

- 4-6. Minutes of the second JCC Meeting
- 4-7. Materials for the second JCC Meeting



**Minutes of the Second Joint Coordinating Committee Meeting of  
The Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency  
in Road Sector in Cambodia**

The Second Joint Coordinating Committee (JCC) meeting among the Ministry of Public Works and Transport (MPWT) of Cambodia, Japan International Cooperation Agency (JICA), and the other agencies concerned of the Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency in Road Sector in Cambodia (CESCoR) was held at the Conference Room of SUNWAY Hotel, Phnom Penh on the 6th of February, 2018. Discussions and exchanges of opinion were made, which resulted in the mutual agreement on several items as described below.

1. Confirmation on Reformed JCC and Taskforce Members

JCC and Taskforce Members were reformed because of the changes of some officials in MPWT. The Reformed JCC and Taskforce Members were confirmed and accepted in this meeting. The lists of reformed JCC and Taskforce Members are given in this minute herewith attached as Attachment 1.

Taskforce Structures are still led by three (3) Deputy Managers and divided into EIA/EMP (Environmental Impact Assessment/Environmental Management Plan) Team and ROW (Right of Way) Management Team. Taskforce members have also been supported by JICA Experts and advisors appointed by Ministry of Environment (MoE), and Ministry of Land Management, Urban Planning and Construction (MLMUPC). Members of Taskforce are expected to sustainably utilize their knowledge and continue the technical transfer to their subordinates or concerned institutions after the completion of the Project.

2. Approval for the Road Environmental Guidebook (REG)

It was agreed in the meeting that title of Road Environmental Guidelines was changed to Road Environmental Guidebook (REG) in order to avoid the term confusion with other Environmental Guidelines in Road Sector which will be issued by MoE.

Moreover, the Draft of Road Environmental Guidebook (REG) were presented and approved by the JCC members. it will be internally used in MPWT.

The final draft version of REG is given here in English as Attachment 2.

3. Approval for Authorization Process of Road Environmental Guidebook (REG)

It was agreed that the Road Environmental Guidebook will be proceed to get approval as the Prokas (Proclamation) by MPWT.

4. Confirmation on the Draft of ROW Management Guidelines (RMG)

The Draft Table of Content of RMG was presented and confirmed in this meeting.

The draft Table of Content consists of five (5) main parts. They are Part 0: Basic Policy; Part 1: Current Status Identification (CSI); Part 2: Illegal Encroachment Prevention (IEP); Part 3: Standard Drawing; Part 4: Budgetary Plan; and Appendices: ROW Management System Training Plan and Pilot Project Report.

It was also confirmed that the Draft of RMG will be updated through the implementation of Pilot Project.

5. Approval for the Pilot Project Site Selection

It was approved in this meeting that the Pilot Project Site for ROW management system is National Road No.5 at the section to be improved by Japan's Yen Loan Project. Moreover, it was also agreed that the Taskforce members for Pilot Project will be selected from the concerned Provincial Departments of Public Works and Transport (DPWT).

It was also agreed that the other one (1) digit National Road may be added if the target pilot project mentioned above would have been completed ahead of the schedule.

The Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency  
in Road Sector in Cambodia (CESCoR)

---

6. Work Plan

In this meeting, project progress status was also presented to explain the outputs of the Project.

Output 1: Implementation Framework of the Project was completely done. Output 2: Implementation Framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) was almost completed. Output 3: Implementation framework of Social Considerations (SC) related to ROW management by establishing ROW management System (RMS) is ongoing. Output 4: Capacity of Social Considerations required for ROW management has not yet started.

It was agreed that the Output 3 and 4 are the main activities conducted in this year 2018. Moreover, it was also agreed that ROW Taskforce continues to conduct project activities in order to finalize ROW Management Guidelines (RMG).

7. Other Issues

It was confirmed that MPWT, MLMUPC and Ministry of Economy and Finance (MEF) have appointed officials to attend the Second Training in Japan from 27<sup>th</sup> of February to 9<sup>th</sup> of March, 2018 to improve personnel's capacity on ROW management. The meeting also informed the Second Third Country Technical Exchange on ROW management and the Third Training in Japan have been scheduled in August to September, 2018 and in February, 2019; respectively. Moreover, the 4<sup>th</sup> Seminar will be organized in October, 2018.

It was also informed in the meeting the procurement of the equipment for the Project. Four (4) Personal Computers (PCs), one (1) printer, one (1) copy machine, one (1) video camera (Drone: Unmanned aircraft), one (1) projector and one (1) total station were already procured.


It was agreed with the JCC members that the 3<sup>rd</sup> JCC meeting will be held in February, 2019 and the project progress such as the result of Pilot Project and the draft RMG will be reported in the 3<sup>rd</sup> JCC meeting.

