

DRAFT

**ENVIRONMENTAL AND SOCIAL  
MANAGEMENT FRAMEWORK**

FOR THE

**WATER SUPPLY AND SANITATION IMPROVEMENT  
PROJECT**

**CAMBODIA**

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## LIST OF ACRONYMS

APSARA	Authority for the Protection of the Site and Management of the Region of Angkor
ARAP	Abbreviated Resettlement Action Plan
BCC	Behavior Change Communications
CDIA	Cities Development Initiative for Asia
CIYA	Cambodia Indigenous Youth Association
CFP	Chance Finds Procedure
CPF	Country Partnership Framework
EA	Environmental Assessment
ECOP	Environmental Code of Practice
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
ESIA	Environment and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSAF	Environmental and Social Screening and Assessment Framework
FPIC	Free, Prior and Informed Consultations
GPOBA	Global Partnership for Output Based Aid
HA	Highlanders Association
IDA	International Development Association
IEIA	Initial Environmental Impact Assessment
IP	Indigenous People
IPDP	Indigenous People Development Plan
IPO	Indigenous People Organization
IPP	Indigenous People Planning
IPPF	Indigenous People Planning Framework
ISDS	Integrated Safeguards Data Sheet
MDGs	Millennium Development Goals
MIH	Ministry of Industry and Handicraft
MoE	Ministry of Environment
MPWT	Ministry of Public Works and Transport
NGO	Non-Government Organization
OPKC	Organization for Promotion of Kui Culture
PAH	Project Affected Household
PAP	Project Affected People
PDO	Project Development Objective
RGC	Royal Government of Cambodia
RI	Resettlement Instrument
RPF	Resettlement Policy Framework
ROW	Right of Way
RSS	Regional Safeguards Secretariat
SA	Social Assessment
SCD	Systematic Country Diagnostics
SCNC	Supreme Council on National Culture
SDGs	Sustainable Development Goals
SESA	Strategic Environmental and Social Assessment
SMCD	Sewerage Management and Construction Department
SOP	Standard Operating Procedure
TEGs	Technical Environmental Guidelines
WaSSIP	Water Supply and Sanitation Improvement Project
WB	World Bank
WHO	World Health Organisation

## **PREFACE**

This Environment and Social Management Framework (ESMF) is prepared for the Water Supply and Sanitation Improvement Project (WaSSIP). It is developed on a basis of outcomes from social and environmental screening and stakeholder consultations and other two safeguard instruments, Indigenous Peoples Policy Framework (IPPF) and Resettlement Policy Framework (RPF). This ESMF will be applied to all investments to be financed by the World Bank (WB) Group for technical and/or financial support from the WaSSIP.

The WaSSIP comprises two main components as specified in Section 3 of this document. The WaSSIP will be executed by the Ministry of Industry and Handicraft and the Ministry of Public Works and Transport. Safeguards implementation will be coordinated and carried out by social and environmental safeguards focal persons at MIH and by Environmental and Social Division at MPWT.

This document is considered a living document and shall be modified and updated in line with the changing situation or scope of the activities. Close consultation with the World Bank and clearance of the ESMF will be necessary.

## EXECUTIVE SUMMARY

1. The Environmental and Social Management Framework (ESMF) was prepared by the project component management unit-1 of the Ministry of Industry and Handicraft (MIH) and unit-2 of Ministry of Public Works and Transport (MPWT). The authors would like to express their gratitude to the World Bank tasks team for their support and guidance.

2. This ESMF was prepared as part of the Water Supply and Sanitation Improvement Project (WaSSIP) to be financed by the World Bank Group (WBG) through an International Development Association (IDA) credit and the Royal Government of Cambodia. It has been designed to ensure that Bank-financed projects do not result in adverse impacts to Environment and Social Safeguard during and after implementation. The first batch of known subproject locations under WaSSIP includes Mondulkiri, Siem Reap, Kampong Thom and Battambang. Other subproject locations will be identified during project implementation.

3. The Environmental and Social Management Framework (ESMF) will guide the beneficiaries i.e. the local communities, local authorities, wastewater treatment plant unit, provincial waterworks to minimize or mitigate any possible environmental impacts and social concerns. The ESMF will be used as a framework to guide all subprojects under the project, through the Environmental Assessment (EA) process of initial environmental review, screening, scoping and finally undergoing a detailed Environmental Impact Assessment, if need be.

4. The overall social impact of the project is expected to be strongly positive, with the provision of reticulated water supply to provincial city and rural settlements having numerous benefits. These benefits include the provision of basic services in the form of clean water supply, with resulting improved health outcomes amongst the beneficiary population. The provision of piped water supply to residences will also alleviate the burden of water collection, which disproportionately falls on female members of households. The positive impacts include (i) improved quantity and quality of safe drinking water (ii) reduction in water related diseases such as diarrhea, dysentery, cholera, typhoid and thereby minimizing the cost of healthcare in households (iii) reduction in infant, child and maternal mortality and morbidity due to improved health and sanitation services (iv) reduced distances to water points which will lead to gains in productive time for women and girls. Beside these major positive impacts, the project may also cause moderate negative impacts. The potential negative impacts have been assessed by means of site visits, discussions with local authorities and beneficiaries, and the use of secondary sources for information. The potential environmental issues and concerns identified were: (i) infrastructure works during construction, (ii) disposal of sludge residual during operation in both water supply treatment plant and wastewater treatment plant and (iii) water quality.

5. The subproject screening report would identify the World Bank's environmental and social safeguard policies applicable to the project, also identifies when and how the Bank's Safeguard Policies are triggered or not triggered. This project triggers five environmental safeguard policies. Environmental Assessment (OP/BP 4.01), Physical Cultural Resources (OP/BP 4.11), Natural Habitats OP/BP 4.04, Safety of Dams (OP/BP 4.37), and one legal policy on Projects on International Waterways (OP/BP 7.50) in which these safeguard policies are triggered due to the anticipated small-scale and potentially irreversible impacts from (i) civil works such as installation of water supply pipes, construction of sewer network, (ii) possible water source from natural streams, (iii) located in cultural heritage area, (iv) as pre-caution for possible connection of water source to nearby dam, and (v) investment connection to the international waterway.

6. Social risk for the project is currently classified as moderate. Various levels and magnitude of potential social impacts are expected from the implementation of sub-projects depending on their scale and location, which are yet to be detailed. Based on the initial consultations with the potential beneficiaries regarding possible investments, the Project will likely trigger the following two World Bank social safeguard policies: Indigenous Peoples (OP/BP 4.10) and Involuntary Resettlement (OP/BP 4.12).

7. The procedures for screening, review, clearance and implementation of sub-projects safeguard instruments are to ensure that environmental and social concerns are adequately addressed through the

institutional arrangements and procedures used by the project for managing the identification, preparation, approval, and implementation of subprojects. ESMF procedures are clearly linked to the project-defined subproject cycle that can be readily included in the Project Operational Manual (POM).

8. The procedure from screening to monitoring and reporting include the following steps:

#### Step One – Eligibility Screening

Potential subprojects will be screened for eligibility using the screening form in Annex 1. Subprojects with the potential to cause significant impacts on natural habitats or requiring involuntary land acquisition will not be eligible for financing.

#### Step Two – Technical Screening and Categorization of Subprojects

All subprojects are subject to the screening process using the Safeguards Screening Form in Annex 1 to determine the appropriate categorization of the subproject according to the potential level of environmental and social impact and Bank guidelines (i.e. Category A, B, C or FI). The screening form will determine the appropriate safeguard instrument to be applied according to the type of activity and possible level of impact or disturbance.

#### Step Three – Determine Safeguard Instrument

Following Step Three, MIH and MPWT CMUs will assist in the preparation of the required safeguards instruments.

#### Step Four – Assessment and Consultation

Safeguards instruments will be undertaken by qualified consultants or technical specialists to identify the level of adverse impacts of subprojects and proposed activities prior to any works taking place.

#### Step Five – Preparation of Management Plans

Once the appropriate safeguard instrument has been identified and a proper assessment of potential project-induced social and environmental impacts that could arise during implementation is complete, Environmental and Social Management Plans (ESMP) or ECOP will be prepared and included in the civil works bidding documents. At a minimum the ESMP will include a standard ECOP and site specific mitigation measures, including environmental monitoring program. Some subproject situations ( e.g. such as waterworks with minimal impacts ) can use more general mitigation measures known as ECOPs.

#### Step Six – Implementation of Mitigation Measures

Mitigation and management measures outlined in the ESMP/ECOP (e.g. site selection criteria, diligent construction management, control measures) will be implemented by contractors and supervised by MIH/MPWT CMUs.

#### Step Seven – Monitoring and Reporting

Monitoring is required to gather information to determine the effectiveness of implemented mitigation and management measures and to ensure compliance of the contractor with the approved ESMP. CMUs (with support from relevant consultants) will be tasked to monitor compliance of contractors throughout implementation.

9. To manage social and environmental risks, MIH and MPWT have prepared a Resettlement Policy Framework, an Indigenous Peoples Planning Framework based on a preliminary social assessment, as well as an Environmental and Social Management Framework. Furthermore, environmental and social safeguards focal persons have been appointed by MIH and MPWT for the project preparation and

implementation. The implementation of the environmental and social safeguards will follow the Project Implementation Arrangements.

10. The POM has sections on environmental issues/procedures, resettlement and compensation and ethnic minorities plans. These sections will provide links to: (i) subproject screening; (ii) appropriate mitigation actions and/or Environmental Code of Practice (ECOP); (iii) practical pre-tested safeguard forms used at field subproject level; (iv) development of supplemental tools/guidance; and (v) details on how monitoring and evaluation for safeguards will be undertaken.

11. Furthermore, this project established grievance redress committee(s) at the local (provincial, district, and commune) levels to be headed respectively by the Provincial Governor or Provincial Vice-Governor, Chief of District, and Chief of Commune. At the commune level, the membership of the Grievance Redress Mechanism (GRM) a representative from project affected households (PAH) who shall be chosen from among the project affected people (PAP). In the case of indigenous communities, village level committees will be established and subject to a process of free, prior and informed consultation and will build on the unique decision-making structures of individual indigenous communities, as well as requirements for gender and intergenerational balance.

## **1. PURPOSE AND SCOPE OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK**

1. The purpose of the Environmental and Social Management Framework (ESMF) is to ensure that WaSSIP'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 WaSSIP'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:

- Preventing and/or mitigating any environmental and social impact that may be resulting from the proposed activities,
- Ensuring the long term environmental sustainability of benefits from proposed activities by securing the natural resource base on which they depend, and
- 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. The procedures outlined in the ESMF serve to ensure that potential adverse environmental and social impacts that may be generated as a result of each subproject activity are identified early, and appropriate safeguard instruments are prepared prior to implementation to avoid, minimize, mitigate and, in cases where there are residual impacts, offset or minimize adverse environmental and social impacts. The ESMF also contains guidance on safeguard instruments that may be triggered by certain activities, such as an Environmental Assessment (EA, OP4.01).

3. The ESMF outlines the environmental and social screening requirements to determine the project category, defines the potential environmental and social issues associated with specific sub-projects, and guides the preparation of the relevant safeguards instruments.

## 2. PROJECT DESCRIPTION

4. **The Project Development Objective (PDO)** to increase access to piped water supply and improved sanitation services and strengthen the operational performance of service providers in selected towns or areas.

5. The project will adopt the key principle of complementing the support to the water and sanitation sector that are already provided through ongoing and planned Government and development partners support programs, while adopting pro-poor and nutrition sensitive approaches. For water supply, support will be given to selected main provincial and district towns where the expansion and extension of existing service provision will increase coverage of safe water supply on the one hand, and improve the efficiency and sustainability of service providers on the other. In addition to the expansion, a specific focus area of the project is small scale piped water supply in emerging district towns where public funds are not available and private sector interest appears lacking. The project will undertake systematic efforts to identify reasons for the lack of private sector interest, with a view of leveraging private sector financing where possible through project supported risk reducing targeted investments and/or technical assistance. The project will emphasize pro-poor and nutrition sensitive approaches, developing mechanisms to target safe water provision to poor and nutrition-sensitive households and communication programs with common water, health, nutrition and hygiene messaging. Where possible, district towns identified to be suitable for piped water supply investments which are also within the project scope of the Bank's proposed nutrition project will be prioritized. For sanitation, the key focus is to vastly improve the functionality of the existing sewerage system by enabling direct connection and collection of wastewater from households.

6. Historically, public funding for investing in expanding water supply services in the remaining areas is limited, and moving towards meeting the Sustainable Development Goals (SDG) requirement would require significant investment that is beyond the public sector financial capability. Given the active private sector participation in water supply service provision, the project will explore options for utilizing project finance to leverage private sector participation in financing and operating small-scale piped water supply schemes, wherever feasible, in more challenging areas of the country. This approach will diversify the investment model for piped water supply across spectrum of commercial viability, accelerating service expansion.

7. **The project will include aspects of floods and drought risks in the design.** Given that water resource is generally vulnerable to climate change, assessment of the sustainability of water sources (including catchment protection), and considerations for diversified / backup water sources would be carried out explicitly in response to the localized threats climate change poses to the water supply. Demand management activities in areas where water consumption is high would be also conducted to minimize negative effect from drought risks. Optimal design for climate resilience of infrastructure including using flexible pipes that could withstand ground surface variation in time of drought and floods, energy efficiency through optimal sizing of pumps, and reduction of pollution in flooding events by separating wastewater from storm water would be pursued.

8. **The proposed project has two major components**, (i) to support provincial water supply in selected towns and communes, (ii) to support provincial sanitation improvement in Siem Reap City and other areas. **A third additional Contingent Emergency Response component** has been provisioned for the Bank to provide emergency support in the event of a natural disaster, emergency and/or catastrophic event. Each of the major component is in turn subdivided into an infrastructure investment subcomponent and an associated institutional strengthening, policy and project implementation subcomponent.

### **Component 1: Provincial water supply (IDA - US\$30.23 million)**

9. This component is focused on supporting the expansion of water supply services to selected urban areas. It will support public provincial water service providers in selected main provincial towns to augment and expand water distribution networks to serve more customers (including developing additional water production facilities as needed). This component will also support the development of small-scale piped

water supply systems in selected communes outside the main provincial towns that are not yet served but where the population has reached the size and density suitable for piped water supply. Private sector financing and operations of small-scale piped water supply systems will be explored and leveraged where technically, economically and financially feasible. The project will help develop a mechanism to screen proposed small-scale piped water supply systems in communes, consider options for private and/or public financing, operations and management, and then to develop designs as appropriate. It is envisaged that a rolling program of design and investment support for the water supply schemes would be carried out. Investment will commence with a first priority scheme, which has been designed during project preparation, to test out and pave the way for a smooth rolling investment program. A technical assistance to identify, assess and design further selected town and commune schemes will commence in parallel. Given the water security and sustainability issues linked to climate change risks, optimal design for energy efficiency through proper sizing of electrical-mechanical equipment, demand management for water conservation, development of alternating water sources, and source protection and sustainability will be pursued.

10. Technical assistance will be provided to augment and support the project management and supervision capacity of the implementing agency. Additionally, this component will also include capacity and performance improvement technical assistance to the selected public provincial water service providers to manage and operate the systems to ensure technical and financial sustainability, to integrate climate change risk considerations in the O&M of the system, and to ensure better gender representation in the management of water supply system. The component will provide technical assistance to study, recommend and develop a water connection program (including output-based as appropriate) focused on helping poor and nutrition sensitive households (e.g., households with children under five) to access clean water supply services. A program of nutrition-sensitive communications and promotion of safe water handling / treatment and other hygiene behavior will be carried out. All communication messages will be informed by gender analysis to optimize the benefits of women and girls. This communications program will seek to collaborate and coordinate with other nutrition and stunting related communication programs, including to improve and strengthen common health, nutrition and hygiene messaging in targeted towns and communes. Where the project areas converge with the proposed Cambodia Nutrition Project (currently under preparation), joint activities will be conducted by leveraging common delivery platform and monitoring of beneficiaries receiving joint interventions. A technical assistance to support the MIH develop urban water supply strategy and investment plan will also be provided.

