives:** To know about the presence/absence of corridors, food sources, migration and habitats.
- **Methodology and Study Tools:** 1). Direct observation, for example, on linear lines definition (amount, length, position, and method of observation), method of observation by point and 2). Interview with focal persons (identifying focal persons, age, sex, etc.), attached with coordinates and map of the observation site.

*Note: There shall be a clear separation between study methods of mammals, birds, reptiles by detailing in each section.*

- **Methodology of data analysis:** Specifying data analysis methods such as SPSS, Excel or other data analysis program or software.

*Note: For projects in urban areas, there is no need to study wildlife resources.*

- ❖ **Fisheries and biodiversity resources in water:** The purpose is to conduct a study in and around the project site in the radius of 01-02 km and methodology for

studying fisheries and biodiversity resources and in water.

- Study objectives: To know about the presence of habitats-migration, in food sources and vulnerabilities.
- **Methodology:** 1). Direct observation by using web, net, or hook, and 2). Interview with focal person (identifying focal person, age group, sex, etc.), attach with the coordinates and observation location map.
- ❖ Methodology of data analysis: Specifying data analysis methods such as SPSS, Excel or other data analysis program or software.
- ❖ **Natural Protected Areas:** In a case where the project site is located adjacent to or near conservation areas or natural protected areas, the project proponents and consulting companies shall state that the investment project is located near the natural protected areas, attaching with those natural protected areas maps.

*Note: For projects in urban areas, it is not necessary to study.*

#### ● **Socio-Economic Resources**

Project proponents and consulting companies shall identify scope and methodology of the survey on social and economic resources, defining a distance circle radius from a project location of between 0.5-5 km based on (1). Settlement, (2). Geographical location, and (3). Wind direction. Project proponents and consulting companies shall use the random interview method and use the Taro Yamane formula or any appropriate scientific research formula for determining the sample of population to be interviewed and accompanied with questionnaires. The number of samples to be interviewed shall be between 5-10%, depending on the specific geographical situation. The detailed methodology for selecting samples for interview shall be specified by specifying sources and references.

In the study of social-economic resources, project proponents and consulting companies shall study:

- Demography
- Settlement
- Land Use and Land Registration (attached related documents)
- Employment and economic activity (income, expenditure, and poverty rate)
- Physical infrastructure
- Energy consumption (power source, stove consumption, etc.)
- Water use
- Public welfare (health, sanitation, toilets, etc.)
- Education
- Tourism sites
- Landscapes
- Culture (cultural heritage, sacred areas, spiritual areas, burial forests, community forestry, community fisheries, tradition, custom, and indigenous people)
- Management of environmental pollution (solid-liquid waste, hazardous waste, smoke, and noise from human activities in and around the project area)
- Road traffic survey

- Survey of unexploded ordnance
- Land resolution and construction mechanism (for roads, electricity transmission lines, and tourism sites, etc.).

#### **4.2. Public Participation**

The plan of public participation consists of three phases:

##### **1. Dissemination Phase in the project area**

Project proponents and consulting companies shall provide information on the project, project scope, and extent of impacts to all stakeholders in or around the project area, as well as access to primary information from local authorities, stakeholders and affected people.

**Composition of Participants:** Department of Environment, Department of Agriculture, Forestry and Fisheries, Department of Mines and Energy, Relevant Specialized Departments, Local Authorities of Districts/Khan, Communes/Sangkat, villages, communities, civil society organizations and affected people, or Mine Action and Unexploded Ordnance Authority (in a case where the project site was in the former war zone).

**Venue:** Can be done at the project site or public location (pagodas or schools) or any meeting venue.

**Duration of Dissemination:** at least 01 day.

##### **2. Interview Phase with Local Authorities, Relevant Departments and Stakeholders**

###### **A. Interview with Local Authorities and Relevant Departments**

Project proponents and consulting companies shall interview separately local authorities, relevant departments, and stakeholders to receive comments and recommendations on infrastructure and tourism projects.