CONFIRMED BY: 



---

**H.E. TAUCH Chankosal**  
Secretary of State  
Ministry of Public Works and Transport



---

**SUGANO Yuichi**  
Chief Representative  
JICA Cambodia Office



---

**TSUCHIDA Takayuki**  
Team Leader  
JICA Project Team



### JCC Members

Assignment	Name	Position
Chair Parson, Project Director	H.E. Tauch Chankosal	Secretary of State, Ministry of Public Works and Transport (MPWT)
Member, Project Manager	H.E. Nou Vaddhanak	Director General, General Department of Technique, MPWT
Member, Deputy Project Manager	Ms. Pin Vuthea	Director, International Cooperation Department (ICD), MPWT
Member, Deputy Project Manager	Mr. Prok Novida	Director, Planning Department, MPWT
Member, Deputy Project Manager	Mr. Chhim Phalla	Director, Road Infrastructure Department (RID)
Member	Mr. Yong Sy	Chief of Domestic Public Investment III Office, Investment Department, General Department of Budget, Ministry of Economy and Finance (MEF)
Member	Representative(s)	JICA Cambodia Office
Member	Experts	JICA Project Team

### Taskforce Members

Assignment	Name	Position	
Project Director	H.E. Tauch Chankosal	Secretary of State	
Project Manager	H.E. Nou Vaddhanak	Director General, General Department of Technique	
Taskforce	Deputy Manager	Ms. Pin Vuthea	Director, International Cooperation Department (ICD)
	EIA/EMP Team		
	Deputy Manager	Mr. Prok Novida	Director, Planning Department (DoP)
	Taskforce Member	1. Mr. Uy Sambath	Deputy Chief, Social and Environmental Office, Planning Department
		2. Mr. Srey Vireak	Officer, Social and Environmental Office, Planning Department
		3. Mr. Bour Chhay Ya	Officer, Social and Environmental Office, Planning Department
		4. Mr. Manh Vutha	Officer, Road Infrastructure Department <i>(Former ICD Officer until 18<sup>th</sup> January, 2018)</i>
		5. Mr. Song Kimheng	Officer, Road Infrastructure Department <i>(Former ICD Officer until 18<sup>th</sup> January, 2018)</i>
		6. Mr. Ngel Sovanarith	Officer, Road Infrastructure Department <i>(Former ICD Officer until 18<sup>th</sup> January, 2018)</i>
	Advisor	Mr. Chea Leng	Deputy Director, Environmental Impact Assessment Department, Ministry of Environment
Observer	Mr. Kong Youreth	Chief, Environment and Public Service Office, Public Infrastructure Department	

ROW Management Team		
Deputy Manager	Mr. Chhim Phalla	Director, Road Infrastructure Department (RID)
Taskforce Member	1. Mr. You Dara	Deputy Director, Road Infrastructure Department
	2. Mr. Chea Samnang	Chief, ROW Management Office, Road Infrastructure Department
	3. Mr. Khoun Kompheak	Chief, Traffic Safety Office, Road Infrastructure Department
	4. Mr. Khai Saray	Deputy Chief, ROW Management Office, Road Infrastructure Department
	5. Mr. Hay Chandara	Deputy Chief, ROW Management Office, Road Infrastructure Department
	6. Kaing Theara	Officer, Road Infrastructure Department
	7. Mr. Long Davuth	Officer, Road Infrastructure Department
	8. Mr. Sok Chandy	Officer, Road Infrastructure Department
	9. Mr. Sokun Piseth	Officer, Road Infrastructure Department
	10. Mr. Sao Premarak	Technical Officer, Road Infrastructure Department
	11. Mr. Keat Sarun	Officer, Road Infrastructure Department
	12. Mr. Sor Yilin	Deputy Director of Department of Logistics Monitoring and Evaluation <i>(Former Deputy Chief, Regional Cooperation Office, International Cooperation Department until 1<sup>st</sup> August, 2017)</i>
	13. Mr. Sok Ly	Deputy Director, International Cooperation Department
	14. Mr. Von Sarom	Deputy Director, International Cooperation Department
	15. Mr. Peang Samoeun	Deputy Chief, Administrative Office, International Cooperation Department
	16. Mrs. Sreng Sorphea	Officer, Administrative Office, International Cooperation Department
	17. Mrs. Eam Runthearin	Deputy Chief, Regional Cooperation Office, International Cooperation Department
	18. Mr. An Menghour	Officer, Regional Cooperation Office, International Cooperation Department
	19. Mr. Chea Sophanith	Deputy Chief, Bilateral Cooperation Office, International Cooperation Department
	20. Mrs. Oum Sokvasey	Deputy Chief, Multilateral Cooperation Office, International Cooperation Department
	21. Mr. Lor Vicheth	Deputy Chief, Multilateral Cooperation Office, International Cooperation Department
	22. Ms. Laing Sengkim	Officer, Multilateral Cooperation Office, International Cooperation Department
Advisor	1. Mr. Sek Sothirith	Director, Urban Planning Department, Ministry of Land Management, Urban Planning and Constructions
	2. Mr. Sao Vary	Director, Department of Conservation, Ministry of Land Management, Urban Planning and Constructions
Observer	Ms. Em Sokchea	Deputy Chief, Environment and Public Service Office, Public Infrastructure Department