**Component 2: Provincial sanitation improvement in Siem Reap City and other areas (IDA - US\$23.27 million)**

11. This component is focused on supporting the development and construction of branch sewers to the existing main sewer transmission lines in Siem Reap City, to enable household and businesses to connect directly to the city sewerage system. A large wastewater treatment plant and primary transmission mains were built in 2008 without secondary and tertiary sewers. Currently, only major premises close to the main sewers are connected, and there is instead reliance on interceptors to collect sewage from main drains. Limited collection and damage to the transmission lines resulted in little sewage reaching the treatment plant. Where climate change induced flooding in the city occurs, there is high fecal contamination of flood water creating health risks across many neighborhoods in the city. The construction of branch sewers coupled with a household connections program will improve the collection and transmission of household excreta to the wastewater collection and treatment facilities, reducing the exposure pathway of fecal contamination to the population in the event of floods. This component will also support rehabilitation and the augmentation of the existing sewerage system to improve its operational efficiency, including rehabilitation and upgrading of sewage pumping stations and fecal sludge receiving and management systems.

12. This component will support sanitation promotion and/or investments in communes where water supply is supported under Component 1 to address wastewater generated as a result of increased availability of water supply. Given the small sizes of these water supply scheme, the focus will likely be the promotion of household sanitation and good drainage around households. Where feasible, small scale decentralized wastewater treatment systems will be developed.

13. Technical assistance will be provided to augment and support the project management and supervision capacity of the implementing agency. Additionally, this component will also include capacity and performance improvement technical assistance to the Siem Reap Wastewater Treatment Plant Unit to ensure adequate operations and maintenance of the sewer lines and sanitation facilities, management of fecal sludge services including collection and treatment, to ensure wastewater effluent meeting discharge standards, and to ensure better gender representation in the management of the utility. Necessary equipment for operations and maintenance will be also provided. A program of communications (to be informed by gender analysis) and promotion will be carried out to encourage households and businesses to connect to the sewerage system. A technical assistance to support the MPWT develop urban sanitation strategy and investment plan will also be provisioned.

**Component 3: Contingent Emergency Response (IDA - US\$0.00 million)**

14. The objective of this contingent emergency response component, with a provisional zero allocation, is to enable immediate response through the reallocation of project proceeds in accordance with the IDA Immediate Response Mechanism in order to provide an immediate response to an eligible crisis or emergency, as needed. An Emergency Response Manual (ERM) will be developed for activities under this component, detailing streamlined FM, procurement, social and environmental safeguards, and any other necessary implementation arrangements. In the event that the component is triggered, the results framework would be revised to include appropriate indicators related to the emergency response activities.

15. **Project Beneficiaries.** The direct beneficiaries will be the population of towns and districts where water supply and/or sanitation schemes will be financed by the project. Currently, water supply investments are expected to directly benefit about 105,000 people in various towns and communes. Among people residing within the service area of the urban sanitation networks in Siem Reap city, additional 22,000 people are expected to have access to improved quality of sanitation services through connection to sewer network or have their sludge safely collected and treated. Additional beneficiaries include people benefiting from hygiene behavior change messages in the project location and beyond, staff (both men and women) of the water supply and sanitation operators receiving capacity building support from the project.

16. **Citizen engagement will be implemented throughout the project.** During the project implementation, ongoing government public forum at the concerned localities will be leveraged, where possible, so as to provide project information as much as possible to the citizens and to receive suggestions for the project. Waterworks and wastewater operators supported by the project would also implement social accountability framework, through engaging people benefitting from the service to: (a) understand minimum water supply and sanitation service standards, (b) monitor and provide feedback on service provider performance, and (c) identify and agree on actions to be taken by service providers to improve the quality of services. The MIH also has a complaint mechanism whereby public can submit their complaints to the MIH and track how their complaints are being addressed in regard to water supply service provision. The project will also leverage on this platform by disseminating this mechanism to wider public and by supporting the MIH in timely handling of the complaints.

### 3. POLICY AND REGULATIONS

#### 3.1 National legislations, Regulation and Policies

17. Overall management of the environment is under the responsible of the Ministry of Environment (MoE), which was created in 1993. The MoE is responsible for implementation of the Law on Environmental Protection and Natural Resources Management. At the provincial and city levels, there are corresponding provincial/city environment departments. These local departments have the responsibility of enforcing the environmental legislation coming under the competence of the MoE. However, the daily operation functions of these departments would normally be under the direct control of the provincial authorities.

18. The framework law calls for an initial environmental impact assessment (IEIA) or full environmental impact assessment (EIA), depending on type and activity and the site of the project (Sub-Decree on IEIA/EIA process (article 1 and 2 of Sub-Decree of IEIA/EIA process), to be conducted for every private or public project, to be reviewed by the MoE before submission to the Government for a final decision. All proposed and existing activities are to be covered under this requirement. Recently, the Declaration on General Guidance, N 376 BRK.BST, for conducting initial and full environmental impact assessment has been signed and enacted on September 02, 2008 by the Minister of Environment. The goal of the guidance is to implement initial environmental impact assessment (IEIA), full environmental impact assessment (EIA), and to provide general guidelines and checklists. IEIA or EIA is required for every project, depending on type and activity and the site of the project (Sub-Decree on IEIA/EIA process (article 1 and 2 of Sub-Decree of IEIA/EIA process). The Ministry of Environment is responsible for reviewing the EIA reports, the required follow-up, and monitoring.

19. This Chapter briefly describes the national legislative and policy framework which is relevant to the proposed project.

#### 3.2 Environmental Protection and Natural Resource Management Law

20. The Environmental Protection and Natural Resources Management Law was enacted by the National Assembly and launched by the Preah Reach Kram/NS-RKM-1296/36. It was enacted on November 18, 1996. This law has the following objectives:

- (a) To protect and promote environment quality and public health through prevention, reduction and control of pollution,
- (b) To assess the environmental impacts 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 provide possibilities for the public to participate in the protection of environment and the management of the natural resources, and
- (e) To suppress any acts that cause harm to the environment.

21. Under this law the developers or project owners need to prepare an IEIA or EIA report for their proposed or existing development projects.

#### 3.3 Environmental Impact Assessment Process Sub-Decree

22. The sub-decree No 72 ANRK.BK on Environmental Impact Assessment Process dated 11 August 1999. The key relevant articles are as follows: The main objectives of this sub-decree are:

- (a) To determine an Environmental Impact Assessment (EIA) upon every private and public project or activity, it must be reviewed by the Ministry of Environment (MoE), prior to the submission for a decision from the Royal Government.
- (b) To determine the type and size of the proposed project(s) and activities, including existing and ongoing activities in both private and public sector prior to undertaking the process of EIA.

- (c) Encourage public participation in the implementation of the EIA process and take into account their conceptual input and suggestions for re-consideration prior to the implementation of any project.

### **3.4 Water Pollution Control Sub-Decree**

23. The sub-decree No 27 ANKR.BK on Water Pollution Control is dated 6 April 1999. The purpose of this sub-decree is to regulate water pollution control in order to prevent and reduce the water pollution of public water areas so that the protection of human health and the conservation of bio-diversity will be ensured, Article 1.

24. This sub-decree applies to all sources of pollution and all activities that cause pollution of public water areas, Article 2. The sub-decree also gives the pollution types, effluent standards, and water quality standards in different areas. Concerning the project some water quality standard for the public water areas will be applied.

### **3.5 Solid Waste Management Sub-Decree**

25. The sub-decree No 36 ANKR.BK on Solid Waste Management is dated 27 April 1999. The purpose of this sub-decree is to regulate solid waste management in a proper technical manner and safe way in order to ensure the protection of human health and the conservation of bio-diversity.

26. This sub-decree applies to all activities related to disposal, storage, collection, transport, recycling, dumping of garbage and hazardous waste.

### **3.6 Air Pollution Control Sub-Decree**

27. The sub-decree N0 42 ANRK.BK on Air Pollution Control and Noise Disturbance dated July 10, 2000. This sub-decree has a purpose to protect the environment quality and public health from air pollutants 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.

### **3.7 Sub-decree on Management of Drainage and Wastewater Treatment Plant System**

28. The sub-decree on management of drainage system and wastewater treatment plant system was enter into forced on 25 December 2017. The purpose of this sub-decree is to improve the management of drainage system and wastewater treatment plant in effectiveness way, transparency and accountability in order to ensure that there were safety, public health and biodiversity conservation.

Standard Discharge of Wastewater from Business Building, Resident, City and Resort or Creation Center into Sewer System Connection to Wastewater Treatment Plant. The sub-decree also includes effluent standards which appear to be stricter than the sub-decree on Water Pollution Control sub-decree No 27.

### **3.8 Cultural Heritage Protection**

29. Cambodian cultural heritage issues are governed by several laws and decrees, including:
- ✓ The Royal Decree on the Establishment of Protected Cultural Zones in the Siem Reap/Angkor Region and Guidelines for their Management (1993);
  - ✓ The Royal Decree Establishing the Supreme Council on National Culture (SCNC, 1995);
  - ✓ The Royal Decree on the Establishment of a National Authority for the Protection, Management of Angkor and the Region of Siem Reap (APSARA, 1995); and
  - ✓ The Law on the Protection of Cultural Heritage (1996).

30. The Law on the Protection of Cultural Heritage, Chapter 1, Article 4 defines cultural property. Chapter Two, Section 7: Chance Discoveries, Articles 37 and 39 of the same law govern actions to be taken in the event that road works unearth cultural property.

31. Article 37 states that when construction work or any other activity unearths cultural property, those who discover the object(s) are obliged to stop the construction work and immediately make a declaration to the local police. The Police are to transmit the declaration to the Governor of the province without delay. The Governor in turn informs the competent authority (either SCNC, or in Siem Reap, APSARA) and takes measures to ensure the protection of the object(s) and the site. Such measures are decided by the competent authority.

32. Article 38 states that the competent authority shall, within 30-days of the declaration, announce the temporary suspension of the construction and the safeguarding measures to be taken. When no such announcements are made within 30-days, the work suspension no longer applies. The water supply and sanitation project construction activities do not cross any known heritage sites. Nevertheless, sanitation works may unearth archaeological artifacts (“chance finds”), or cultural property, particularly given that Siem Reap province has a number known heritage sites.

### **3.9 Government’s Policy, Regulations, and Guidelines on Land Acquisition and Resettlement**

#### **National Legal Framework on Compensation.**

33. **The 2001 Land Law**, based on the provisions of the 1993 Constitution, states that no person shall be “deprived of his or her ownership unless this action is for the public interest”. The law recognizes that deprivation of ownership opens right to “payment of just and fair compensation in advance”. The Constitution states that “the right to confiscate possessions from any person shall be exercised only in the public interest” and opens right to just compensation. However, there are currently no laws and regulations that govern the process of acquisition and the determination of just compensation.

34. Those affected by national infrastructure projects such as major roads do receive compensation. Cash compensation is normally provided when houses are impacted. There are local projects such as rural roads where no compensation is provided. This is because all in the local communities are seen as benefiting from the new road. However, the relatively new Commune Planning and Investment Guidelines specify safeguard measures for those affected by small infrastructure development.

#### **National Legal Framework on State Land Encroachment.**

35. **The 2001 Land Law** has drawn a clear line between those who opened land for residential or farming purposes before August 30<sup>th</sup>, 2001, and those who did so after this date. In the first case, occupants may be recognized as legal occupants of State land in the future when land is registered as State private land. In the second case, occupants are illegal. Article 18 of the Land Law provides strong tools for evicting encroachers. They do not “have the right to claim compensation or reimbursement for expenses paid for the maintenance or management of immovable property that was illegally acquired” (Article 19).

36. Ownership of the lands is granted by the State to indigenous communities’ as collective ownership, including all the rights and protections enjoyed by private owners. The exercise of collective ownership rights are the responsibility of the traditional authorities and decision-making mechanisms of the indigenous community, according to their customs and subject to laws such as the law on environmental protection. (Article 26).

37. Persons with legally valid possession of land for five years (**at the time the law came into effect-2001**) can be registered as the owner of the land (Article 30)

38. **A Circular No. 02** issued by the Royal Government of Cambodia on Illegal Occupation of State Land dated February 26, 2007, states that while occupation of land as a form of possession became illegal after August 30<sup>th</sup>, 2001, there is a need for the state to undertake Social Land Concessions (SLCs) for poor people and disadvantaged groups to meet their needs for land deriving from population growth, demobilization of soldiers, and land loss due to natural disasters. However, the current anarchical illegal

taking of state land also provides opportunities for land speculators and powerful persons to take illegal possession of state lands through various means. To address this situation, Circular Number 02 determines that:

- (a) Generally, the illegal state landholders, especially land speculators, are not entitled to compensation (Para 6.1 in Circular No. 02).
- (b) Illegal state landholders, who are poor families and landless or lack land and are disadvantaged, would not be entitled to compensation, but may receive preferential treatment to obtain an appropriate amount of land for their livelihood (Para 6.2 in Circular No. 02).

For state private land, this can be done through sale, lease, gift, usufruct (right to use and enjoy the fruits of the land for life), social land concessions, economic land concessions, or use permits. A decision on specific options must be based on coordination between the territorial authority, the State Land Trustee Authority, and the person using the land, and be based on a land use plan. (Para 7.1 in Circular No. 02).

### **2010 Expropriation Law**

39. The Expropriation Law, passed by the National Assembly on 29 December 2009 and promulgated by the King on 4 February 2010, contains 8 Chapters with 39 Articles. It provides clear procedures on acquiring private properties for national and public interests. Some of the Key Articles of the Law are listed below:

- (i) Article 2: the law has the following purposes: (i) ensure just and fair deprivation of a legal rights to private property; (ii) ensure prior fair and just compensation; (iii) serve the national and public interests; and (iv) development of public physical infrastructure.
- (ii) Article 7: Only the State may carry out an expropriation for use in the public and national interests.
- (iii) Article 8: The State shall accept the purchase of part of the real property left over from an expropriation at a reasonable and just price at the request of the owner of and/or the holder of right in the expropriated real property who is unable to live near the expropriated scheme or to build a residence or conduct any business.
- (iv) Article 11: Before exercising any expropriation, the government shall prepare enough annual budgets, and grant adequate and timely fund to the Expropriation Committee at the request the MEF for compensating the owner of and/or holder of real right to the immovable property by the expropriation.
- (v) Article 12: An Expropriation Committee shall be established and headed by a representative from the MEF and composed of representatives from relevant ministries and institutions. The organization and functioning of the Expropriation

### **Other Relevant Laws and Regulations**

40. MEF Sub-Decree No. 115 dated 26 May 2016 on promoting Resettlement Department to GDR provides mandate to the GDR to lead all resettlement activities including preparation of RP, implementing, and internal monitoring of the RP.

### **Consistency between National Legal Framework and World Bank.**

41. *Safeguard Policy OP 4.12.* Land acquisition and involuntary resettlement may cause severe long-term hardship and impoverishment unless appropriate mitigating measures are carefully planned and carried out. Land acquisition and involuntary resettlement will be avoided or minimized to the extent possible in the project, both with regard to the rural and urban development components. The Resettlement Policy Framework, which is a companion to this ESMF in the management of social and environmental risks, establishes equivalence between current Cambodian law and the World Bank's OP 4.12 on Involuntary Resettlement by defining measures to fill the gaps between the national legal framework and OP 4.12.

**How is Involuntary Resettlement Defined in the World Bank Safeguard Policy?**

“Involuntary” resettlement designates not only cases where people may be physically displaced by a project, but also cases where land is taken for project purposes, resulting in people losing access to land or other resources from which they derive their income, or lose a house or other assets.

42. **OP 4.12** (Para 15) does provide for resettlement assistance to “those who have no recognizable legal right or claim to the land they are occupying”. In such cases, OP 4.12 does not require compensation for the land itself, but for loss of assets other than land (such as buildings, trees, standing crops), and resettlement assistance may consist of cash, other assets, employment, or land as appropriate. OP 4.12 does not distinguish between poor and rich squatters and encroachers, but accords both the same entitlement to resettlement assistance. Thus, there are two points of inconsistency between the Cambodian legal framework and OP 4.12, which the RPF addresses.

### **3.10 World Bank Operational Policies**

43. Environmental safeguard policies of the World Bank (WB) are in place to ensure that development projects that receive World Bank support are environmentally sound. Effective application of safeguard policies results in projects that are responsive to local environmental and social imperatives and are consistent with the country’s long term development strategy.