**Composition of Participants:** Municipal/Provincial Administrations, Department of Environment, Department of Land Management, Urban Planning and Construction, Department of Tourism, Department of Agriculture, Forestry and Fisheries, Department of Water Resources and Meteorology, Department of Public Works and Transportation, Department of Labor and Vocational Training, Department of Culture and Fine Arts, Department of Planning, Department of Rural Development, Department of Health, and Mine Action and Unexploded Ordnance Authority (in a case where the project site is located in an area with land mines and unexploded ordnance).

**Venue:** Can be done at the project site or public location (pagodas or schools) or any meeting venue.

**Duration of Interview:** at least 01 week.

###### **B. Interview with Local Authorities, Affected Communities, and Stakeholders**

Project proponents and consulting companies shall organize group or separate meetings with stakeholders to receive comments and recommendations on infrastructure and tourism development projects.

**Composition of Participants:** Authorities of Communes/Sangkat and villages, community representatives, civil society organizations, and affected people.



**Venue:** Can be done at the project site or public location (pagodas or schools) or any meeting venue.

**Duration of Interview:** at least 04 weeks.

### **3. Consultation Workshop Phase**

Project proponents and consulting companies shall organize a public consultation workshop to present study results of the Environmental and Social Impact Assessment report and the above stakeholder interviews.

**Composition of Participants:** Ministry of Environment (Department of Environmental Impact Assessment), municipal/provincial authorities, Department of Environment, Ministry of Mines and Energy, Department of Land Management, Urban Planning and Construction, Department of Agriculture, Forestry and Fisheries, Department of Water Resources and Meteorology, Department of Public Works and Transport, Department of Women's Affairs, Department of Tourism, and Departments of Culture and Fine Arts, Department of Economy Finance and the Department of Labor and Vocational Training, and Mine Action and Unexploded Ordnance Authority (in a case where the project site is located in an area with land mines and unexploded ordnance). Mine and UXO Authority (if the project site is in the mine and unexploded ordnance), communities, and affected people.

**Venue:** Can be done at the project site or public location (pagodas or schools) or any meeting venue.

**Duration of Interview:** at least 01 day.

Results of the consultation shall be concluded and show percentage of those who support and those who not.

*Note: The Environmental and Social Impact Assessment reporting does not necessarily require consultation workshops, except for projects that are particularly harmful to the environment and society.*

## **4.3. Identifying Potentials of Environmental Impacts and Mitigation Measures**

### **4.3.1. Environmental Impacts and Mitigation Measures**

Project proponents and consulting companies shall specify the scope and methodology to determine the potentials of environmental and social impacts in the pre-operational phase (the project design phase and the construction phase), the operation phase and the completion phase by using some approaches including:

- Matrix table to illustrate the relationship between project activities and its impacts on the environment resources to determine the potential of impacts (yes or no)
- Geographic Information System (GIS), using Tool Overlay to determine where the project may cause impacts on the Environment.
- A Checklist for Impacts on Environmental Resources (Less, Medium, or Strong).

For project proposals, project proponents and consulting companies are required to conduct an assessment, focusing on the pre-operational phase, operation phase, and the completion phase of the project. For the existing or ongoing projects, project proponents and consulting companies

shall conduct an assessment by focusing on the construction phase and/or operation phase and project completion stage.

- **Pre-operational Phase:** Project proponents and consulting companies shall divide this phase into two phases including the project design phase and the construction phase by defining the environmental impacts and mitigation measures on physical resources, biological resources, and socio-economic resources. The project design phase refers to the planning of relevant land dispute resolution to boundary demarcation and the construction phase refers to clearing, the construction of infrastructure in the project site, etc.
- **Project Operation Phase:** Project proponents and consulting companies shall identify environmental impacts and mitigation measures on physical resources, biological resources, and socio-economic resources. This phase refers to the commencement of construction activities and project operations.
- **Project Completion Phase:** After the completion of the project activities, project proponents will transfer the infrastructure and tourism development project to the Royal Government (for land leasing projects from the Royal Government) and state private land projects, the project proponents shall continue implement the land leasing contract from government. Therefore, before transferring the land, project proponents and consulting companies shall determine the environmental impacts, mitigation measures, restoration measures on physical resources, biological resources, and socio-economic and social resources.