# **Road Environmental Guidebook (REG)**

(Draft)

for

**Ministry of Public Works and Transport (MPWT)**

**in Cambodia**

**February, 2018**





---

## Table of Contents

Acknowledgements

List of the EIA/EMP Taskforce Members, Advisor, and Expert

Definition of Terms

Preface

<b>1. Introduction</b> .....	<b>1</b>
<b>1.1 Backgrounds</b> .....	<b>1</b>
<b>1.2 Objectives, Users and Scope of REG</b> .....	<b>1</b>
<b>1.3 General Steps in conducting EIA</b> .....	<b>2</b>
<b>1.4 Project Cycle and EIA</b> .....	<b>3</b>
(1) <b>General Project Cycle and EIA</b> .....	<b>3</b>
(2) <b>Road Project Cycle and EIA Steps</b> .....	<b>4</b>
<b>2. Essential Laws/Prakas and Guidelines related to REG</b> .....	<b>5</b>
<b>3. Steps of EIA Process and Involvement Phases by MPWT in Cambodia</b> .....	<b>11</b>
<b>3.1 Steps of EIA Process in Cambodia as Nationwide</b> .....	<b>11</b>
(1) <b>IEIA/EIA Report Preparing Phase</b> .....	<b>11</b>
(2) <b>IEIA/EIA Report Reviewing Phase</b> .....	<b>12</b>
(3) <b>Environmental Monitoring Phase</b> .....	<b>13</b>
<b>3.2 Involvement Phases by MPWT for EIA Process in Cambodia</b> .....	<b>13</b>
(1) <b>EIA Report Preparing Phase</b> .....	<b>13</b>
(2) <b>EIA Report Reviewing Phase</b> .....	<b>14</b>
(3) <b>Environmental Monitoring Phase</b> .....	<b>14</b>
<b>4. Practical Involvement Methods by MPWT for EIA Process in Cambodia</b> .....	<b>15</b>
<b>4.1 EIA Report Preparing Phase</b> .....	<b>15</b>
(1) <b>EIA Report Contents</b> .....	<b>16</b>
<b>4.2 EIA Report Reviewing Phase</b> .....	<b>17</b>
(1) <b>Introduction of the EIA Report Review Phase</b> .....	<b>17</b>
(2) <b>Practical Methods for the EIA Report Review</b> .....	<b>18</b>
<b>4.3 Environmental Monitoring Phase</b> .....	<b>22</b>
(1) <b>Introduction of Environmental Monitoring</b> .....	<b>22</b>
(2) <b>Two categories of Environmental Monitoring</b> .....	<b>22</b>
(3) <b>Environmental Monitoring Plan</b> .....	<b>23</b>
(4) <b>Environmental Monitoring Report</b> .....	<b>24</b>

### Appendices

Appendix 1: Checklist for Reviewing EIA Report for Road Project

Appendix 2: Checklist for Reviewing EMP for Road Project

Appendix 3: Checklist for Reviewing EMoP for Road Project

Appendix 4: Checklist for Reviewing EMoR for Road Project

---

## ACKNOWLEDGEMENTS

This **Road Environmental Guidebook (REG)** for Ministry of Public Works and Transport (MPWT) was produced as part of The Project for Capacity Enhancement on Environmental and Social Consideration in Implementing Agency in Road Sector in the Kingdom of Cambodia (CESCoR) to assist Ministry of Public Works and Transport's officials in charge of Environmental Impact Assessment (EIA) to be more effective in reviewing and giving comments on the EIA report and the related EIA monitoring activities on road infrastructure project to ensure the sustainable development on road sector. The project is financially and technically supported by Japan International Cooperation Agency (JICA) and executed by the MPWT with technical advice from Environmental Impact Assessment Department of the Ministry of Environment (MoE).

We would also like to sincerely thank H.E. Tauch Chankosal, Secretary of State and CESCoR project director, H.E. Nou Vadhanak, Director General of Technic, H.E. Heng Rath Piseth, Director General of Public Works, H.E. Var Sinsorya, Director General of Administration and H.E. Seung Sokong, Director General of Planning and Policy for support and cooperation in developing this guidebook.

We would like to acknowledge the contribution from numerous individuals, agencies, and concerned departments—Department of Planning (DoP), International Cooperation Department (ICD), and Road Infrastructure Department (RID) for providing space and technical officials for preparing and reviewing this guidebook.

Our acknowledgement would also go to Department of EIA, Ministry of Environment, for technical reviewing and advices.