44. The project/subproject screening report would identify the World Bank’s environmental and social safeguard policies applicable to the project, also identifies when and how the Bank’s Safeguard Policies are triggered or not triggered. Screening of the project activities and a consideration of the type of future investments planned has led to the conclusion that this project triggers the following safeguard policies

- Environmental safeguards: Environmental Assessment (OP/BP 4.01), Physical Cultural Resources (OP/BP 4.11), Natural Habitats (OP/BP 4.04), Safety of Dams (OP/BP 4.37), due to the anticipated small-scale and potentially irreversible impacts from (i) civil works such as installation of water supply pipes, construction of sewer network, (ii) possible water source from natural streams, (iii) located in cultural heritage area, (iv) as pre-caution for possible connection of water source to nearby dam
- Social safeguards: The project triggers both the Involuntary Resettlement (OP/BP 4.12) and Indigenous Peoples Policy (OP/BP 4.10). The involuntary resettlement policy is triggered. This is because both the sanitation and water supply works to be financed may involve the disruption of commercial or other activities occupying the right of way, or the acquisition of private land for investments such as water treatment plant. The indigenous people’s policy is triggered due to the presence of indigenous communities who are likely to benefit from the extension of water supply investments under Phase 2 in Mondulkiri. Because the works likely to benefit indigenous communities will not be designed until the implementation stage, an Indigenous Peoples Planning Framework (IPPF), was prepared in lieu of an indigenous peoples plan. The IPPF drew on the findings of the preliminary social assessment and consultation meetings conducted by the Mondulkiri waterworks.
- Other safeguards: Projects on International Waterways (OP/BP 7.50) is triggered since some investments are connecting to the international waterways.

#### **Environmental Assessment (OP 4.01)**

45. Potential project activities such as installation of PVC pipes, construction of sewage system that may create nuisance such as air/order quality, soil erosion, pollution of surface and ground water resulting from construction activities. Given the small-scale nature of these activities the impacts are minor, temporary, site specific and manageable through project design and construction management techniques, the project is category “B”.

#### **Natural Habitats (OP 4.04)**

46. This policy is triggered since component 1 on expanding water supply services may finance water supply schemes that may source water from natural streams or water body in selected towns. The water sources are not expected to be any known critical natural habitat or wet land area.

47. It is expected that some of the communities who benefit from the project live inside or nearby natural habitat such as forest. Minor disturbance and site specific impact may occur during the implementation and operation of subprojects, however, the impact is expected to be minor and site specific and it can be mitigated through the application of ECOP included in this ESMF. The ESMF includes screening procedure to (i) determine whether the proposed facilities are in a critical or non-critical natural habitat and (ii) avoid any significant conversion or degradation of any critical natural habitat.

#### **Physical Cultural Resources (OP 4.11)**

48. The WB OP 4.11 assists countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it finances. The impacts on physical cultural resources resulting from project activities, including mitigating measures, may not contravene either the borrower's national legislation, or its obligations under relevant international environmental treaties and agreements.

49. The project triggered OP4.11 as under component 2, the sewage and drainage investment proposed is located in Siem Reap town known for historical and cultural heritage.

#### **Safety of Dams (OP/BP 4.37)**

50. This policy is triggered as the project may finance water supply schemes that will source water from streams or water bodies that connects to an existing canal, reservoir or water source connected to small dam.

#### **Projects on International Waterways (OP/BP 7.50)**

51. Some project activities will involve in international waterways including the main or tributaries of the Tonle Sap Lake, the Tonle Sap River, and the Mekong River. Known water supply scheme location in Stoung town will potentially extract water from a tributary connecting to Tonle Sap Lake, the effluent from wastewater treatment plant in Siem Reap discharges to a canal which is discharged to areas next to Tonle Sap Lake, and a precaution for other subproject locations that will be identified during project implementation. All the riparian countries have been notified on **September 22, 2018**.

#### **Involuntary Resettlement (OP 4.12).**

52. According to this policy, involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.

53. Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.

54. Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

55. The policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

56. The policy applies to all components of the project that result in involuntary resettlement, regardless of the source of financing, and to other activities resulting in involuntary resettlement, that in the judgment of the Bank, are (a) directly and significantly related to the Bank-assisted project, (b) necessary to achieve its objectives as set forth in the project documents; and (c) carried out, or planned to be carried out, contemporaneously with the project

**Indigenous Peoples Policy (OP/BP 4.10)**

57. The World Bank's Operational Policy 4.10 on Indigenous Peoples is triggered for this project as there are indigenous people in the project area. In compliance with the OP 4.10, an Indigenous Peoples Planning Framework (IPPF) is developed to ensure that indigenous peoples would be sufficiently and meaningfully consulted leading to their free, prior and informed consultation (FPIC) to project interventions, that they would have equal opportunity to share the project benefits, and that any potential negative impacts are properly mitigated. The IPPF will form a basis for project implementation and monitoring and evaluation of how the project deals with indigenous peoples issues. At project implementation stage, Indigenous People Plan (IPP) will be developed, based on this IPPF, after the target areas are well defined and results of social screening confirmed adverse impact on IP communities.

58. The ESMF has been designed so that all investments under the project will comply with the national environmental laws/regulations and the World Bank Safeguard Policies. ESMF reports will include mechanisms to determine and assess future potential environmental impacts of the selected subproject investments. They will then set out mitigation, monitoring and institutional measures to be taken during implementation in order to eliminate adverse environmental impacts, offset them, or reduce them to acceptable levels.

## 4. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

### 4.1 Potential Impacts under Provincial Water Supply (Component -1)

59. For water supply infrastructure and household connection within the current service areas, the investment will involve the construction of additional distribution network of the provincial waterworks, extension of main water pipe along the main road to other adjacent areas, adding new distribution pipe on the other side of the road (in towns where the current pipe is only laid at one side of the road), building water distribution substations, and new small-scale water supply systems, water treatment plant and distribution network in selected communes outside provincial towns. The work will involve digging the ground along the road for laying distribution pipes and acquiring land for building the water treatment plants and substations. Specific locations of pipe network sub-project Phase 1 in Mondulkiri have been identified. Locations of other subprojects will be identified during the implementation stage.

60. For component 1, environmental and social screening results (Annex 1a) confirmed that pipe-laying in Mondulkiri (Phase 1) will not involve removal of street trees, and urban parks will not be affected. Other locations-- that will be identified during implementation--will likely be in the same situation, of which negative impacts are minor and can be mitigated through the ESMP and/or ECOP. At a minimum the ESMP will include a standard ECOP and site-specific mitigation measures, including environmental monitoring program. Some subproject situations can use more general mitigation measures known as ECOPs. Aside from Mondulkiri (Phase 1), investments under Component 1 will include constructions of water treatment plants where land will be acquired for the facilities (see details in RPF) and impacts of civil works can be managed through the ESMP (see annex 2 and ECOP (see annex 3).

61. **Positive impacts:** Overall, the WaSSIP is environmentally and socially beneficial. The provision of safe drinking water is expected to have a significant positive impact on the improvement of livelihoods and the environment.

62. The overall social impact of the project is expected to be strongly positive, with the provision of reticulated water supply to provincial city and rural settlements having numerous benefits. These benefits include the provision of basic services in the form of clean water supply, with resulting improved health outcomes amongst the beneficiary population. The provision of reticulated supply to residences will also alleviate the burden of water collection, which disproportionately falls on female members of households. The positive impacts include (i) improved quantity and quality of safe drinking water (ii) reduction in water related diseases such as diarrhea, dysentery, cholera, typhoid and thereby minimizing the cost of healthcare in households (iii) reduction in infant, child and maternal mortality and morbidity due to improved health and sanitation services (iv) reduced distances to water points which will lead to gains in productive time for women and girls.

63. **Negative impacts:** Some minor and temporary negative environmental impacts of component-1 of WaSSIP may occur, resulting mainly from the construction activities. These impacts are readily manageable by standard civil works mitigation measures such as restrictions on working hours, dust management through watering down, and erosion and sediment control. The negative impacts related to construction and operation were screened, stakeholders were consulted, and suitable mitigation measures and a generic environmental and social management plan (ESMP) were developed.

64. The sub-project component is expected to involve simple and/or appropriate technologies that do not pose any significant environmental or social consequences.

### Water Source Sustainability

65. A key environmental issue for the project is the sustainability of the raw water supply and the avoidance of any environmental impacts from source development. The proposed investment in Mondulkiri town water supply consists of two phases. The first phase will include the extension of the distribution network to fully utilize the current installed production capacity. The current system has the production capacity of 2,000 m<sup>3</sup> per day, while the water supply sold is only less than 1,000 m<sup>3</sup> per day, sparing

significant production capacity for supplying to additional population. A second phase will involve the identification of the need for additional water supply in the future, consisting of new production and distribution (including demand assessments, identification, and feasibility studies), its preparation (including design and other preparation) and construction. The second phase will be identified and undertaken during project implementation.

66. To ensure environmental impacts are avoided, assessments of the proposed additional water source for phase II will be undertaken to determine their sustainability. These assessments will consider the ecological values of the water sources, seasonal variations in supply volumes and the proposed extraction regime to determine the source sustainability. Candidate water supply schemes with sources that are not sustainable from an environmental perspective will not be eligible for project financing. Furthermore, if source development may result in unacceptable impacts on freshwater habitats these schemes will not be eligible for project financing.

### **Construction Phase Impacts**

67. Potential construction phase impacts may include the following:

- ✓ noise from construction machinery operation. Where surrounding buildings - especially hospitals, schools and houses - are close to the construction site, care must be taken to ensure that noise does not adversely affect building occupants;
- ✓ air quality impacts from operating machinery (i.e. fumes) and dust generation from earthworks;
- ✓ access restrictions to properties and other premises for short periods during installation of reticulation and other infrastructure;
- ✓ damaging the sidewalk surfacing tiles/concrete pavement in front of houses;
- ✓ generation of solid waste, which will be limited to packaging waste and material offcuts; and fuel and oil spills from operating machinery and storage facilities.

68. Standard civil construction mitigation measures will be applied to minimize these impacts including:

- ✓ clean water diversions around earthworks sites and minimizing area of disturbance at any one time;
- ✓ adopting standard working hours and limiting the duration of noisy activities as necessary;
- ✓ maintaining machinery in good working order and watering down earthworks sites as necessary;
- ✓ providing temporary access to essential services, businesses and households during construction;
- ✓ the quantities of works and related costs associated with restoring the sidewalk tiles/concrete pavement will be included in the Bill of Quantities of the civil work contract to make sure that the contractor will restore to a better or similar conditions as pre-construction conditions;
- ✓ storage of solid waste in receptacles and disposal at approved landfills; and
- ✓ provision of spill response kits and storage of fuel and oil in banded enclosures or secure containers;

### **Operation Phase Impacts**

69. Once the water supply systems are commissioned environmental impacts will be very limited. Noise impacts from pump stations will be inconsequential as pumps will generally be electrically-powered (submersible in the case of groundwater-based systems). Back-up diesel-powered pumps will be housed in brick buildings.

70. Water treatment will mainly involve alum/PAC flocculation (to remove suspended sediment from stream-sourced water) and chlorine dosing to kill bacteria and other pathogenic microorganisms. Minor quantities of alum/PAC sludge will be generated, however this is environmentally benign and can be disposed of by burial.

71. The events creating the two greatest risks involved in the operation of the distribution system are the pressure being too low, and contamination getting into the distribution system. To mitigate these risks during operation, preventive measures are:

- ✓ monitoring changes in flows and pressure in the system;
- ✓ monitoring the operation of network pumps and have preventive maintenance programmes for them (and bore pumps if part of the system);
- ✓ making sure maintenance crews follow good hygiene and disinfection practices when mains have to be opened;
- ✓ training staff so they know about quality issues and good work practices;
- ✓ making sure new or repaired mains are suitably flushed and disinfected;
- ✓ maintaining a disinfectant residual in the distribution system.

72. Potential negative social impacts are associated with poor water quality from the supply systems. To avoid potential impacts raw water will be treated with disinfecting agents such as chlorine and treated water will be regularly tested against the Cambodia National Drinking Water Quality Standards and World Health Organisation (WHO) drinking water quality guidelines.

#### **4.2 Potential Impacts under Provincial Sanitation Improvement (Component -2)**

73. For sanitation improvement, the investment will involve the construction of sewer network and connection sewer in Siem Reap City and in communes where water supply is supported. Locations of rehabilitating three pumping stations and constructing west and east zones of sewer network have been identified. Siem Reap is known for the historical and cultural heritage. It has not yet been decided where the project will be located, but the overall plan for the sewer extension is available. It is also reported that the treated wastewater is currently being discharged to the agricultural land. In addition, the project may also support the construction of small-scale wastewater treatment plant and sewer network in some towns where water supply is provided. In the case of Siem Reap city, this work will require land acquisition for excavation work to install sewer network. Some sewer network will pass through densely populated areas. For other small towns, the works will need land acquisition for the small-scale wastewater treatment plant and excavation for the sewer network. Since locations of those small towns have not been identified, it is not yet known where the treated wastewater will be discharged to.

74. For component 2, environmental and social screening results (Annex 1b) confirmed that pipe laying and pumping stations rehabilitation will cause temporary and minor-to-moderate impacts (see impacts during construction and operation phases). These impacts can be mitigated through the ESMP and/or ECOP.

75. The resettlement impacts for proposed Wastewater Collection Network Development in Siem Reap City will be very minimal and only temporary during construction works. However, these impacts will be mitigated through proper construction methods.

76. **Positive impacts:** Overall, the WaSSIP is environmentally and socially beneficial. The provision of sanitation facilities is expected to have a significant positive impact on the improvement of livelihoods and the environment.

77. **Negative impacts:** Some minor and temporary negative environmental impacts of WaSSIP may occur, resulting mainly from the construction activities. These impacts are readily manageable by standard civil works mitigation measures such as restrictions on working hours, dust management through watering down, and erosion and sediment control. The negative impacts related to construction and operation were screened, stakeholders were consulted, and suitable mitigation measures and a generic environmental and

social management plan (ESMP) were developed. The main impacts and mitigation measures, which are included in the ESMP, are outlined as follows:

### **Construction Phase Impacts**

78. Pipe laying will impede traffic, including access to individual properties. The impacts are temporary and will be mitigated by requiring the contractor to (i) provide notices to the public advising of timing and duration of construction work and the effects on traffic routes during construction; (ii) place "safety first" traffic signs and warning signs, (iii) identify and mark detours when necessary, (iv) arrange temporary traffic signals, (v) liaise regularly with traffic police (vi) clearly demarcate construction sites and (vii) to the extent practicable, schedule work that blocks roadways to periods of low traffic.

79. In the case of densely populated areas, nuisance and disruption will depend on the precise choice of technique by the contractor. It is most likely that the open-trench technique will be used. This will unavoidably block one lane of traffic, while pipe sections and removed material will be placed at the construction site temporarily and may obstruct the sidewalk. The contractor will be obliged (i) maintain one free traffic lane, (ii) provision of a detailed traffic management plan for review and approval by the implementation consultant, (iii) provide notices to the public, (iv) place traffic safety signs and detour sign and (v) fence off the construction sites outlined in the ESMP.

80. The rehabilitation of the existing pumping stations will involve only equipment replacement/installation and minor works within the existing facilities. Thus, no significant impacts are expected.

81. **Noise pollution and vibration.** Excavation and pipe laying will cause noise and vibration, as will the improvement of the wastewater treatment plant and the construction of the new wastewater treatment plant. To mitigate the impacts, the contractors will be required to (i) provide information on scheduled work to affected persons through direct liaison about the timing and duration of the works (ii) limit construction activities to normal daylight working hours (iii) adhere to the planned work schedule and (iv) ensure that all construction equipment and vehicles are kept in good working order with working exhaust mufflers.

82. **Waste Generation.** Construction waste will include packaging of equipment, fuels, lubricants, materials, equipment and food. Some special lubricants and paint for marking may be hazardous. Imports of such materials for the work and their disposal of surplus materials and of packaging will be complied with the Sub-Decree on Solid Waste Management (ANKR.BK No. 36 of 27 April 1999). All other solid waste will be taken to a landfill or municipal waste disposal site.

83. Civil works in some sections could release untreated sewage and sludge. The material will be removed by contractor section by section as the work proceeds. The untreated sewage will be collected and transported by a vacuum truck if feasible (the material may contain fragments of the old pipe that would make the use of a vacuum hose infeasible) or in a truck with a sealed and covered tray to prevent spillage, and transported to the city's wastewater treatment plant.

84. **Release of silt.** Excavations from pipe trenches and foundations for structures will involve making temporary stockpiles of material that will either be removed or re-used as backfill. To prevent soil release contractors will be required to exercise caution to prevent erosion losses, ensuring that (i) excavated areas are rapidly refilled on completion of works (ii) stabilize soils once the pipeline is in place (iii) place silt fences around temporary piles of excavated material and (iv) avoid excavation of trenches in wet weather to the extent practicable.