#### **4.3.2 The Accumulative Environmental Impact for a Full Environmental and Social Impact Assessment Report**

Project proponents and consulting companies shall assess the accumulative impacts caused by joint activities between projects and projects or other activities, focusing on physical resources, biological resources and socio-economic resources (attach maps of project location or other activities).

The project proponents and consulting companies shall specify the size and the methodology to identify the potentials of accumulative environmental and social impacts through the use of the Geographic Information System (GIS) using Tool Overlay to determine where the project may cause impacts to the Environment. (*Attach maps of project locations or other activities*).

#### **4.4 Environmental Management Plan**

Project proponents and consulting companies shall describe environmental management plans, focusing on the main plans for the environmental monitoring and creating of a table of the environmental monitoring program on the environmental monitoring during the construction phase, the operation phase, and the completion phase, in which the company shall prepare:

1. Introduction
2. Organizing oversight and accountability
  - A). National ssupervisoryinstitutions
  - B). Sub-national ssupervisoryinstitutions

- C). Responsible institutions
- 3. Summarizing the impacts and mitigation measures leading to the environmental management planning
- 4. Training program
- 5. Monitoring program
  - A). Identifying environmental resources, locations, parameters, and monitoring equipment and materials
  - B). Supervisory institution, responsible person, budget for monitoring
  - C). Documenting and analyzing data and comparing them to basic data and implementing technical standards
- 6. Budget Plan for Monitoring Program
- 7. Monitoring reporting
- 8. Environmental and Social Fund: This fund is subject to Sub-Decree No. 238 OrNKR.BK, dated November 21, 2016 on the Establishment of the Environmental and Social Fund and joint Prakas between the Ministry of Environment and the Ministry of Economy and Finance.

#### **4.5. Analysis of Economic Value and Environmental Harm for the Full Environmental and Social Impact Assessment Report**

Project proponents and consulting companies shall specify the scope, method, formula, objectives and indicators of the economic and social analysis, focusing on financial, economic, and environmental harm analysis by specifying references and sources.

- 1. Financial Analysis: Based on the study of the project proponent's profit loss
- 2. Economic Analysis: Based on the project proponent's profit paid to the State
- 3. Environmental Harm Analysis: Direct and indirect values analysis on:
  - A). Physical resources: soil topography, air pollution, noise and vibration disturbance, surface water and groundwater quality, soil degradation, etc.
  - B). Biological resources: Standing forest value, ecosystem services, timber and non-timber forest products, wildlife resources, aquatic resources, ecotourism value, environmental value, etc.
  - C). Socio-economic resources: Employment, income, enjoying non-timber forest products, etc.

#### **5. Defining Format of an Initial or Full Environmental and Social Impact Assessment Report**

Project proponents and consulting companies shall prepare an initial or full Environmental and Social Impact Assessment report in accordance with Prakas on General Guideline for Initial or Full Environmental and Social Impact Assessment Reporting of the Ministry of Environment and shall briefly describe points to be studied in each chapter.