Our sincerest thanks also go to JICA team Dr. Tsuchida Takayuki, Japanese Expert, Mr. Ito Tsuyoshi, Japanese Expert, Mr. Kumagai Takahiro, Project Coordinator, Mr. Penh Socheat and their staffs for the valuable advice and insights.

We also acknowledge and appreciate the support and collaboration provided from all EIA taskforce members, especially Mr. Prok Novida, director of Department of Planning, Mr. Chhim Phalla, director of Road Infrastructure Department, and Mrs. Pin Vuthea, director of International Cooperation Department.

Phnom Penh,                      February 2018

**H.E. Sun Chanthol**

**Senior Minister, Minister of Ministry of Public Works and Transport**



---

## List of the EIA/EMP Taskforce Members, Advisor, and Expert

### **EIA taskforce members**

Mr. Prok Novida	Director, Department of Planning, MPWT
Mr. Uy Sambath	Deputy Chief, Social and Environmental Office, Department of Planning, MPWT
Mr. Srey Vireak	Officer, Social and Environmental Office, Department of Planning, MPWT
Mr. Bour Chhay Ya	Officer, Social and Environmental Office, Planning Department, MPWT
Mr. Manh Vutha	Deputy Chief, Bilateral Cooperation Office, International Cooperation Department, MPWT
Mr. Ngel Sovannarith	Officer, Bilateral Cooperation Office, International Cooperation Department, MPWT
Mr. Song Kimheng	Officer, Administrative Office, International Cooperation Department, MPWT

### **Advisor to the Taskforce**

Mr. Chea Leng	Deputy Director, Environmental Impact Assessment Department, Ministry of Environment
---------------	--

### **JICA Expert**

Mr. ITO Tsuyoshi	Environmental and Social Considerations/EIA/EMP Expert
Mr. Penh Socheat	Technical Assistant

---

## Definition of Terms

Alternative Analysis	Alternative Analysis is the evaluation of the different choices available to achieve a particular project management objective. It is an analytical comparison of different factors like operational cost, risks, effectiveness, and the shortfalls in an operational capability.
Cost Benefit Analysis	Cost Benefit Analysis is a systematic process for calculating and comparing benefits and costs of a decision, policy ( with particular regard to government policy) or (in general) project.
Cumulative Impacts	The combination of multiple impacts from existing projects, the proposed project, and anticipated future projects that may result in significant adverse and/or beneficial impacts that cannot be expected in the case of a stand-alone project.
Development Partners:	Foreign donors, which assists for developing countries financially and technically, such as World Bank, Asian Development Bank, Japan International Cooperation Agency (JICA), Korea International Cooperation Agency (KOICA).
EIA	Environmental Impact Assessment (EIA) is the detailed assessment of physical, biological and socio-economic environment and resources, based mainly on primary data on the area within or in the surrounding the project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts.
EMoP	Environmental Monitoring Plan (EMoP) is a project specific plan developed to validate the effectiveness of the implemented mitigation measures are followed during the construction and/or operation of a project.
EMoR	Environmental Monitoring Report (EMoR) is a periodical report, including the monitoring data compared with each conservation target to validate the effectiveness of the implemented mitigation measures are followed during the construction and/or operation of a project.
EMP	Environmental Management Plan (EMP) is a site or project specific plan developed to ensure that appropriate environmental management practices are followed during the construction and/or operation of a project.
Environmental Assessment	A generic term used to describe a process of environmental analysis and planning to address the environmental impacts and risks associated with a project. The assessment may take the form of an EIA, IEE, or Matrix of Environmental Impacts.



---

Environmental Investigation	One of the survey components of EIA study. Main activities of the investigations are project site visits and baseline data collections in the project area for present environmental conditions.
IEIA or IEE:	Initial Environmental Impact Assessment (IEIA) or Initial Environmental Examination/Evaluation (IEE) is the preliminary assessment of primarily secondary data of physical, biological and socio-economic environment and resources on the area within or in the surrounding the project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts.
Mitigation Measures	Mitigation Measures are counter measures, which consists of structural measures and non-structural measures for mitigating possible negative environmental and socio-economic impacts.
Project Owner	Project owner is a holder of ownership, or project developer, or physical or legal person, or organization permitted to conduct a study, exploration, design, construct and implement a project. Project owner is a governmental or private sector or an organization responsible for a development project.
Public Participation	Public Participation: is the participation of all stakeholders concerned with the development project including ministries/institutions, local authorities, relevant departments, project owners, consulting companies, representatives of affected people and non-governmental Organizations concerned with the project area(s).
Scoping:	“Scoping” means choosing alternatives for analysis, a range of significant and potentially significant impacts, and study methods.
Screening:	“Screening” means deciding whether proposed projects are likely to have impacts that need to be assessed by conducting EIA studies according to project description and site description. Development Partners (DPs) are usually conducts screening by classifying proposed projects into four categories: A, B, C, and FI.
Stakeholder	Stakeholder is a person who has an interest in or investment in something and who is impacted by and cares about how it turns out
Terms of Reference:	“Terms of Reference” (TOR) are a set of administrative, procedural, and technical requirements. A TOR for a EIA study are specified analytical items/scope and methods for project descriptions and area, related legal frameworks, alternative analysis, public involvement, identification of possible environmental and socio-economic impacts, mitigation measures, and contents/structure of EIA Report