12. **Wastewater and sludge.** Existing wastewater flows will not require management during construction, as the connections to the existing main sewer network will function after the construction. Sludge from stabilization ponds excavated should be allowed to dry and then be covered, or excavated and disposed at an approved landfill where the material (stabilized sludge) will be suitable for use as landfill cover, or distributed for land application. The subprojects include provision of sludge pumps, and drying beds refurbishment. It is envisaged that ponds that will be desludged will take place after intervals of at least 3 years, while digestion takes place to reduce pathogens. Drying further reduce pathogens and helminths worm eggs. Further studies has to be conducted to determine sludge pathogen content. In case

of implementing septic sludge treatment facility (not in the project scope), sludge may be treated with septic sludge.

85. **Soil and water pollution.** The use of vehicles and plant can cause risks of soil and water pollution, in the event of leaks and spills of fuel, lubricants, hydraulic fluid or other fluids used for vehicle operation. To reduce risks and limit impacts the contractor will be required to ensure that vehicles and plant are maintained in sound operable condition, free of leaks and that the condition of vehicles and equipment is regularly checked. The contractor will prepare and submit a plan for spill management, including provision of spill kits, training/briefing of workers on procedures on handling spills and allocation of responsibility within the contractor's team for ensuring that spill kits are available and that workers know how to use them.

86. **Air and dust pollution.** Potential sources of air pollution are exhaust fumes from vehicles and plant, dust from transport of construction and waste materials and areas around work sites where soil and debris is deposited. The mitigation measures are to require vehicles and equipment to be well maintained and tuned and fitted with exhaust baffles. Trucks are to be fitted with tarpaulins to cover loads when carrying fine material. Water will be applied to suppress dust around work sites where needed. In addition, mud on roads is mainly caused by trucks and heavy equipment. Mud is considered to be a danger to users of the highway because it may cause loss of control and skidding and lead to accidents. Thus, vehicles, trucks and construction equipment shall be cleaned to remove mud before circulation on public roads.

87. **Community health and safety risks.** The use of machinery and/or plants, handling of untreated sewage, use of compressed air lines and cables and excavations are all potential hazards to the public. Risks are to be mitigated by providing notices to the public identifying hazards; erection of safety barriers/covers for area of open excavation and provision of watch persons to control access.

88. **Occupational Health and Safety.** To reduce day to day risks associated with working with heavy equipment in trafficked areas, contractors will be required to appoint health and safety officers for each site and to ensure regular briefing of the construction workforce on health and safety issues. Personal protective equipment to be provided to the workforce, appropriate to each site. Contractors will be required to arrange inoculations against infectious diseases.

89. **Risks of inadequate effluent quality.** The existing wastewater treatment plant was constructed based on the national effluent discharge standard when discharged to lakes and reservoirs. This is more stringent than the requirement for discharge into a river. This standard has been used as discharge will not be directly to the river but through a series of public irrigation waterways, thus taking account of environment, health and safety (EHS) guidelines which emphasize the intended use of the receiving water body. Existing stabilization ponds have been reassessed and confirmed that the effluent standards can be met. Consistent attainment of the standard requires correct day to day operation. Failure to carry out the day to day tasks involved in operation, undertake routine maintenance and carry out repairs to the ponds and equipment as required could impair the effectiveness of the wastewater treatment plant. Successful operation of the plant involves keeping flows of effluent constant to ensure that bacteria involved in the treatment process are kept alive. Critical tasks are, (i) monitoring of pump operation, (ii) rapid rectification of any failures of the pumps, (iii) monitoring of odour, to identify anaerobic conditions which can arise from a shortage of air in the system or excessive or unexpected loads. Regular monitoring and reporting on the findings are required to ensure that the plant is effective. The project will provide laboratory equipment and capacity building on O&M to the wastewater treatment plant unit.

90. **Sludge management.** Sludge is removed as the anaerobic lagoons are nearly half-full, this is likely to occur every 3 years if septic sludge are no longer discharged in the anaerobic ponds. This involves pumping the sludge from the pond. The sludge is then dried to reduce water content and reduce both helminths worm eggs and pathogens. Sludge is to be delivered to a landfill, or disposed of by land application. Where it is to be disposed of by land application, sludge should be tested to ensure that contaminant levels comply with national standards for discharge to public water areas.

91. **Operator occupational Health and Safety.** In addition to training, including training in recognizing and rectifying risks and hazards, the provision of personal safety equipment and its continuous use is necessary and shall be issued and worn. Health and safety will be recognized as primary an employer

responsibility. The treatment involves microbial digestion and no hazardous chemicals are used. The necessary level of operation and maintenance needs to be ensured by training on occupational health and safety, provision of operational manuals, and provision of safety equipment.

92. **Community Health and Safety.** The wastewater treatment plants and to a lesser extent, the septage facility are potentially hazardous to human being and animals. Therefore, the operators need to control the access. Regular checking of the perimeter fence to ensure it is effective to prevent members of the public from entering the WWTP. Impacts of odour or air emissions are limited.

93. **Risk of pipe failure.** Failure of sewage pipes (including potential repeat failure in Siem Reap) would cause release of untreated sewage and release into waterways, entailing human health hazards. The risks are mitigated by early detection. This is achieved by regular inspection to monitor leaks and any blockages. Training in O&M, provision of site log books and help ensure regular inspection.

### **Indigenous Peoples**

94. The 2009 National *Policy on Indigenous Peoples' Rights* recognizes 24 ethnic, indigenous groups in Cambodia. These groups are primarily located in the six northeastern upland provinces of Rattanakiri, Mondulakiri, Stung Treng, Kratie, Preah Vihear, and Kampong Thom.

95. IP's Preliminary data validation has been conducted by Indigenous Rights Active Member (network group) called IRAM, which has a network of 15 provinces and other indigenous NGO-members including: Highlanders Association (HA), Organization for the Promotion of Kui Culture (OPKC), Yak Loam, Cambodia Indigenous Youth Association (CIYA) and other non-IP organizations including Ponlok Khmai.

96. Indigenous Peoples (IP) communities may exist within subprojects' areas of influence. Subprojects under Component 1 may include mountainous areas where the majority of beneficiaries are IP. The OP 4.10 will be triggered and a subproject-specific IPP will be prepared. A social assessment will be undertaken for each sub-project to establish the presence, or otherwise, of IP communities in the respective project areas. If present, IP communities will be provided with equitable and culturally-appropriate benefits from the subproject. A process of free, prior and informed consultation with IP communities will be undertaken to establish broad community support. Furthermore, if customary/IP land is required for subprojects under Component 1, access to such land (via Voluntary Land Donation, negotiated leases or acquisition) will be undertaken in accordance with the Resettlement Policy Framework. Details are provided in the Indigenous Peoples Planning Framework (IPPF).

### **Land Acquisition and Involuntary Resettlement**

97. The approach adopted by the WaSSIP will focus on avoiding any need for land other than Government owned land such as public sites and roads etc. Subprojects requiring involuntary resettlement will be ineligible for project financing at the eligibility screening stage, which are detailed in the RPF.

### **Physical Cultural Resources**

98. As construction works will primarily take place within established road easements and other disturbed locations in urban situations it is unlikely that any physical cultural resources will be uncovered. However, if physical cultural resources are accidentally uncovered they will be managed under a chance finds procedure which is included in ECOP, Annex 3.

## **5. PROCEDURES TO ADDRESS ENVIRONMENTAL AND SOCIAL ISSUES**

99. This section describes the procedures in place to determine: (i) the categorization of the project activity based on potential adverse environmental and social impacts of project activities, and (ii) how potential impacts will be addressed through the selection of appropriate mitigation and management plans. Approved subproject activities must be consistent with these procedures.

## **5.1 Environmental and Social Safeguards Procedures**

100. The procedures for identifying and assessing safeguard impacts of project activities and assessing impact mitigation measures is outlined below. These steps aim to ensure that the World Bank's safeguard policies are followed.

### **Step One – Eligibility Screening**

101. Potential subprojects will be screened for eligibility using the screening form in Annex 1. Subprojects with the potential to cause significant impacts on natural habitats or requiring involuntary land acquisition will not be eligible for financing.

### **Step Two – Technical Screening and Categorization of Subprojects**

102. All subprojects are subject to the screening process using the Safeguards Screening Form in Annex 1 to determine the appropriate categorization of the subproject according to the potential level of environmental and social impact and Bank guidelines (i.e. Category A, B, C or FI). The screening form will determine the appropriate safeguard instrument to be applied according to the type of activity and possible level of impact or disturbance.

### **Step Three – Determine Safeguard Instrument**

103. Following Step Three, MIH and MPWT CMUs will assist in the preparation of the required safeguards instruments.

### **Step Four – Assessment and Consultation**

104. Safeguards instruments will be undertaken by qualified consultants or technical specialists to identify the level of adverse impacts of subprojects and proposed activities prior to any works taking place.

### **Step Five – Preparation of Management Plans**

105. Once the appropriate safeguard instrument has been identified and a proper assessment of potential project-induced social and environmental impacts that could arise during implementation is complete, Environmental and Social Management Plans (ESMP) or ECOP will be prepared and included in the civil works bidding documents. In case of minor impact, such as waterworks, only ECOP is required.

### **Step Six – Implementation of Mitigation Measures**

106. Mitigation and management measures outlined in the ESMP/ECOP (e.g. site selection criteria, diligent construction management, control measures) will be implemented by contractors and supervised by MIH/MPWT CMUs.

### **Step Seven – Monitoring and Reporting**

107. Monitoring is required to gather information to determine the effectiveness of implemented mitigation and management measures and to ensure compliance of the contractor with the approved ESMP. CMUs (with support from relevant consultants) will be tasked to monitor compliance of contractors throughout implementation.

## **6. GRIEVANCE REDRESS MECHANISM (GRM)**

108. The section should describe the mechanism to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the project's performance, including concerning environmental and social impacts and issues. The grievance mechanism should address affected people's concerns and complaints promptly, using a transparent process that is responsive, culturally appropriate, and readily accessible to all segments of the affected people at no costs and without retribution. The mechanism should not impede access to the country's judicial or administrative remedies. The redress mechanism should be

communicated to the communities and included in relevant project documents (e.g. Project Operational Manual).

109. For this project, the project will establish grievance redress committee(s) at the local (provincial, district, and commune) levels to be headed respectively by the Provincial Governor or Provincial Vice-Governor, Chief of District, and Chief of Commune. At the commune level, the membership of the GRM a representative from project affected households (PAH) who shall be chosen from among the project affected people (PAP). In the case of indigenous communities, village level committees will be established and subject to a process of free, prior and informed consultation and will build on the unique decision-making structures of individual indigenous communities, as well as requirements for gender and intergenerational balance. These committees will receive, evaluate and facilitate the resolution of PAP and PAH concerns, complaints and grievances. The grievance redress committees will function, for the benefit of PAP and PAH, during the entire life of the sub-project(s), including the defects liability periods.

110. Grievances from PAP and PAH in connection with the implementation of the RP will be handled through negotiation with the aim of achieving consensus. Complaints have the option of passing through four stages before potentially being elevated to a court of law as a last resort. In addition to the mechanisms below, and at the prerogative of the PAP and PAH, grievances may be taken to other mediating bodies, such as a council of elders, monks at a local pagoda, or any other dispute resolution body recognized by the PAP and PAH.

111. First Stage, Village Level. An aggrieved PAH may bring his/her complaint to village complaints committee established under the IPDP. The committee should attempt to resolve the complaint within 15 days following the lodging of the complaint by the aggrieved PAH. The composition of the group will vary depending on the village, and be subject to a process of free, prior and informed consultation, will build on the unique decision-making structures of individual indigenous communities, as well as requirements for gender and intergenerational balance. If after 15 days the aggrieved PAH does not hear from Village or if the PAH is not satisfied with the decision taken during the first stage, the complaint may be brought to the District Office either in writing or verbally.

112. Second Stage, Commune Level. An aggrieved PAH may bring his/her complaint to the commune leader. The commune leader will call for a meeting of the group to decide on a course of action to resolve the complaint within 15 days, following the lodging of complaint by the aggrieved PAH. The group meeting should consist of the commune leader, representative(s) from Provincial Resettlement Sub-Committee Working Group (PRSC-WG) district offices, and the aggrieved PAH. The commune leader is responsible for documenting and maintaining files of all complaints that are processed. If after 15 days the aggrieved PAH does not hear from Village or Commune authorities, or if the PAH is not satisfied with the decision taken during the first stage, the complaint may be brought to the District Office either in writing or verbally. In the case of PAH from indigenous making a complaint, they will be accompanied by a facilitator paid for by the project, who is conversant in the relevant language, and who will serve as an advocate for the aggrieved PAH during the process.

113. Third Stage, District Office. The District office has 15 days within which to resolve the complaint to the satisfaction of all concerned. If the complaints cannot be solved in this stage, the district office will bring the case to the Provincial Grievance Redress Committee. In the case of PAH from indigenous community making a complaint, they will be accompanied by a facilitator paid for by the project, who is conversant in the relevant language, and who will serve as an advocate for the aggrieved PAH during the process.

114. Fourth Stage, Provincial Grievance Redress Committee. The Provincial Grievance Redress Committee, which consists of the Provincial Governor or Deputy Governor as the committee chairman and Directors of relevant Provincial Departments as members (which will be established in each province prior to DMS), meets with the aggrieved party and tries to resolve the complaint. The Committee may ask the PRSC-WG for a review of the DMS by the External Monitoring Agency (EMA). Within 30 days of the submission of the grievance to the Provincial Grievance Redress Committee a written decision must be made and a copy of the decision sent to IRC, MRD and the PAH. In the case of PAH from indigenous community making a complaint, they will be accompanied by a facilitator paid for by the project, who is conversant in the relevant language, and who will serve as an advocate for the aggrieved PAH during the process.

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115. Final Stage, the Court Procedures. If the aggrieved PAH is not satisfied with proposed remedies developed by the Provincial Grievance Redress Committee based on agreed policies in the RF-RP, the committee shall file administrative procedures against the PAH with the participation of provincial prosecutors. The case will be brought to the Provincial Court and the same will be litigated under the rules of the court. At the same time, the PAH can bring the case to the Provincial court. During litigation of the case, RGC will ask the court that the project proceed without disruption while the case is being heard. If any party is not satisfied with the ruling of the provincial court, that party can bring the case to a higher court. The RGC shall implement the decision of the court.

## 7. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

### 7.1. Public consultation

116. The Water Supply and Sanitation Improvement Project was first discussed with key Government decision-makers, the World Bank and Consultant during the kick-off meeting in Phnom Penh. Extensive consultations were conducted at provincial levels with provincial waterworks, local authorities, communities including indigenous people in the target areas to elicit issues and concerns that community members may have in relation to the project.

117. Focus Group discussion was conducted on June 15, followed by Public consultations for water supply component on August 27, 2018. One week prior to the consultation date, invitations were sent to stakeholders including representatives from provincial authority, the concerned provincial line departments, related commune offices. Community people including indigenous people in the project areas were also invited.

118. Public consultations took place at the public hall of Preah Puth Mondulkiri pagoda. Lists of participants and minutes summary are attached in Annex 4. The main purposes of the consultative meetings are to (i) inform the participants about the project intervention and (ii) seek their view of the project in terms of support, benefit to their community and potential environmental and social impact. All participants in consultative meetings expressed strong support to the project and willing to participate in the construction activities if they are requested to. They view impacts on environment and social is non-significant. The main environmental concerns raised during these consultations were delay in backfilling of excavated holes, improper restoration of excavated pits, construction debris, dust and noise associated with small civil work. The main social concerns raised included high water supply connection fee, the project takes long time to extend the connections to their houses. Such concerns are addressed in Section 6 on mitigation measures.

119. For Component 2, two public consultations were conducted in four Sangkats in Siem Reap city, namely Sla Kram, Svay Dangcum, Kouk Chak and Sala Kamraek , on September 11-12, 2018. One week prior to the consultation date, invitations were sent to stakeholders including representatives from provincial authority, the concerned provincial line departments, related commune offices. Community people in the project areas were also invited.