#### **Contents of an Initial or Full Environmental and Social Impact Assessment Report**

<b>Contents of a Full Environmental and Social Impact Assessment Report</b>	<b>Contents of an Initial Environmental and Social Impact Assessment Report</b>
<ul style="list-style-type: none"> <li>– List of tables</li> <li>– List of figures</li> <li>– List of graphs</li> <li>– List of maps</li> <li>– List of abbreviations</li> <li>– Executive Summary</li> </ul> <p>Chapter 1: Introduction</p> <p>Chapter 2: Scope and Methodology of Study</p> <p>Chapter 3: Legal Framework</p> <p>Chapter 4: Project Description</p> <p>Chapter 5: Description of Existing Environmental Resources</p> <p>Chapter 6: Public Participation</p> <p>Chapter 7: Environmental Impacts and Mitigation Measures</p> <p>Chapter 8: Environmental Management Plan</p> <p>Chapter 9: Economic and Environmental Value Analysis</p> <p>Chapter 10: Conclusion and Recommendation</p> <ul style="list-style-type: none"> <li>– References</li> <li>– Annexes</li> </ul>	<ul style="list-style-type: none"> <li>– List of tables</li> <li>– List of figures</li> <li>– List of graphs</li> <li>– List of maps</li> <li>– List of abbreviations</li> <li>– Executive Summary</li> </ul> <p>Chapter 1: Introduction including scope and methodology of study</p> <p>Chapter 2: Legal Framework</p> <p>Chapter 3: Project Description</p> <p>Chapter 4: Description of Existing Environmental Resources</p> <p>Chapter 5: Public Participation</p> <p>Chapter 6: Environmental Impacts and Mitigation Measures</p> <p>Chapter 7: Environmental Management Plan</p> <p>Chapter 8: Conclusion and Recommendation</p> <ul style="list-style-type: none"> <li>– References</li> <li>– Annexes</li> </ul>

## **6. Composition of the Study Working Group**

Project proponents and consulting companies shall present the name of the Chair of the Study Group, experts and assistants for the study and research of any project, and all of them are listed on the list of registered consulting companies. If the project proponents and consulting companies cooperates with private consulting partners or experts that are not listed in the registration application, the project proponents and consulting companies shall notify the Ministry of Environment within one month.

## **7. Working Schedule/Study Working Activity**

Project proponents and consulting companies shall determine a period from the initial study until the report submission to the Ministry of Environment for review and comment.

## **8. Annex**

Project proponents and consulting companies shall attach legal documents relevant to the project, e.g. Sub-Decree on the Reclassification of Land, land lease contract, registration certificate of the consulting companies at the Ministry of Environment, authorization letter for the consulting company for study and preparation of an EIA report from the project proponent, legal instruments of relevant ministries or institutions and authorities, etc.

Annex 6:      List of consultation stakeholders in ESMF

ព្រះរាជាណាចក្រកម្ពុជា  
ជាតិ សាសនា ព្រះមហាក្សត្រ

បញ្ជីចំណុច

កិច្ចប្រជុំ: National Consultation Workshop on "Sustainable Landscape and Ecotourism  
Project Formulation", December 21, 2018, Himsawari Hotel, Phnom Penh.

ថ្ងៃទី.....ខែ..... ២០១៨

ល.រ No	ឈ្មោះ Name	ភេទ sex	តំណែង Position	ក្រសួង/ស្ថាប័ន Ministry/Institute
1.	គង់ វិស័យ	ប្រុស	ប្រធាន	ក្រសួងធនាគារជាតិ
2.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	M.E
3.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	ក្រសួងសេដ្ឋកិច្ច
4.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	ក្រសួងសេដ្ឋកិច្ច
5.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	MOE
6.	Leang Bunlong	M	Env spec	WB
7.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	MOE
8.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	MOE
9.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	MOE
10.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	PIU-MOE

1.	San Sikol	M	Facilitator	Cambodia Bird guide Association
2.	Rath Vrak	M	Undersecretary	M.E
3.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	MOE/SEN
4.	ស្រី ធីតា	ស្រី	អគ្គនាយិកា	MOE
5.	Marie Dupont	F	Consultant	WB



6	Kina Wang	M	DDG	MoE
7	Dr. Ho	M	MIE	
8	Tia Savara	M	Interpreter	BTI
9	Neel Sanmang	M	ice observation	MoE
10	Dr. Puhle	F	Trainer	UNESCO