---

---

## Preface

This Road Environmental Guidebook (REG) is developed and prepared through a series of capacity development trainings for Ministry of Public Works and Transport (MPWT)'s officials as one of the development components of the Japan International Cooperation Agency (JICA) Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency in Road Sector in Cambodia (CESCoR).

The purposes of the REG development are:

- To improve technical capacities of MPWT's officials, who are in charge of EIA and EMP related tasks of road infrastructure development projects, which the Project Owner or Project Proponent is the MPWT.
- To clarify the involvement tasks by the MPWT for the EIA and EMP as the Project Owner or Project Proponent for road infrastructure development projects in Cambodia

This REG is not the Road Sector EIA Guidelines in Cambodia, which the Ministry of Environment (MoE) in Cambodia will prepare in the near future, but a practical and concise EIA guidebook only for MPWT's officials as internal use. Therefore, the REG is not disclosed to the public and outside of the MPWT. The REG is only used by the related MPWT's officials in Cambodia.

This REG is complied with all the related present laws or sub-decrees or ministerial orders (*Prakas*) of the MoE and MPWT. The REG in not conflict with the Road Sector EIA Guidelines or other related guidelines in Cambodia by the MoE as well.

Implementation of the REG for actual road infrastructure development projects in Cambodia will necessitate continuous dissemination and cooperation within the MPWT. It is also hoped that there will be supported from the MoE, the multilateral donor agencies and development partners so that such capacity development can be carried on a sustainable basis.

Finally, I would like to express my sincere appreciation of the initiative of the JICA in providing the funding required for the preparation of the REG through a series of capacity development trainings for MPWT's officials



---

## 1. INTRODUCTION

### 1.1 Backgrounds

In 1993 the Royal Government of Cambodia (RGC) made active efforts to establish a secretariat for environmental management, a leading body in efforts to conserve and manage the environment and natural resources in Cambodia. After that, the Secretariat was transformed into the Ministry of Environment in 1996. In 1997, Environmental Impact Assessment Department was established.

To ensure sustainable development in Cambodia, the Royal Government of Cambodia requires that a development project be subjected to an environmental impact assessment (EIA) before making a decision on whether the development project should proceed. Under the Law on Environmental Protection and Natural Resources Management (1996) and the Sub-decree on Environmental Impact Assessment (1999), the Ministry of Environment has the authority to make decisions on Initial EIA and EIA.

EIA for road infrastructure development requires participation from all stakeholders in order to document an EIA report which will go through review and comment by Ministry of Environment (MoE), Ministry of Public Works and Transport (MPWT) and other relevant stakeholder prior to its submission for approval from RGC.

In order to assist MPWT officials in charge of EIAs to review IEIA/EIA reports, and implementing Environmental Management Plan (EMP) more effectively, an EIA taskforce was established to develop Road Environment Guidebook. The guidebook was developed with technical support from JICA experts and with advice from the Department of Environment Impact Assessment of MoE.

### 1.2 Objective, Users and Scope of REG

The objective of the Road Environment Guidebook (REG) is to assist MPWT officials in charge of EIA to be more effective in reviewing and giving comments on IEIA/EIA reports and implementing EMP for road projects, to ensure effective environmental management and sustainable development in the road sector.

The REG will be used by MPWT officials for their internal use within MPWT in carrying out their daily duties/tasks in terms of EIA related activities; therefore the REG is practical and concise, but is based on EIA related academic/technical knowledge/skills.

The REG is not a road sector EIA guideline in Cambodia. The MoE will prepare and develop the Road Sector EIA Guideline in Cambodia in the near future.

The Scope of the Guidebook is as follows:

- ♦ REG is to assist MPWT officials, who are in charge of tasks associated with EIA especially, Environmental Management Plan (EMP), Environmental Monitoring Plan (EMoP), and Environmental Monitoring Report (EMoR), to understand the main areas of concern and use that understanding to enhance the quality of the IEIA/EIA report, EMP, EMoP, and EMoR

- 
- ◆ The Appendices are prepared more practical use for road project, and for effective and efficient use reviewing of IEIA/EIA report, EMP, EMoP, and EMoR
  - ◆ The REG focuses on environmental and social impacts aspects, and does not focus resettlement issues. In Cambodia had Basic Resettlement Procedures, which was developed jointly by Ministry of Economic Finance (MEF) and MPWT as Inter-ministerial Resettlement Committee (IRC).
  - ◆ The guidebook is applicable for road and bridge infrastructure project.