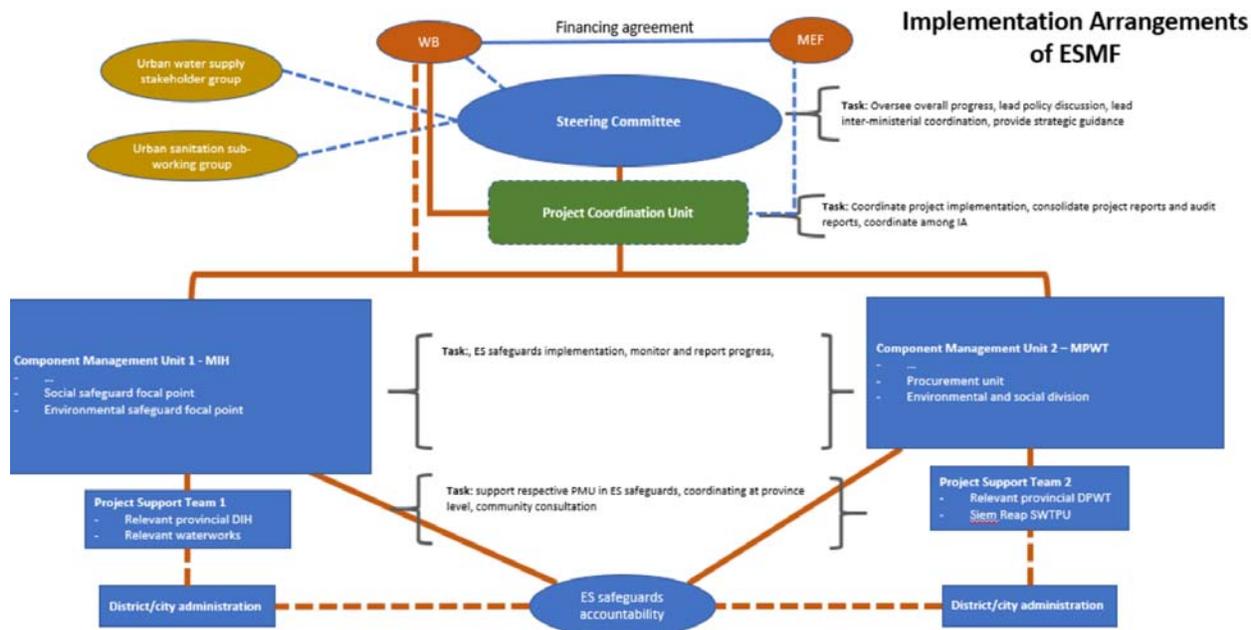
120. Public consultations took place at Serey Peap Hotel on September 11, 2018 and Monoreach Hotel on September 12, 2018. A total of 130 participants were present in the two consultation meetings. Summary of the discussion is attached in Annex 4. The main purposes of the consultative meetings are to (i) inform the participants about the project intervention and (ii) seek their view of the project in terms of support, benefit to their community and potential environmental and social impact. All participants in consultative meetings expressed strong support to the project and willing to participate in the construction activities if they are requested to. They view impacts on environment and social is non-significant and their concerns were not so much about environmental and social Issues of the project and Grievance Redress Mechanism, but all about the project details: time, coverage, O&M, fees and connection issues. The main environmental concerns raised during these consultations were the duration of road excavation, the coordination with other civil works to minimize disruption, and pollution in downstream canal. The main social concerns raised included impacts on residents during construction. Such concerns are addressed in various aspects of the ESMF as well as environmental clauses for civil works contractors, as it pertains to construction impacts.

### 7.2 Information Disclosure

121. Outcomes of the consultation were incorporated into this ESMF. After the World Bank reviewed and accepted the final ESMF, which was disclosed on the MIH's and MPWT's websites ([www.mih.gov.kh/](http://www.mih.gov.kh/) and [www.mpwt.gov.kh/](http://www.mpwt.gov.kh/) dated on ... respectively), at MIH's and MPWT's public boards at national level and at provincial level on xxx. MPWT issued a letter of disclosure on ??????? to the Bank for documentation. The ESMF was also disclosed on the WB's infoShop on September 30, 2018.

## 8. IMPLEMENTATION ARRANGEMENTS

122. The ESMF implementation will follow the Project Implementation arrangement. The MIH and the MPWT will establish Component Management Unit 1 (CMU-1) for Component 1 and Component Management Unit 2 (CMU-2) for Component 2 respectively. The CMU-1 and CMU-2 will, for their respective component, lead day-to-day project implementation, undertake fiduciary responsibility such as financial management and procurement, monitor project progress and conduct M&E, ensure compliance to project social and environmental safeguards, prepare project reports, oversee civil works, coordinate and collect inputs from relevant ministries related to their project component.



### Component Management Unit 1

123. The CMU-1 will be led by a Component Director (CD-1) assigned by MIH who, for Component 1 of the project, will be responsible for overall management and administration of the Component 1, ensuring project development objective is achieved. A Component Manager assigned by MIH from the General Department of Potable Water Supply who, for Component 1 of the project, will be responsible for day-to-day management and administration of project Component 1. To ensure project development objective is achieved including approval and signing of contracts and other important project documents, procurement related to Component 1, approval of project component expenditures, ensuring timely implementation and compliance with the POM, ensuring compliance with safeguards requirement, reporting within ministry structure about project progress, and preparing relevant project reports in timely manner.

124. The Department of Technical and Project Management of the MIH will provide technical inputs to the CMU-1, monitor project progress and support CMU-1's project management. The Department of Planning and Data Management will support project's M&E ensuring that the data and information is being collected on time for reporting in CMU-1. The Department of Water Supply Regulations will provide support overseeing private sector engagement in the project ensuring the compliance with the government policy and regulations, preparing contracts, and supporting development of any policy or regulation required to enable more active private sector engagement.

125. The Department of Accounting and Finance of the MIH will support CMU-1 in all financial management aspects of the project Component 1. The Procurement Unit of the MIH will support CMU-1 in all procurement aspects of the Component 1. While the MIH does not have environmental and social division

within the ministry, environmental safeguards and social safeguards focal persons will be nominated by MIH from DTPM to support CMU-1 in monitoring the environmental and social safeguard requirement respectively.

126. The CMU-1 is supported by Project Support Team 1 (PST-1) at the provincial level. The team will be assigned by MIH from relevant provincial DIH and relevant waterworks directly involved in the project. The PST-1 will provide support to CMU-1 in day-to-day supervision of the civil works on the ground, monitoring of activity progress, coordination at provincial level, communication consultation on the project and reporting to the Component Manager of CMU-1.

### **Component Management Unit 2**

127. The CMU-2 will be led by a Component Director (CD-2) assigned by MPWT from the General Directorate of Public Works (GDPW) who, for Component 2 of the project, will be responsible for overall management and administration of the Component 2, ensuring project development objective is achieved. The CD-2 shall approve and sign all contracts and other important project documents, undertake fiduciary responsibility including ensuring timely execution of procurement activities, approval of project component expenditures, ensure timely implementation and compliance with the POM, ensure the proper use of project assets making sure the project team has all required means for executing their respective tasks and report within ministry structure about project progress. The Component Manager (CM-2) assigned by MPWT from GDPW will be responsible for day-to-day activities of project implementation to ensure project is progressing according to schedule under Component 2. The CM-2 will undertake procurement activities, ensure compliance with safeguards requirements and prepare relevant project reports in timely manner.

128. The Sewerage Management and Construction Department (SMCD) of the MPWT will be responsible for technical inputs and quality of the Component 2, monitoring of progress of the project, supporting CMU-2's project management, and collecting data and information for M&E and reporting for CMU-2. The Department of Finance of the MPWT will support CMU-2 in all financial management aspects of the project Component 2. The Procurement Unit of the MPWT will support CMU-2 in all procurement aspects of the Component 2. Environmental and Social Division in General Department of Planning and Policy of the MPWT will support CMU-2 in monitoring the environmental and social safeguard requirement.

### **Project Coordination Unit**

129. The Project Coordination Unit (PCU) will be established to coordinate the CMU-1 and CMU-2. The PCU does not have overseeing responsibility over CMU-1 and CMU-2, since each CMU is responsible for all the implementation aspects and fiduciary and safeguard requirements. The PCU, however, is responsible for coordinating the project implementation, consolidating all project progress reports, and ensuring overall project audits. The PCU chair will be nominated by the MPWT, and the PCU members are the Component Director and Component Manager of CMU-1 and CMU-2. The project will include support to the operations of the PCU.

130. Two safeguard focal persons of MIH and two focal persons of safeguards division of MPWT were appointed to be responsible for leading the preparation of safeguards instruments, monitoring, and ensuring compliance. During the implementation, safeguards consultants will be hired, and will be assisting MPWT and MIH for the overall monitoring of the ESMP (ECOPSs). ESMP (ECOPSs) will be incorporated in the bidding documents to inform the contractor about their role and responsibility in complying with agreed safeguard instruments.

## 9. IMPLEMENTATION BUDGET

131. This section of the ESMF consolidates and presents the estimated budget needed for MPWT and MIH to implement the ESMF. The ESMF implementation cost will include the development of the specific site-specific safeguards instruments, including consultant costs, travel, consultation workshops, translation and trainings. The total indicative cost reviewed by the World Bank, MPWT and MIH is estimated at 250,000 USD (Table 1), which will be supported by the project.

**Table 1** *ESMF implementation costs.*

<b>No.</b>	<b>Description</b>	<b>Indicative Cost (USD)</b>
1.	National Environment Safeguards Specialist/consultant	75,000
2.	National Social Safeguards Specialist/consultant	75,000
3.	National Travel to provinces	50,000
4.	National Travel for public consultation on Safeguard in Provinces	20,000
5.	National Training Workshop in Phnom Penh and provinces	20,000
6.	Contingency	10,000
<b>TOTAL</b>		<b>250,000</b>

See TORs of consultants in Annex 5.

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**ANNEX 1A: SCREENING RESULTS FOR POTENTIAL ENVIRONMENTAL & SOCIAL SAFEGUARDS ISSUES FOR MONDULKIRI WATER SUPPLY**

## ANNEX 1A- SCREENING RESULTS FOR POTENTIAL ENVIRONMENTAL & SOCIAL SAFEGUARDS ISSUES

### MONDULKIRI WATER SUPPLY

The Mondulkiri Water Supply component under the project has been screened by the MIH, with support of the Mondulkiri Waterworks, for potential environmental and social safeguards issues to determine Bank policies triggered and the instrument to be prepared. The following screening result only focuses on Phase 1 work of Mondulkiri Water Supply which involves water supply network extension in the city to make use of the available water supply treatment plant capacity.

Subproject Name	Extension of Mondulkiri Water Supply
Subproject Location	Sen Monorom
Subproject Type/Sector	Water Supply
Estimated Investment	To be determined by the project at a later stage
Start/Completion Date	To be determined by the project at a later stage

#### **Form A: Eligibility Screening Criteria**

Screening Questions	Yes/No	Remarks
1. Will the subproject/activity likely to damage or otherwise adversely affect/impact on the national parks, natural reserves, and/or cultural property, including but not limited to, the sites listed in the ESMF?	No	The subproject will involve digging and laying water supply pipes at a depth of about 0.75m along the existing road and constructing a new water supply treatment plant at a designated area.
2. Will the subprojects/activities require pesticides that falls in WHO classes IA, IB, or II.?	No	As noted above, the subproject will not involve any use of pesticides.
3. Will there be any territorial dispute between two or more countries in the subproject and its ancillary aspects and related activities?	No	The subproject is located about 20km from the Cambodian-Vietnamese border where no territorial dispute is anticipated.

#### **Result of eligibility screening:**

**The subproject is eligible for funding under WB-financed project**

#### **Form B: Technical Environmental Screening to identify which kind of Environmental Assessment will be applied for the subproject**

##### **Form B1: Category A Screening Criteria**

Screening Questions	Yes	No	Remarks
<b>1. Does the subproject have the potential to cause significant adverse impacts to natural or critical natural habitats?</b>			
(1) Leads to loss or degradation of sensitive Natural Habitats defined as: land and water areas where (i) the ecosystems' bio-logical communities		No	All the items of the subproject will not cause significant negative impacts to the natural environment or important living environment, in which

Screening Questions	Yes	No	Remarks
<p>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, forests; 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>			<p>only small civil works will take place to install water supply pipes and construct a water treatment plant.</p>
<p>(2) 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>		<p>No</p>	<p>All the components of subprojects are not located in the core/buffer zones of the National Park, protected areas or unprotected areas but high conservation value. Therefore, the subproject will not cause significant impacts to these areas.</p>
<p><b>2. Does the subproject have the potential to cause significant adverse impacts to physical cultural resources?</b></p>			
<p>(1) 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 at the local, provincial or national level, or within the international community.</p>		<p>No</p>	<p>No physical cultural resources are located in the subproject area.</p> <p>No buildings, including historical buildings, will be impacted as part of the works.</p> <p>As a precaution, a chance-find procedure is provided in Annex 3 (part of ECOP) and protocol is included in the Generic Construction Environmental and Social Management Plan in Annex 2, in case any physical cultural resources are discovered during construction.</p>

Screening Questions	Yes	No	Remarks
(2) 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.		No	The subproject coverage area will be not in the vicinity of any areas of Cambodia's commitment to protecting the natural environment with international organizations.  No important tourism or scientific interest areas will be affected by the subproject.
<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.		No	Some Indigenous people have moved from their traditional villages to live in Sen Monorom town. Thus, although some adjacent property owners are indigenous people, no work is to be conducted on native land. These indigenous people living or working in the vicinity, will benefit from the project.
<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?		No	Implementation of the subproject will not lead to relocation of households as the construction works will be along the existing roads.  Land acquisition for construction of water treatment plan under phase 2 will likely to be vacant land where no people are residing.
<b>5. Does the subproject entail procurement or use of pesticides?</b>			
Subprojects that require pesticides that falls in WHO classes IA, IB, or II.		No	As stated above, no pesticides will be used under the subproject.
<b>6. Does the subproject entail the construction of a large dam?</b>			
Does the subproject require construction of a dam that is: - 15 meters or more in height - between 10 and 15 meters in height with special design complexities--for example, an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, or retention of toxic materials. - under 10 meters in height but expected to become large dams		No	The subproject will involve digging and laying water supply pipes at a depth of about 0.75m along the existing road and constructing a new water supply treatment plant at a designated area. No water source or subproject activity related to any known dam.

Screening Questions	Yes	No	Remarks
during the operation of the subproject?			
Does the operation of the subproject rely on the performance of: - an existing dam or a dam under construction (DUC); - power stations or water supply systems that draw directly from a reservoir controlled by an existing dam or a DUC; - diversion dams or hydraulic structures downstream from an existing dam or a DUC, where failure of the upstream dam could cause extensive damage to or failure of the new World Bank-financed structure and irrigation or water supply projects that will depend on the storage and operation of an existing dam or a DUC for their supply of water and could not function if the dam failed.		No	The new water source identified for phase II is close to a small existing hydropower dam, but the water source was not part of the water flow from/into this dam.
<b>7. 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.		No	The subproject will not cause irreversible impacts, to loss of aquifer recharge areas.
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.		No	The subproject will not lead to any impacts or affect an geographic area.
<b>8. 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.		No	The subproject will not lead to many types of significant negative impacts such as: - In the operation phase: no impacts on the natural habitat, natural resources, land within and outside of the region are anticipated. - In the construction phase: the implementation area is Sen Monorom town; Since the subproject will involve minor construction activities along the existing roads, the project activities do not cause any loss of habitat, land and resources; does not degrade the quality of the resource.
Potential, significant adverse impacts likely to extend beyond the sites or facilities for the physical works.		No	Negative and potential environmental impacts beyond the area of the subproject are negligible and completely controllable. During executing the construction works, there are less than 10 people at

Screening Questions	Yes	No	Remarks
			each site. Therefore, it will not lead the significant increase in demand for food in the area; not rise the pressure on local medical.
Transboundary impacts (other than minor alterations to an ongoing waterway activity).		No	All components are completely within the territory of Cambodia, not border with any country so there are no transboundary impacts.
Need for new access roads, tunnels, canals, power transmission corridors, pipelines, or borrow and disposal areas in currently undeveloped areas.		No	Only minor construction works will be carried out for installation of water pipes and construction of water treatment plant. Thus, no new access roads, tunnels, canals, power transmission corridors or disposal areas are needed.
Interruption of migratory patterns of wildlife, animal herds or pastoralists, nomads or semi-nomads.		No	Subproject's activities do not change the status of the area so it will not interrupt the migratory patterns of wildlife, animal herds or pastoralists, nomads or semi-nomads.
<b>9. Is the subproject unprecedented?</b>			
Unprecedented at the national level?		No	The same type of project has been implemented at national level decades ago.
Unprecedented at the provincial level?		No	This subproject is the expansion of the existing facilities. Thus, it is a precededented subproject.
<b>10. 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.		No	
Likely to lead to protests or people wanting to demonstrate or prevent its construction.		No	All works have social benefits, directly serving people in the subproject area. The subproject gets the consensus of local authorities and people.  The households with temporary impact during the installation of water pipes are directly benefited from this subproject.

*Box A2.1 Definition for level of impacts*

**Significant impact (S)**

- Significant changes, over a significant area, to key characteristics or features or to the landscape's character or distinctiveness for more than 2 years.
- The impact goes beyond regulatory standards or long-lasting and widespread impacts
- Altering the ecosystems or ecological functions on a large area causing losses at the moderate scale (lasting over 2 years) but having the ability to restore within 10 years;
- Tentatively affect human health;
- Causing financial damage to the users or communities.