ល.រ No	ឈ្មោះ Name	ភេទ sex	តំណតាំង Position	ក្រសួង/ស្ថាប័ន/ក្រុមហ៊ុន Ministry/institute/company
1.	CHHAY Remy	M	GOVERN	UNIVERSITY ITT
2.	លី ធីតា	ស្រី	អគ្គនាយក	ក្រសួង
3.	គឹម ធីតា	ស្រី	Deputy	TVA
4.	ធីតា ធីតា	ស្រី	អគ្គនាយក	WBA
5.	គឹម ធីតា	ស្រី	អគ្គនាយក	Mupkantung
6.	គឹម ធីតា	ស្រី	អគ្គនាយក	EDLC - MoE
7.	លី ធីតា	ស្រី	អគ្គនាយក	MOE/ELA
8.	គឹម ធីតា	ស្រី	អគ្គនាយក	ក្រសួង/ស្ថាប័ន...
9.	គឹម ធីតា	ស្រី	អគ្គនាយក	គឹម ធីតា/អគ្គនាយក MoE
10.	CHHAY BIDOR	F	National Expert	UNESCO
11.	គឹម ធីតា	M	UP	CATA
12.	គឹម ធីតា	ស្រី	អគ្គនាយក	ក្រសួង/ស្ថាប័ន
13.	គឹម ធីតា	ស្រី	អគ្គនាយក	ឧបនាយក/អគ្គនាយក
14.	គឹម ធីតា	ស្រី		MOE





ល.រ No	ឈ្មោះ Name	ភេទ sex	តំណត់ Position	ក្រសួង/ស្ថាប័ន/ក្រុមហ៊ុន Ministry/institute/company
1	ហ៊ុន ណារ៉េត	ប	អគ្គនាយក	MoE
2	ហ៊ុន ឆាយ	ប	មន្ត្រី	MoT
3	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
4	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
5	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
6	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
7	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
8	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
9	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
10	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
11	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
12	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
13	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
14	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE

1	ហ៊ុន ធីតា	ប	អគ្គនាយក	MEF
2	ហ៊ុន ធីតា	ប	អគ្គនាយក	HOWRAM
3	ហ៊ុន ធីតា	ប	អគ្គនាយក	RECOPTC
4	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
5	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
6	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
7	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE
8	ហ៊ុន ធីតា	ប	អគ្គនាយក	MoE

## Annex 7. Negative List

The project's negative or ineligible list—meaning subprojects or investment activities that are prohibited from receiving financing from the World Bank—will be included in the Project Implementation or Operational manual. The implementing agencies and World Bank will consider this information when reviewing sub-projects for eligibility and scope and level of safeguard measures, if any.

The project's negative or ineligible list includes, but not limited to the following:

- activities with significant and irreversible impacts on the environment in the PA corridors that are not easily mitigated are not eligible;
- Activities that negatively affect natural protected areas recognized by national, provincial or municipal governments (or buffer zones thereof);
- Land reclamation such as drainage of wetlands or filling of water bodies to create land;
- Purchase or lease of land which has unclear titles;
- Activities relating to timber production;
- Activities relating to hunting for commercial purposes;
- Trade in wildlife and wildlife products prohibited under the CITES convention,
- Release of genetically altered organisms into the natural environment,
- Activities related to clearance or building in the core or conservation zones, and development within the sustainable use or community zones requires government approval. Any development in these areas or in adjacent areas is subject to an environmental and social impact assessment.

The four management zones are:

- Core zone: areas of high conservation value containing threatened and critically endangered species and fragile ecosystems. Access to core zones is prohibited except for Nature Conservation and Protection Administration officials and researchers. NCPA can grant access to officials and researchers with prior permission from the MoE. (National security and defence sector staff have their own right of access.) Using natural resources from the core zone is strictly forbidden. Swidden agriculture (sometimes called slash-and-burn agriculture) is forbidden.
- Conservation zone: areas of high conservation value containing natural resources, ecosystems, watershed areas, and natural landscapes located adjacent to the core zone. Access to the zone is allowed only with prior consent of the Nature Conservation and Protection Administration. (National security and defence sector staff have their own right of access.) Small-scale community uses of non-timber forest products (NTFPs) to support local people's livelihood may be allowed under strict control, if they do not seriously impact biodiversity. Other than this, using natural resources from this zone is forbidden. Swidden agriculture is forbidden. More details are in the National Protected Law in the website of MOE.