### **1.3 General Steps in conducting EIA**

In general, conducting EIA comprises of the following six steps:

#### **1) Screening**

The aim of screening is to determine the extent to which a full environmental impact study is required or not. The screening procedure results in an environmental categorization of the project. An appropriately designed screening system can prove to be an effective tool to prevent unnecessary use of time on assessing projects with minor environmental impacts.

#### **2) Scoping**

The main objective of the scoping process is to establish the environmental and social priorities, set the boundaries for the study and define the Terms of Reference (ToR) of the EIA. Ideally, the role of scoping is to determine three key issues: (i) Site alternatives, (ii) Design alternatives, (iii) Justifications for the project.

#### **3) Baseline data collection in the Project Area**

Collection of baseline data on physical, biological, socio-economic, and cultural aspects of the project area is also important reference for conducting IEIA/EIA study. The description of environmental, socio-economic, and cultural settings includes the characteristic of area in which the activity of proposed project would occur.

#### **4) Impact assessment**

The characteristics of potential impacts are identified, evaluated and predicted using the baseline information on one hand and the features of the project on the other (cause-effect relationship). Impact predictions are normally done by using common methodologies and models, expert judgments etc.

#### **5) Consideration of Mitigation Measures**

Once the potential impacts have been analyzed, their significance will be determined. The possible preventive, remedial and compensatory counter measures for each adverse impact are considered and determined. Mitigation measures normally include technical, social, and institutional measures to be implemented as integral elements of the project.

#### **6) Consideration of Environmental Management Plan (EMP)**



An Environment Management Plan (EMP) is usually prepared as part of the EIA process. The EMP translates recommended mitigation and monitoring measures into specific actions that have to be carried out by the Project Owner (PO) or the Project Proponent. Depending upon specific requirements, the EMP may be included in the IEIA/EIA Report or can be prepared as a separate document.

## 1.4 Project Cycle and EIA

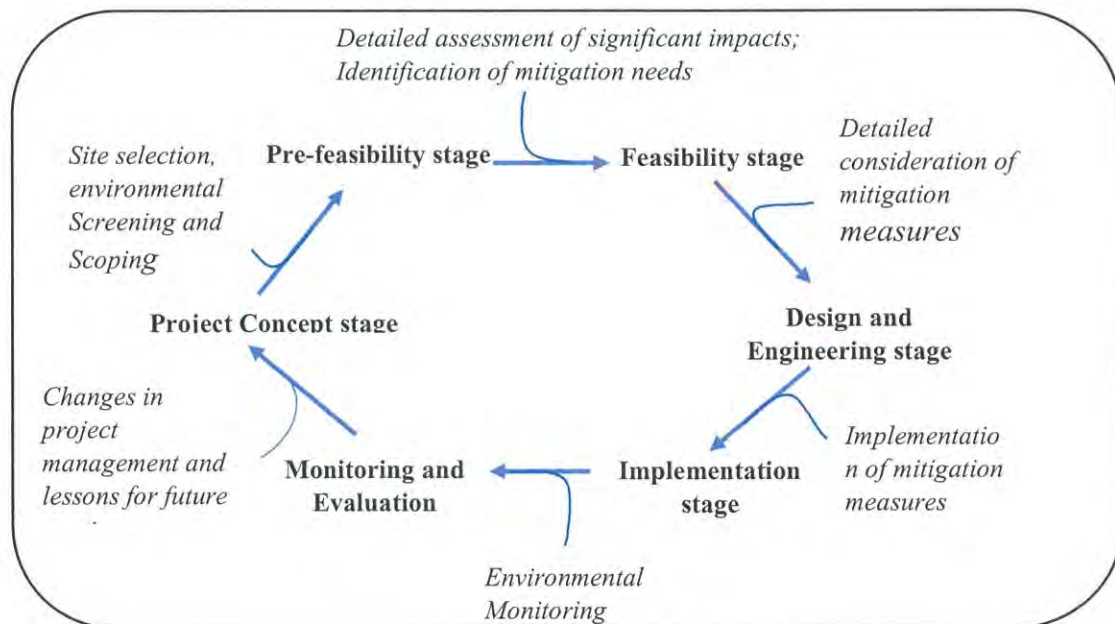
### (1) General Project Cycle and EIA

A development project is accomplished in six stages in general: i) project concept, ii) pre-feasibility, iii) feasibility, iv) design and engineering, v) implementation, and vi) monitoring and evaluation. EIA plays an important role in every stage of this cycle (Refer to Figure 1.1).

Most of the EIA activities take place during Pre-Feasibility and Feasibility stage of project cycle, or even in Project Concept stage. Between project concept and pre-feasibility stage, the EIA process involves the site selection, environmental screening and scoping. Detailed EIA starts at feasibility phase.