**Moderate impact (M)**

<ul style="list-style-type: none"> <li>- Noticeable but not significant changes for more than 2 years or significant changes for more than 6 months but less than 2 years, over a significant area, to key characteristics or features or to the landscape's character or distinctiveness.</li> <li>- Altering the ecosystems or ecological functions locally in a short time with potentially good recovering capacity. The impact level is similar to the changes at present but potentially causing accumulated impact.</li> <li>- Possibly (unlikely) affect human health; may causes difficulties to some users.</li> </ul> <p><b><u>Small Impact (L).</u></b></p> <ul style="list-style-type: none"> <li>- Noticeable changes for less than 2 years, significant changes for less than 6 months, or.</li> <li>- Changes occur only in the current variation range or barely discernible changes for any length of time, within acceptable standards and their impacts can be totally controlled.</li> <li>- The impacts may affect the operation but does not hinder the users or the public.</li> <li>- Mild impact on the human health or quality of life.</li> </ul> <p><b><u>No impact (Insignificant/Negligible) N</u></b></p> <ul style="list-style-type: none"> <li>- Any change would be negligible, unnoticeable or there are no predicted changes -</li> <li>- Changes that are not perceivable or can be measurable based on the basic operation;</li> <li>- No mutual influence and therefore no changes occurred</li> </ul>
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**Form B2: Category C Screening Criteria**

Screening Questions	Y	N	Remarks
1. Subproject activities are limited to training, technical assistance and capacity building.		No	In addition to the training, support and building capacity, the Subproject will install water pipes, construct water treatment plant.
2. Training and capacity building do not require use of chemicals, biological agents, pesticides.		No	The Subproject operates the water treatment station which uses alum, flocculation aids and chlorine for disinfection.
3. There is no infrastructure to be demolished or built.		No	Booster pumps and water pipes installation and water treatment plant construction will be carried out under the project.
4. There are no interventions that would affect land, water, air, flora, fauna or humans.		No	The earthworks for the construction of water treatment plant and installation of water supply pipes interfere the soil environment.
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		No	There is no scientific research in the subproject area.

**Result of EA screening:**

Category B - ESMP preparation

**Identification of Issues and Preparation of Safeguard Documents**

**Form C: Potential Environmental and Social Impacts to be Addressed**

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
1.	Encroachment on historical/cultural areas	X					The subproject does not encroach historical relics or cultural sites.
2.	Encroachment on an ecosystem (e.g. natural habitat sensitive or protected area, national park, nature reserve etc....)	X					The Subproject is not located in natural ecosystems, national parks or natural reserves.
3.	Disfiguration of landscape and increased waste generation		X				As minor construction works will be carried out, the subproject will not significantly disfigure landscape and increase waste generation. Minor to moderate impacts during civil work can be readily managed through generic ESMP.
4.	Removal of vegetation cover or cutting down of trees during clearance for construction		X				Removal of top soils for the construction of water treatment plant is expected.
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.		X				The construction activities will slightly change the surface water quality and flow: - Waste water from construction activities: mainly arising from the construction of water treatment plant and can be readily managed through generic ESMP.
6.	Increased dust level or add pollutants to the air during construction		X				Dust level is expected to increase during construction. Thus, mitigation measure will be incorporated in the project ESMP.
7.	Increased noise and/or vibration		X				Noise/Vibration is expected to increase during construction. Thus, mitigation measure are included generic ESMP
8.	Resettlement of households? If yes, how many households?	X					No households will be relocated as the subproject will install water supply pipes along the existing roads. For construction of water supply treatment plant under phase II, land acquisition near an identified water source is a vacant land.
9.	Use of resettlement site that is environmentally and/or culturally sensitive	X					Not Applicable.
10.	Risk of disease dissemination from construction workers to the local peoples (and vice versa)?		X				The expected number of workers to be recruited (peak period) for the water treatment plant construction is 30 workers ad the installation of water supply pipes is 30 workers.

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
							The concentration of workers may spread the disease to local people (and vice versa) such as sexually transmitted diseases such as HIV, syphilis etc. and water-related diseases such as diarrhea, eye red pain etc. The diseases related to mosquitoes (dengue fever etc.). The risk of disease spread is at a low level and can be controlled.
11.	Potential for conflict between construction workers and local peoples (and vice versa)?		X				The concentration of 60 workers can cause conflicts between construction workers and local people. However, the subproject will prioritize the use of local labor so the impact is small.
12.	Use of explosive and hazardous chemicals	X					The subproject is a common construction work so there is no use of explosives 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	X					The construction site is not in a position where there is a risk of residual explosive material left over from the war, so clearance work is not required.
14.	Construction that could cause disturbance to the transportation, traffic routes, or waterway transport?		X				No major equipment will be used for the construction of water treatment plant and installation of water supply pipes. Thus, the disturbance to regular traffic is small and can be controlled by traffic management during transportation of materials and construction.
15.	Construction that could cause any damage to the existing local roads, bridges or other rural infrastructures?		X				Digging ground for <u>water supply pipes installation on the side of the existing roads might cause minor damage</u> to the roads or structures. These impacts can be mitigated by good construction practices.
16.	Soil excavation during subproject's construction so as to cause soil erosion	X					The excavated pits for installation of water supply pipes will be backfilled. Thus, no soil erosion is anticipated.
17.	Need to open new, temporary or permanent, access roads?	X					The construction works will be on the side of the existing roads. Thus, no access roads are required.
18.	Separation or fragmentation of habitats of flora and fauna?	X					The Subproject does not separate the migration routes, the moving, the wild animal feeding.
19.	Long-term impacts on air quality	X					The air quality is affected by dusks during the construction only, which is not the long term impact.

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
20.	Accident risks for workers and community during construction phase			X			Electric shock, fire, construction accidents, traffic accidents may cause casualties for construction workers who are not trained, equipped with protective equipment and the safety alert system is not set up in the construction sites. Accident may occur to the community if there are not warning signs at the construction sites.
21.	Use of hazardous or toxic materials and generation of hazardous wastes			X			Hazardous waste includes waste oil, grease rags, light bulbs, batteries that affect the environment if they are not classified, stored and contracted with the treatment unit.
22.	Risks to safety and human health		X				Workers can get malaria from mosquito bites and skin diseases, diarrhea when housing conditions and shelters do not ensure environmental sanitation.
<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		X				Under phase I, no land acquisition is required. However, under phase II, a small piece of land of about 1000 square meters is required for construction of new water treatment plant.
24.	Use land that is currently occupied or regularly used for productive purposes (e.g., gardening, farming, pasture, fishing locations, forests)	X					Under phase II of the project, the identified land for new water treatment plant is vacant.
25.	Displacement of individuals, families or businesses	X					No individuals or families will be relocated.
26.	Temporary or permanent loss of crops, fruit trees or household infrastructure	X					Temporary impacts (about half day) in front of the affected households, who are also the direct beneficiaries, are expected, but no loss of crops, fruit trees or household infrastructure is anticipated.
27.	Involuntary restriction of access by people to legally designated parks and protected areas	X					There is no impact on people's accessibility to national parks or protected areas.
<b>Comments: Resettlement Action Plan (RAP) is not required.</b>							

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
<b>Are ethnic minority peoples present in the subproject area?</b>							
28.	Ethnic minority groups are living within the boundaries of, or nearby, the subproject.			X			Under phase I, only some indigenous people who migrated to Sen Monorom town are living in the boundaries of the subproject. Under phase II, the water supply network will be expanded to some indigenous people communities.
29.	Members of these ethnic minority groups in the area potentially could benefit or be harmed from the subproject.			X			Members of the indigenous people will be temporary affected by the project during construction, but will have long term benefit from the subproject.
<b><i>Comments: The IA won't need to prepare an Indigenous People Development Plan</i></b>							
<b>Does the subproject entail construction of or depend upon a dam?</b>							
30.	Involve the construction of a large dam or embankment?	X					The subproject will install water supply pipes and construction of a water treatment plant.
31.	Depend on water storage from an existing dam or weir or a dam under construction?	X					The new water source identified for phase II is close to a small existing hydropower dam, but the water source was not part of the water flow from/into this dam.
<b><i>Comments: The IA won't need to prepare a Dam Safety Report (DSR)</i></b>							
<b>Does the subproject entail procurement or use of pesticides?</b>							
32.	Subprojects/activities that require pesticides that falls in WHO classes IA, IB, or II.	X					No pesticides will be used under the project.
33.	Subprojects will involve the use of agrochemicals (pesticides, fertilizers, and toxic chemicals in aquaculture or shrimp farming)	X					
<b><i>Comments: The IA doesn't need to prepare a Pest Management Plan</i></b>							
34.	Subprojects will involve dredging.	X					
<b><i>Comments: The IA will not need to address the potential impacts and mitigation measures and application of ECOP with dredging.</i></b>							

Note: N =No impact; L =Low impac; M= Medium impact; H = High Impact (and N/A= Not know

**(d) Social safeguard documents to be prepared:**

Resettlement Action Plan (If the answer to any of the questions 23-27 is "Yes")

**(e) Result of subproject screening**

**1. Eligibility**

The subproject is not eligible for funding under WB-financed project

The subproject is eligible for funding under WB-financed project

**2. Safeguard documents**

full ESIA

ESMP

Resettlement Action Plan

Ethnic Minority Development Plan

Dam Safety Report

Pest Management Plan

**CONFIRMATION**

**CMU-1**

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**ANNEX 1B: SCREENING RESULTS FOR POTENTIAL ENVIRONMENTAL & SOCIAL  
SAFEGUARDS ISSUES FOR WASTEWATER COLLECTION NETWORK  
DEVELOPMENT IN SIEM REAP CITY**

## ANNEX 1B- SCREENING RESULTS FOR POTENTIAL ENVIRONMENTAL & SOCIAL SAFEGUARDS ISSUES

### FOR WASTEWATER COLLECTION NETWORK DEVELOPMENT IN SIEM REAP CITY

This form is to be used by the MPWT to screen potential environmental and social safeguards issues in subprojects, determine Bank policies triggered and the instrument to be prepared. The following environmental and social screening focused on the investment related to (i) rehabilitation of three existing sewage pumping stations, (ii) repair of the wastewater treatment plant, and (iii) installation of sewer lines in two of three proposed wastewater collection network zones (i.e. West Trunk Sewer (WTS) zone and East Trunk Sewer (ETS) zone). By Appraisal, the draft designs are available only for (i), (ii) and one of the zone in (iii), which is WTS zone. However, since the nature of works and site characteristics for WTS and ETS zones are similar, the screening was conducted for the two zones, WTS and ETS.

Subproject Name	Wastewater Collection Network Development in Siem Reap City
Subproject Location	Siem Reap City
Subproject Type/Sector	Wastewater Collection Network Development and Rehabilitation of Existing Pumping Stations
Estimated Investment	US\$ 5.2 million for WTS zone and US\$ 4.8 million for ETS zone
Start/Completion Date	To be determined by the project at a later stage

#### **Form A: Eligibility Screening Criteria**

Screening Questions	Yes/No	Remarks
1. Will the subproject/activity likely to damage or otherwise adversely affect/impact on the national parks, natural reserves, and/or cultural property, including but not limited to, the sites listed in the ESMF?	No	The project will involve excavation and laying drainage pipes along the existing roads within Siem Reap City only together with rehabilitation of the existing pumping stations. Small works will be developed within the existing site of the Wastewater Treatment Plant (WWTP). The subproject is unlikely to affect the sites mentioned in the ESMF, notably sites linked to APSARA.
2. Will the subprojects/activities require pesticides that falls in WHO classes IA, IB, or II.?	No	The project will not involve the use of pesticides.
3. Will there be any territorial dispute between two or more countries in the subproject and its ancillary aspects and related activities?	No	The project is located in Siem Reap City only, and no territorial dispute is anticipated.

#### **Result of eligibility screening:**

**The subproject is eligible for funding under WB-financed project**

**Form B: Technical Environmental Screening to identify which kind of Environmental Assessment will be applied for the subproject**

#### **Form B1: Category A Screening Criteria**

Screening Questions	Yes	No	Remarks
<b>1. Does the subproject have the potential to cause significant adverse impacts to natural or critical natural habitats?</b>			
(1) 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, forests; 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.		No	The project will not cause any significant impacts to the natural environment. Only civil works will take place to install sewer pipes within the city, and small civil works structures within the WWTP property.
(2) 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.		No	There is no natural habitat within the proposed project area.
<b>2. Does the subproject have the potential to cause significant adverse impacts to physical cultural resources?</b>			
(1) 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,		No	The project will take place within or along the existing roads only in the City. No physical cultural resources are identified for the moment within the pipe laying area. In case of finding during works, a procedure "Chance to Find" will be applied.  Some APSARA structures are located within the WWTP site; they will not be affected by the works

Screening Questions	Yes	No	Remarks
above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.			No buildings, including historical buildings, will be impacted as part of the works.
(2) 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.	Yes		Tourism or scientific interest areas will be slightly affected by the project, but only in the short period of time during works. The mitigation measures stated in the environment management plan will have to be implemented properly.
<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.		No	No significant potentially impact on lands or territories and cultural and spiritual values of minority people due to connection pipes, as they will all be laid along the road, sidewalks and pathways.
<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?		No	Implementation of the project will not lead to any displacement of households as the new construction works will be along the existing roads. It is expected that there will be no land acquisition because the land where these facilities are located, belongs to RGC as public state land.
<b>5. Does the subproject entail procurement or use of pesticides?</b>			
Subprojects that require pesticides that falls in WHO classes IA, IB, or II.			As stated above, no pesticides will be used under the project implementation.
<b>6. Does the subproject entail the construction of a large dam?</b>			
Does the subproject require construction of a dam that is: - 15 meters or more in height - between 10 and 15 meters in height with special design complexities--for example, an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and		No	It is not applicable due to only sewer collection pipes will be installed underground base.

Screening Questions	Yes	No	Remarks
<p>difficult to prepare, or retention of toxic materials.</p> <ul style="list-style-type: none"> <li>- under 10 meters in height but expected to become large dams during the operation of the subproject?</li> </ul>			
<p>Does the operation of the subproject rely on the performance of:</p> <ul style="list-style-type: none"> <li>- an existing dam or a dam under construction (DUC);</li> <li>- power stations or water supply systems that draw directly from a reservoir controlled by an existing dam or a DUC;</li> <li>- diversion dams or hydraulic structures downstream from an existing dam or a DUC, where failure of the upstream dam could cause extensive damage to or failure of the new World Bank-financed structure and irrigation or water supply projects that will depend on the storage and operation of an existing dam or a DUC for their supply of water and could not function if the dam failed.</li> </ul>		<b>No</b>	See above mentioned
<b>7. 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.		<b>No</b>	The project will not cause irreversible impacts, to loss of aquifer recharge areas.
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.		<b>No</b>	The subproject will not lead to any impacts or affect geographic area.
<b>8. 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.		<b>No</b>	The project will involve excavation and laying sewer pipes along the existing road within Siem Reap City only.
Potential, significant adverse impacts likely to extend beyond the sites or facilities for the physical works.		<b>No</b>	The project have no significant negative impact on the water quality of the Siem Reap river and the Tonlé Sap.
Transboundary impacts (other than minor alterations to an ongoing waterway activity).		<b>No</b>	

Screening Questions	Yes	No	Remarks
Need for new access roads, tunnels, canals, power transmission corridors, pipelines, or borrow and disposal areas in currently undeveloped areas.		No	It will be mitigated through proper construction methods.
Interruption of migratory patterns of wildlife, animal herds or pastoralists, nomads or semi-nomads.		No	Not applicable because project site is located in the city area.
<b>9. Is the subproject unprecedented?</b>			
Unprecedented at the national level?		No	
Unprecedented at the provincial level?		No	This subproject is the upgrading of the existing facilities. Thus, it is a precedent project.
<b>10. 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.		No	
Likely to lead to protests or people wanting to demonstrate or prevent its construction.		No	All works have social benefits, directly serving people in the Project area. The Project has the consensus of local authorities and people.  The households which will suffer the temporary impacts during the installation of drainage pipes are directly benefited from this Project.

*Box A2.1 Definition for level of impacts*

**Significant impact (S)**

- Significant changes, over a significant area, to key characteristics or features or to the landscape's character or distinctiveness for more than 2 years.
- The impact goes beyond regulatory standards or long-lasting and widespread impacts
- Altering the ecosystems or ecological functions on a large area causing losses at the moderate scale (lasting over 2 years) but having the ability to restore within 10 years;
- Tentatively affect human health;
- Causing financial damage to the users or communities.