After predicting likely environmental impacts, an EIA identifies alternative solutions or consider measures to avoid or minimize problems to improve environmental performance of a project. The aim of an EIA is to ensure that potential environmental problems are foreseen and avoided at an early stage in planning cycle so as to pre-empt problems.

An Environmental Management Plan (EMP) could be applied in the design and engineering and Implementation stage of project cycle. The EMP, which describes the mitigation measures, is also considered in the project cycle from the implementation of the project (during construction, during operation and maintenance). The main aim of an EMP is to reduce the adverse impacts of road project.



**Figure 1.1 General Project Cycle and EIA**

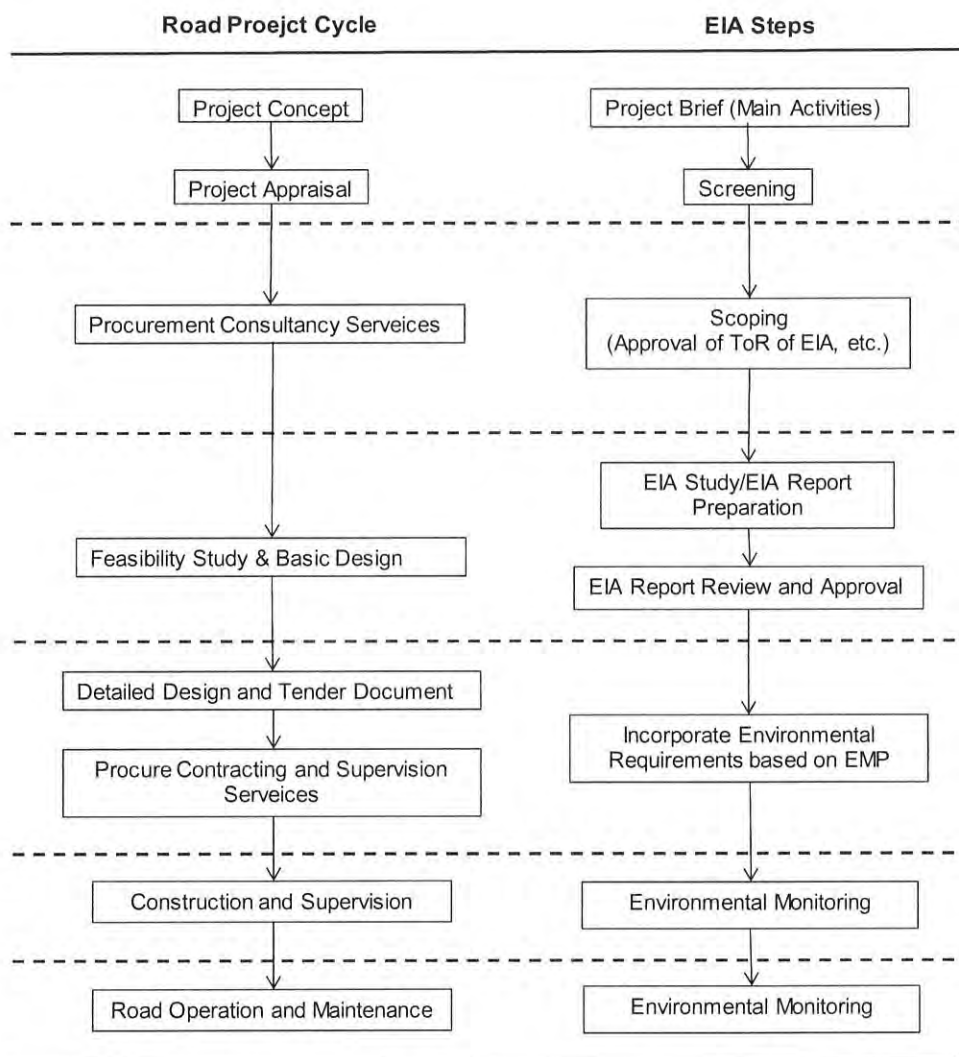
## (2) Road Project Cycle and EIA Steps

A road project involves a number of technical studies that are essentially the planning and design, construction and operation stages.

All steps of EIA process can be undertaken along project cycle activities. So, by regarding EIA as part of the project cycle, provision is made for these various procedures to be included in the planning, feasibility study, design, construction, and operation/maintenance phases.

In general, the EIA process for road projects is comprised of project brief, screening, scoping, IEIA/EIA report preparation, IEIA/EIA report reviewing and approval, implementation of mitigation measures, and environmental monitoring.

Figure 1.2 shows a normal main project cycle for road project and how the EIA steps are corresponding to the project cycle.