**Moderate impact (M)**

- Noticeable but not significant changes for more than 2 years or significant changes for more than 6 months but less than 2 years, over a significant area, to key characteristics or features or to the landscape's character or distinctiveness.
- Altering the ecosystems or ecological functions locally in a short time with potentially good recovering capacity. The impact level is similar to the changes at present but potentially causing accumulated impact.
- Possibly (unlikely) affect human health; may causes difficulties to some users.

**Small Impact (L).**

- Noticeable changes for less than 2 years, significant changes for less than 6 months, or.
- Changes occur only in the current variation range or barely discernible changes for any length of time, within acceptable standards and their impacts can be totally controlled.
- The impacts may affect the operation but does not hinder the users or the public.

<ul style="list-style-type: none"> <li>- Mild impact on the human health or quality of life.</li> </ul> <p><b>No impact (Insignificant/Negligible) N</b></p> <ul style="list-style-type: none"> <li>- Any change would be negligible, unnoticeable or there are no predicted changes -</li> <li>- Changes that are not perceivable or can be measurable based on the basic operation;</li> <li>- No mutual influence and therefore no changes occurred</li> </ul>
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**Form B2: Category C Screening Criteria**

Screening Questions	Y	N	Remarks
6. Subproject activities are limited to training, technical assistance and capacity building.		No	In addition to the training, support and building capacity, the project will install sewer pipes and the rehabilitation of existing pumping stations and WWTP.
7. Training and capacity building do not require use of chemicals, biological agents, pesticides.		No	
8. There is no infrastructure to be demolished or built.		No	New sewerage pipes installation, and at the same time the existing old pipes will be rehabilitated together with the pump stations and WWTP
9. There are no interventions that would affect land, water, air, flora, fauna or humans.		No	The earthworks for installation drainage pipes only interfere the soil environment.
10. 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		No	There is no scientific research in the subproject area.

**Result of EA screening:**

Category B - ESMP preparation

**Identification of Issues and Preparation of Safeguard Documents**

**Form C: Potential Environmental and Social Impacts to be Addressed**

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
1.	Encroachment on historical/cultural areas	X					The project does not encroach historical relics or cultural sites.
2.	Encroachment on an ecosystem (e.g. natural habitat sensitive or protected area, national park, nature reserve etc....)	X					The project is not located in natural ecosystems, national parks or natural reserves.

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
3.	Disfiguration of landscape and increased waste generation		X				As minor construction works will be carried out, the Project will not significantly disfigure landscape or increase waste generation. Minor impacts (for short time period) during civil work can be readily managed through generic ESMP.
4.	Removal of vegetation cover or cutting down of trees during clearance for construction	X					There is no cutting down of trees during installation drainage pipes.
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.	X					There will not be negative impact on the surface water quality, or in the water flows. On the contrary, the Project will improve the water quality in the Siem Reap River and in the Tonlé Sap in fine.
6.	Increased dust level or add pollutants to the air during construction		X				Dust level is expected to increase during construction. Thus, mitigation measure will be incorporated in the project ESMP.
7.	Increased noise and/or vibration		X				Noise/Vibration is expected to increase during construction. Thus, mitigation measure are included in the ESMP.
8.	Resettlement of households? If yes, how many households?	X					There will be no need for households relocation.
9.	Use of resettlement site that is environmentally and/or culturally sensitive	X					Not Applicable.
10.	Risk of disease dissemination from construction workers to the local peoples (and vice versa)?		X				The expected number of workers to be recruited (peak period) for the sewerage installation is xxx, and yyy for the works on the WWTP The concentration of workers may spread the disease to local people (and vice versa) such as sexually transmitted diseases (HIV, syphilis etc) and water-related diseases such as diarrhea, eye red pain etc. The diseases related to mosquitoes (dengue fever etc.). The risk of disease spread stays at a low level and can be controlled.
11.	Potential for conflict between construction		X				The workers can cause conflicts between construction workers and local people.

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
	workers and local peoples (and vice versa)?						However, the project will prioritize the use of local labor so the impact is limited.
12.	Use of explosive and hazardous chemicals	X					There is no use of explosives 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	X					The construction site is on existing road, so there is not landmine or explosive.
14.	Construction that could cause disturbance to the transportation, traffic routes, or waterway transport?		X				No major equipment will be used for the laying of sewerage pipes. Thus, the disturbance to regular traffic is small and can be controlled by traffic management during transportation of materials and construction. The Project mainly takes place inside the center City. Congestion, traffic jams will necessary occur during rush hours. Some narrow streets will probably be momentarily closed to traffic. A traffic management plan will be prepared by the constructor
15.	Construction that could cause any damage to the existing local roads, bridges or other rural infrastructures?		X				Excavation for sewerage pipes installation on the side of the existing roads might cause minor damage to the roads or structures. These impacts can be mitigated by good construction practices, and will be repaired after works.
16.	Soil excavation during subproject's construction so as to cause soil erosion	X					The excavated pits for installation of sewerage pipes will be backfilled quickly. Thus, no soil erosion is anticipated.
17.	Need to open new, temporary or permanent, access roads?	X					The construction works will be on the side of the existing roads. Thus, no access roads are required.
18.	Separation or fragmentation of habitats of flora and fauna?	X					The Project does not separate the migration routes, the moving, or disturb the wild animal feeding.
19.	Long-term impacts on air quality	X					The air quality is affected by dust during the construction only. It's not a long term impact.
20.	Accident risks for workers and community during construction phase		X				Electric shock, fire, construction accidents, traffic accidents may cause casualties for construction workers who are not trained, equipped with protective equipment. Wearing PPE equipment will be mandatory, and a HSE System will be put in place by the constructor at the early beginning of the Project works.

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
21.	Use of hazardous or toxic materials and generation of hazardous wastes		X				Hazardous waste includes waste oil, grease rags, light bulbs, batteries that could affect the environment. A Solid Waste Management Plan will have to be prepared and implemented by the constructor.
22.	Risks to safety and human health		X				Workers can get malaria from mosquito bites and skin diseases, diarrhea when housing conditions and shelters do not ensure environmental sanitation. A HSE System will be put in place by the constructor at the early beginning of the Project works.
<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	X					There is no land acquisition required for this Project.
24.	Use land that is currently occupied or regularly used for productive purposes (e.g., gardening, farming, pasture, fishing locations, forests)	X					Not Applicable
25.	Displacement of individuals, families or businesses	X					There is no need for individuals or families relocation.
26.	Temporary or permanent loss of crops, fruit trees or household infrastructure	X					The Project takes place only in or along the existing roads and in City, where there is no crops or fruit trees.
27.	Involuntary restriction of access by people to legally designated parks and protected areas	X					There is no impact on people's accessibility to national parks or protected areas.
<b><u>Comments:</u></b>							
<b>Are ethnic minority peoples present in the subproject area?</b>							
28.	Ethnic minority groups are living within the boundaries of, or nearby, the subproject.	X					Within the Project areas, there is no ethnic minority group.
29.	Members of these ethnic minority groups in the	X					Within the Project areas, there is no ethnic minority group.

No.	Does the subproject entail these environmental impacts?	N	L	M	H	Not known	Remarks
	area potentially could benefit or be harmed from the subproject.						
<b><u>Comments:</u></b>							
<b>Does the subproject entail construction of or depend upon a dam?</b>							
30.	Involve the construction of a large dam or embankment?	X					No Dam construction. The project will only install drainage pipes.
31.	Depend on water storage from an existing dam or weir or a dam under construction?	X					No need for using a dam. The Project will only install drainage pipes.
<b><u>Comments:</u></b>							
<b>Does the subproject entail procurement or use of pesticides?</b>							
32.	Subprojects/activities that require pesticides that falls in WHO classes IA, IB, or II.	X					No pesticides will be used under the Project.
33	Subprojects will involve the use of agrochemicals (pesticides, fertilizers, and toxic chemicals in aquaculture or shrimp farming)	X					No pesticides will be used under the Project.
<b><u>Comments:</u></b>							
34	Subprojects will involve dredging.	X					No dredging operation are to be developed during the Project
<b><u>Comments:</u></b>							

Note: N =No impact; L =Low impac; M= Medium impact; H = High Impact (and N/A= Not know

**(d) Social safeguard documents to be prepared:**

- Resettlement Action Plan (If the answer to any of the questions 23-27 is “Yes”)

**(e) Result of subproject screening**

**1. Eligibility**

- The subproject is not eligible for funding under WB-financed project
- The subproject is eligible for funding under WB-financed project

**2. Safeguard documents**

- full ESIA
- ESMP
- Resettlement Action Plan
- Ethnic Minority Development Plan
- Dam Safety Report
- Pest Management Plan

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**CONFIRMATION**

**CMU2**

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**ANNEX 2: GENERIC ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN**

ACTIVITY	PARAMETER	MITIGATION MEASURES	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
<b>A. General Conditions</b>	Notification and Worker Safety	<ul style="list-style-type: none"> <li>(a) The local construction and environment inspectorates and communities have been notified of upcoming activities.</li> <li>(b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works)</li> <li>(c) All legally required permits have been acquired for WaSSIP construction.</li> <li>(d) All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment.</li> <li>(e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots).</li> <li>(f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.</li> <li>(g) ESMP notice in Khmer shall display near the construction site and should be visible to all. The notice shall be well protected against water - put in a waterproofing transparent plastic bag.</li> </ul>	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
<b>B. General Construction Activities</b>	Air Quality/ Dust	<ul style="list-style-type: none"> <li>(a) Suppress dust during pneumatic drilling/ by ongoing water spraying and/or installing dust screen enclosures at site.</li> <li>(b) Keep surrounding environment (roads, paths) free of debris to minimize dust.</li> <li>(c) There will be no open burning of construction / waste material at the site.</li> <li>(d) There will be no excessive idling of construction vehicles at sites.</li> <li>(e) In the case of floating sites, construction of floating units will take place away from immediate house and community structures to</li> </ul>	Contractor	MIH site Engineer/ MPWT site EngineerSafeguards Consultant

ACTIVITY	PARAMETER	MITIGATION MEASURES	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
		minimize disturbance, and will be floated onto final location only upon completion.		
	Noise	(a) Construction noise will be limited to restricted times agreed to in the permit. (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible. (c) In the case of floating sites, construction of floating units will take place away from immediate house and community structures to minimize disturbance, and will be floated onto final location only upon completion	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
	Water Quality	(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in the lake.	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
	Sanitation facility during construction	(a) The construction site needs to be equipped with latrine/toilet for workers. (b) Location of temporary toilet/latrine shall at least 30m from the existing well or water drinking source. (c) After handing over of construction, the latrine shall be dismantled, pit filled, site cleaned.	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
	Waste management during construction	(a) Construction wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (b) Contractor shall minimize the waste if there is possibility. (c) Construction waste will be collected and disposed properly by licensed collectors.	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant

ACTIVITY	PARAMETER	MITIGATION MEASURES	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
		(d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos).		
<b>C. Climate change adaptation</b>	Flooding Free Level	(a) Make sure that no water stagnant around the constructed building (b) The floor of classroom and teacher/student facilities should be raised to flood free level	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
	Orientation of the building	(a) The building should be laid in East-West (if land available) direction in order to minimize wall exposure to sun light (b) Plant more tree, especially, in West direction to provide more shade to building	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
<b>D. Individual wastewater treatment system</b>	Water Quality from construction	(a) The approach to handling sanitary waste and wastewater from building sites (installation or reconstruction) must be approved by the local authorities. (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment. When mobilizing to the construction site, the contractor will put in place a temporary latrine	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant

ACTIVITY	PARAMETER	MITIGATION MEASURES	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
		and septic tank to be used by the workers during construction.		
<b>E. Historic building(s)</b>	Cultural Heritage	<p>(a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notify and obtain approval/permits from local authorities and relevant Ministries and address all construction activities in line with local and national legislation.</p> <p>(b) Ensure that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted, officials contacted, and works activities delayed or modified to account for such finds.</p> <p>(c) Based on Environmental Assessment site visits, there is no important landmark, monument, grave or any other conservation that need be avoided or mitigate the impact for. For all sites, the WaSSIP will be built within the ROW along the existing roads.</p>	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
<b>F. Toxic Materials</b>	Asbestos management	<p>By its nature, the present project is unlikely to directly involve any demolition or rehabilitation and will avoid asbestos for new construction. However, the recommendations below, as well as the Good Practice Note: Asbestos by the World Bank Group May 2009 will be imposed on and closely followed by the contractors in the cases where asbestos may be encountered in the project.</p> <p>(a) If asbestos is located on the project site, mark clearly as hazardous material</p> <p>(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure</p>	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant

ACTIVITY	PARAMETER	MITIGATION MEASURES	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
		(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust (d) Asbestos will be handled and disposed by skilled & experienced professionals (e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately (f) The removed asbestos will not be reused		
	Toxic / hazardous waste management	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching (c) The wastes are transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant
<b>G. Affects forest and/or protected areas</b>	Protection	No protected areas have actually been identified in the immediate vicinity of the project villages. The following measures apply. (a) All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) For large trees in the vicinity of the activity, mark and cordon off with a fence large tress and protect root system and avoid any damage to the trees	Contractor	MIH site Engineer/ MPWT site Engineer Safeguards Consultant

ACTIVITY	PARAMETER	MITIGATION MEASURES	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
		<p>(c) Adjacent wetlands and streams will be protected from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to hay bales, silt fences.</p> <p>(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.</p>		
<b>H. Traffic and Pedestrian Safety-</b>	Direct or indirect hazards to public traffic and pedestrians by construction activities	<p>The construction site is located along the existing road. By the fact, there is no traffic concern and thus traffic congestion is not seen as a major risk. However, in compliance with national regulations, the Contractor will ensure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to:</p> <ul style="list-style-type: none"> <li>▪ Sign posting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards</li> <li>▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes.</li> <li>▪ Organize suitable parking, or docking and landing areas around the construction sites.</li> <li>▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement.</li> <li>▪ Active traffic management by trained and visible staff at the site, if required for safe</li> </ul>	Contractor	<p>MIH site Engineer/ MPWT site Engineer Safeguards Consultant</p>

ACTIVITY	PARAMETER	MITIGATION MEASURES	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
		and convenient passage for the student and public. <ul style="list-style-type: none"> <li>▪ Ensuring safe and continuous access to public buildings, office facilities, shops and residences.</li> </ul>		
<b>Operation Stage</b>				
I. Noise during operation	Health of surrounded people	Noise impacts from pump stations will be inconsequential as pumps will generally be electrically-powered (submersible in the case of groundwater-based systems). Back-up diesel-powered pumps will be housed in brick buildings	Provincial Water Supply Authority	PoE & DoE
J. alum sludge	Environment, Water Quality, Health	Water treatment will mainly involve alum flocculation (to remove suspended sediment from stream-sourced water) and chlorine dosing to kill bacteria and other pathogenic microorganisms. Minor quantities of alum sludge will be generated, however this is environmentally benign and can be disposed of by burial.	Provincial Water Supply Authority	PoE & DoE

## ANNEX 3: ENVIRONMENTAL CODE OF PRACTICES (ECOPS)

### 1. Objectives

This Environmental Codes of Practice (ECOP) is prepared to manage small environmental impacts during construction. 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. The CMUs of MPWT&MIH and construction supervisors will be responsible for monitoring of compliance with ECOP and preparing the required reports.

### 2. Responsibilities

The CMUs of MPWT&MIH and Contractors are the key entities responsible for implementation of this ECOP. Key responsibilities of The CMUs of MPWT&MIH and the contractors are as follows:

**(a) The CMUs of MPWT&MIH**

- The CMUs of MPWT&MIH are responsible for ensuring that the ECOP is effectively implemented. The MPWT and MIH will assign a qualified staff to be responsible for checking implementation compliance of Contractors, include the following: (a) monitoring the contractors' compliance with the environmental plan, (b) taking remedial actions in the event of non-compliance and/or adverse impacts occur, (c) investigating complaints, evaluating and identifying corrective measures; (d) advising to the Contractor on environment improvement, awareness, proactive pollution prevention measures; and (e) monitoring the activities of Contractors on replying to complaints.

**(b) Contractor**

- Contractor is responsible for carrying out civil works and informs MPWT/MIH CMU, local authority and community about construction plan and risks associated with civil works. As such, contractor is responsible for implementing agreed measures to mitigate environmental risks associated with its civil works.
- Contractor is required to obey other national relevant legal regulations and laws.

#### Part 1 – Contractor’s Responsibilities

This is an example and is not necessarily a full treatment of all requirements for a specific project. For example, there might be reason to have contractor deal with STDs, medical and hazardous waste s (e.g., oil from vehicle or furnace repair and similar, oily rags).

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>

ISSUES/RISKS	MITIGATION MEASURE
<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 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.</li> </ul>
<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> </ul>

ISSUES/RISKS	MITIGATION MEASURE
	<ul style="list-style-type: none"> <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>
<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> </ul>

ISSUES/RISKS	MITIGATION MEASURE
	<ul style="list-style-type: none"> <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>
<p><b>13) Chance find procedures</b></p>	<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> <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</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> </ul>

<p>AT THE END OF EACH DAY – use the waste bins provided and ensure that litter will not blow away.</p> <ul style="list-style-type: none"> <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>◆ 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> <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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**ANNEX 4: MINUTES OF PUBLIC CONSULTATION IN SUBPROJECT LOCATIONS**

## MINUTES OF PUBLIC CONSULTATION MEETING IN MONDULKIRI

The Mondulkiri Waterworks, in cooperation with deputy district governor, facilitated a public consultation meeting at Wat Preah Puth from 7:30 AM on 27 August 2018. The main purposes of the consultative meetings are to (i) inform the participants about the project intervention and (ii) seek their view of the project in terms of support, benefit to their community and potential environmental and social impact.

30 people from three communes, namely Monorum, Sokdom and Spean Meanchey, participated in the consultation meeting. Of the thirty participants, six are indigenous people who moved from their traditional community house to town center.

Mr. So Sovanarith, the head of waterworks in Sen Monorum, explained the scope of works of the proposed project, the water quality control, the unit cost of clean water as well as the positive and negative impact of the project. All participants expressed their support for the project and expected that the project will be implemented and completed as soon as possible. Requests, questions and answers are summarized below:

No.	Comments, Questions, Concerns	Responses
1	Mr. Sovanarith: if water supply connection is expanded and become available at your area, will you use or not?	All participants replied that they will connect to the water supply so that they can use clean water.
2	Community people: the expansion will reach Lavka indigenous community or not?	Under the to-be-financed project, water connection cannot be extended to the Lavka. However, technical team will review and might include in the future project.
3	Community people: Is it possible to reduce the connection fee for poor and vulnerable households?	The request will be reported to higher authority of waterworks.
4	Is it possible to pay the connection fee little by little till the full amount is paid.	Normally, it is not possible to do this way. However, for Sen Monorum, we will accept this payment method.
5	Community people: any opening for water supply pipes installation in front of the houses shall be backfilled and restore as quick as possible.	These conditions will be included in the contractor's contract. Temporary access bars will be also provided during construction.
6	It is requested to reduce noise and dust during construction.	This will be mitigated using ESMP.
7	When the project is likely to start?	The project will probably start from the end of 2019.

## MINUTES OF PUBLIC CONSULTATION MEETING IN SIEM REAP CITY

Two public consultations were conducted in two Sangkats, in Siem Reap City, on 11-12 September 2018. One week prior to the consultation date, invitations were sent to stakeholders including representatives from provincial authority, the concerned provincial line departments, related commune offices. Community people in the project areas were also invited.

Public consultations took place at Serey Peap Hotel and Monoreach Hotel. The main purposes of the consultative meetings are to (i) inform the participants about the project and (ii) seek their view of the project in terms of support, benefit to their community and potential environmental and social impact. All participants in consultative meetings expressed strong support to the project and willing to participate in the construction activities if they are requested to.

A Public Information Booklet (PIB) was prepared by the Consultant's Team to be distributed during the meetings. A slides presentation was proposed to the participants (i) to explain the project, and (ii) to introduce Environmental & Social Issues of the project, and Grievance Mechanism Procedure.

Number of participants were respectively 65 and 67 for the first and second meeting. The participants are mainly staff members of Siem Reap Sewer and Wastewater Treatment Plant Unit, Siem Reap Provincial Department of Public Works and Transport (DPWT), Siem Reap Municipal administrations, Commune Councils and people living in the project areas.

### Agenda of the Public Consultation meetings

Registration	
Welcome Remarks & Project Disclosure	Major City of Siem Reap
Presentation of Layout by design Engineers	Mr. Uch Bunnarith and Mr. San Chanthy
Environmental and Social issues by Environment & Social safeguards	Mr. Mel Sophanna ; Mr. Jean-Marc AUROUSSEAU & Mao Vanchann
Grievance Mechanism Procedure by Social Safeguard Specialist	Mr. Mel Sophanna
Question & Answer	Participants
Recommendation & Request	Participants

Main concerns, remarks, questions and recommendations are summarized hereafter:

- Cooperation between the project and population could be consolidated;
- Develop the project implementation detailed timing/planning;
- Mechanism to the handover and the maintenance of the new infrastructure;
- The procedure for resolving the complains to the project impacts;
- Possible extension of the sewerage coverage in Siem Reap in the near future;
- The possibility to connect the network for the households not directly facing the streets;
- The willingness to pay for connection and water price increase, if reasonable;

The detailed Q&A is provided below:

<b>Date:</b>	September 11-12, 2018 from 2:00pm – 5:00pm
<b>Place:</b>	SEREYPHEAP and MONOREACH ANGKOR Hotel
<b>Language:</b>	Khmer and English
<b>Topic/Document:</b>	Presentation on Public Consultation Meeting and Project Disclosure that comprise of background, objective, beneficiary, Project components, implementation arrangement, safeguards, etc.,
<b>Participants' opinions</b>	<b>Clients' answers and commitment</b>
<p>1. Mr. Soar Dara, Tavien village head of Sala Kamraek Sangkat has two questions</p> <ul style="list-style-type: none"> <li>- Pipes installation will excavate/ cut the road, why pipe were not installed during the road construction</li> <li>- After the sewer system installed, are we fee? If so how required to pay any ?much</li> </ul>	<p>Mr. Hiep Me said that we were quick to repair the road and did not leave the people in trouble.</p> <p>+ Road construction and drainage sewerage project plan can not be done at the same time, because the road project is pre-condition, so they start to implement the road, but the dumping sewer line is only available after. Therefore, installing drainage pipe, we are not in the way of digging.</p> <p>+Payment of the fee shall be paid in accordance with the tariff table of the Inter Ministerial Prakas signed by the Ministry of Economy and Finance and the Ministry of Public Works and Transport.</p> <ul style="list-style-type: none"> <li>- Mr. San Chanthy: For technical reasons, we will arrange in front of people's homes. We will arrange the floor to be placed in the case where the duct is difficult to digest</li> </ul>
<p>2. Mr. Mom Pheng, Chunlung village head of Sala Kamraek Sangkat questioned that what kind of technical arrangements that make it easier for people to get connect the proper sewerage system?</p>	<ul style="list-style-type: none"> <li>- :Mr. Hiep Me</li> <li>1. It is necessary to apply for connection because people cannot dig or cut the road without any permission</li> <li>2. For each house connection, this project will provide people with easy access to sewage pipes, collecting wastewater to ensure a smooth, clean environment in front of the house, with one continuous link. No rainfall.</li> <li>- Mr. San Chanthy: project will install and prepare manhole for home connection .h two or tree houseswit</li> </ul>
<p>3. Ms. Tep Mom from Dok Por village said: By the people living by dirty waste streams affecting the communities living there, and they want to apply for connection to sewerage system because people have some problems with wastewater. Does the project sewer systems will be installing to her area?</p>	<ul style="list-style-type: none"> <li>- San Chanthy: Siem Reap is a tourist destination in the future. There is a need for a sewer system to stop the wastewater and improve sanitation. We plan to continue to reach every house. Citizens will help to contribute to the collection of wastewater collection services to dumping stations, so that the contribution of the system can continue to go even better.</li> <li>- Yin Seimon, from Banteay Chas village, Sangkat Slakram, said that in order to use the wastewater management system, it should not be too expensive because the people had limited income. However, people are interested and wanted the project to be implemented quickly and efficiently.</li> </ul>
<p>4. Mr. Tith Sokhom, village chief of Trapeang Ses village, raised a question that: The project is divided into two</p>	<ul style="list-style-type: none"> <li>- Hiep Me, deputy director of the Department of Public Works and Transportation in charge of the WWTP station, explained that, the project cover in four Sangkats of</li> </ul>

<p>sections: west and east, which Sangkat will be covered? Is the connection to the sewer pipe collecting service fee? If yes, how much?</p>	<p>Siem Reap city: Sla Kram, Salakamraek, Svay Dangcum and Kouk Chak. After connecting the sewage system, people have to pay monthly fee, but the price is based on the type of housing and business type of citizens. The fee is determined by an inter-ministerial decree. Determine monthly network and monthly fee for collecting and filtering wastewater from sewerage and pumping stations.</p>
<p>5. Mr. Kong Pisey, Kouk Chak commune council, raised that in Sangkat Kouk Chak, where will be the wastewater collection network constructed? and what impact would it be on the people who live in the area of the construction of the sewage system?</p>	<ul style="list-style-type: none"> <li>- Mr. Hiep Me explained that the coverage of the project will be on some important main roads with a lot of households. The project is not yet able to build a sewage system to all the places because the project budget is limited. We will build more sewerage systems in the future. As a matter of fact, work on public roads has always been affected more or less. However, protect will have mitigation methods to reduce the impact. Please do not build all kinds of construction on public properties/ROW to avoid future losses.</li> <li>- Mr. San Chanthy added on what Mr. Hiep Me mentioned, our project is to connect houses to existing pipelines, so there is no major impact because the pipeline we build is very small with only 300mm to 400mm, do not worry.</li> </ul>
<p>6. Mr. Long Bunthoeun, assistant to Sangkat Kouk Chak, had some questions regarding housing located far from the sewage system, how can they connect to the sewage system? When the project is over, people connected to the sewage system, will the downstream canal be dirty?</p>	<ul style="list-style-type: none"> <li>- Mr. San Chanthy said that we could connect for those who are located near the main road, because we would build a pipeline near the road for household connection.</li> <li>- Mr. Hiep Me, in the case when people are connected to the sewerage network and there is still dirty water flowing to the downstream canal, it is depending on the people to collaborate to manage wastewater not let it flow to canal. Then whole environment, of the downstream canals no longer have dirty water.</li> </ul>

## **ANNEX 5: TOR OF CONSTRUCTION SUPERVISION CONSULTANT OR ENVIRONMENTAL SUPERVISION CONSULTANT**

### **Terms of Reference**

#### **Environmental Safeguards Consultant**

##### **Objective of the Assignment**

The purpose of this assignment is to ensure the successful implementation of the project's Environmental and Social Management Framework (ESMF) and provide implementing agencies with hands-on supports for ESMF implementation, monitoring, reporting and capacity building needs.

##### **Roles and Responsibilities**

The **consultant shall** assist with all activities related to the ESMF requirements. The Consultant is to provide professional technical services to help ensure Environmental Safeguards compliance during the agriculture and infrastructure design and implementation phases. Specifically, the Consultant will be responsible for the following tasks:

1. Ensure the provisions of ESMF are integrated in the Project and sub-project implementation, monitoring and reporting arrangements; and liaise with the World Bank task team to proactively ensure adequate integration of environmental safeguards consideration;
2. Provide technical oversight for the screening of sub-projects identified under the project, ensuring the screening process complies with the ESMF; and advice on the site-specific safeguard instruments required such as the sub-project Environmental and Social Management Plan (ESMP).
3. Provide technical oversight, guidance and quality control for the preparation of needed environmental safeguards requirements for sub-projects;
4. Assist the implementing agencies with the review of contractors' proposals regarding environmental safeguard requirements and identify gaps not covered by the proposed mitigation and environmental measures and/or budget;
5. Assess the capacities for safeguards screening, implementation, and supervision/monitoring of safeguard focal persons and other relevant staff in the implementing agencies; define a comprehensive training plan; provide on the job training and supervision particularly in the preparation and implementation of adequate environmental safeguards instruments including ESMP;
6. Support the design, preparation, and implementation of the Environmental Safeguard Training Program for the Project coordinating as necessary with safeguards capacity building initiatives taking place;
7. Advise implementing agencies on stakeholder and community engagement, including grievance redress mechanism (GRM) establishment to ensure the effectiveness of the GRM;

8. Ensure that World Bank recommendations on environmental safeguards implementation are taken up and reported;
9. Coordinate with the environmental safeguard focal persons and engineers to review and clear contractor's ESMP of sub-project;
10. Supervise the Contractor's performance, and handling of site-specific environmental and social issues, and provide corrective instructions if needed;
11. Prepare periodical environmental monitoring reports, including reports on ESMP implementation status and prepare statement of environmental safeguards supervision during the implementation phase; and
12. Other tasks as required by the project

### **Selection Criteria**

- At least a Bachelor's degree in environmental management, environmental engineering, social science, or urban planning or related fields;
- Minimum 5-year experience regarding to the compliance of environmental safeguards policies including environmental risks management
- Experience in moderating and facilitating group discussions in public preferred
- Excellent written and oral communication skills in English and Khmer languages
- Knowledge and experience of working with environmental safeguard policies of the World Bank and/or Asian Development Bank preferred.

### **Timeframe**

The assignment is 12 months with possible extension depending on performance assessment.

### **Implementation Arrangements**

The consultant will report directly to the Project Manager/delegated authority and will work closely with environmental and social safeguard focal persons of the implementing agencies as well as the to-be-recruited Social Safeguards Consultant. The Consultant will be based at the implementing agency who will provide Office facilities and internet access...etc. The Consultant shall bring his or her own laptop to carry out the assignment.

## Terms of Reference

### Social Safeguards Consultant

#### **Objective of the Assignment**

The purpose of this assignment is to ensure the successful implementation of the project's Social safeguards including Resettlement Policies Framework (RPF) and Indigenous People Policies Framework (IPPF). And this assignment is also to provide implementing agencies with hands-on supports for RPF implementation, monitoring, reporting and capacity building needs.

#### **Roles and Responsibilities**

The **consultant shall** assist with all activities related to the RPF requirements. The Consultant is to provide professional technical services to help ensure Social Safeguards compliance during the agriculture and infrastructure design and implementation phases. Specifically, the Consultant will be responsible for the following tasks:

13. Ensure the provisions of RPF are integrated in the Project and sub-project implementation, monitoring and reporting arrangements; and liaise with the World Bank task team to proactively ensure adequate integration of social safeguards consideration;
14. Provide technical oversight for the screening of sub-projects identified under the project, ensuring the screening process complies with the RPF; and advice on the site-specific safeguard instruments required such as the sub-project Social safeguard Management Plan.
15. Provide technical oversight, guidance and quality control for the preparation of needed social safeguards requirements for sub-projects;
16. Assist the implementing agencies with the review of contractors' proposals regarding social safeguard requirements and identify gaps not covered by the proposed mitigation and social safeguard measures and/or budget;
17. Assess the capacities for safeguards screening, implementation, and supervision/monitoring of safeguard focal persons and other relevant staff in the implementing agencies; define a comprehensive training plan; provide on the job training and supervision particularly in the preparation and implementation of adequate social safeguards instruments including ESMP;
18. Support the design, preparation, and implementation of the Social Safeguard Training Program for the Project coordinating as necessary with safeguards capacity building initiatives taking place;
19. Advise implementing agencies on stakeholder and community engagement, including grievance redress mechanism (GRM) establishment to ensure the effectiveness of the GRM;
20. Ensure that World Bank recommendations on Social safeguards implementation are taken up and reported;
21. Coordinate with the social safeguard focal persons and engineers to review and clear contractor's ESMP of sub-project;

22. Supervise the Contractor's performance, and handling of site-specific environmental and social issues, and provide corrective instructions if needed;
23. Prepare periodical social safeguard monitoring reports, including reports on ESMP implementation status and prepare statement of social safeguards supervision during the implementation phase; and
24. Other tasks as required by the project

### **Selection Criteria**

- At least a Bachelor's degree in social safeguard management, social science, or related fields;
- Minimum 5-year experience regarding to the compliance of social safeguards policies including social safeguard risks management
- Experience in moderating and facilitating group discussions in public preferred
- Excellent written and oral communication skills in English and Khmer languages
- Knowledge and experience of working with social safeguard policies of the World Bank and/or Asian Development Bank preferred.

### **Timeframe**

The assignment is 12 months with possible extension depending on performance assessment.

### **Implementation Arrangements**

The consultant will report directly to the Project Manager/delegated authority and will work closely with social safeguard focal persons of the implementing agencies as well as the to-be-recruited Social Safeguards Consultant. The Consultant shall bring his or her own laptop to carry out the assignment.