**Figure 1.2 Road project Cycle and EIA Steps**



---

## 2. ESSENTIAL LAWS, SUB-DECREE AND PRAKAS related to REG

The following are main descriptions of the articles of the essential laws and Prakas, and the guideline directly related to the REG.

<b>Law on Environmental Protection and Natural Resources Management in Cambodia, 1996</b>
---

Article 6:

An environmental impact assessment shall be done on every project and activity, private or public, and shall be reviewed and evaluated by the Ministry of Environment before being submitted to the Royal Government for decision.

This assessment shall also be done for existing and in-process activities that have not yet been assessed for environmental impact.

The procedures of the environmental impact assessment process shall be determined by Sub-decree following a proposal of the Ministry of Environment.

The nature and size of the proposed projects and activities and existing and in-process activities, both private and public, that shall be subject to that environmental impact assessment shall be determined by Sub-decree following a proposal of the Ministry of Environment.

Article 7:

All Investment Project Applications and all projects proposed by the State shall have an initial Environmental Impact Assessment or an Environmental Impact Assessment as specified in article 6 of this law. The Ministry of Environment shall review and provide recommendations on the initial Environmental Impact Assessment or the Environmental Impact Assessment to the competent organization within the period determined in the Law on Investment of the Kingdom of Cambodia.

Article 16:

The Ministry of Environment, following a request from the public, shall provide information on its activities, and shall encourage public participation in environmental protection and natural resource management.

Article 17:

The procedures for public participation and access to information on environmental protection and natural resource management shall be determined by Sub-decree following a proposal of the Ministry of Environment.

Article 18:

Information related to environmental protection or natural resource management shall be mutually disseminated between the Ministry of Environment and different ministries.

<b>Sub-decree on Organization and Functioning of Ministry of Environment, No. 135ANKR.BK, 2016</b>
--

Article 17:

Environmental Impact Assessment Department (EIA) of Ministry of Environment (MoE) has responsibilities and duties as below:



- 
- To prepare draft of policy, legal documents, plan and budget promoting cooperation with relevant stakeholders, capacity building of officials of the department, financial management, monitoring and other administrative works which are related to responsibilities and duties of EIA Department.
  - To prepare legal documents and other EIA-related guidelines
  - To enforce law and other legal documents relate to EIA and environmental agreement through coordinating and cooperating with line ministries and agencies. <sup>1</sup>

**Sub-decree on Environmental Impact Assessment Process, No.72 ANKR.BK, 1999**

Article 1:

The main objectives of this sub-decree are:

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

Article 3:

The MoE has responsibilities as following:

- a/ scrutinize and review the report of the Environmental Impact Assessment in collaboration with other concerned ministries;
- b/ follow up, monitor and take appropriate measures to ensure a Project Owner will follow the Environmental Management Plan (EMP) while project construction is taking place and accede to their EIA report's approval.

Article 4:

Institutions and ministries who are responsible for proposed project, shall have the right to examine and approve any project(s) that stated in the annex of this sub-decree, after the MoE has reviewed and commented on their EIA report.

Article 6:

A Project Owner must conduct Initial Environmental Impact Assessment (IEIA) in order to comply with the EIA requirement as stated in the annex of this sub-decree.

Article 7:

A Project Owner must apply to the MoE for reviewing their IEIA report and report of pre-feasibility study.

Article 8:

A Project Owner must apply to the MoE for reviewing their EIA report and pre-feasibility study, in case a project tends to cause a serious impact to the natural resources, ecosystem,

---

<sup>1</sup> Further responsibilities and duties of EIA Department of MoE are described in " Sub-decree No 135"



---

health and public welfare.

Article 14:

A Project Owner must prepare a report, as described in Article 7, and must submit it to the MoE and forward a copy to the Project Approval Ministry/Institution.

Article 16:

When a project is requested to submit a report of EIA, as described in Article 8, the Project Owner/Responsible Person shall submit it to the MoE along with their application for project's investment with the Project Approval Ministry/Institution.

Article 23:

Project Owner/Responsible Person must carry out the EMP as stated in the EIA for period of 6 calendar months, commencing from the date of the MoE confirmation of their EIA report duly fulfilled the criteria of this sub-decree.

<p><b>MoE's Prakas on General Guidelines for Developing Initial and Environmental Impact Assessment Report, No 376, 2009</b></p>
--

Article 1:

The Prakas aims to provide general guidelines on the development of Initial Environmental Impact Assessments (IEIA) and Environmental Impact Assessment (EIA) and check lists as per Annex 1 and 2 to this Prakas.

Article 4

Project owners as stipulate in Article 2 and 3 above may use consulting services that will be responsible for developing an IEIA or EIA report following the general guidelines provided in the present prakas.

Article 5

Project owner(s) with qualified professional capacity recognized by the Ministry of Environment may develop an IEIA or EIA report on its own.

Article 7:

The Department of Environmental Impact Assessment Monitoring and Review or concerned Provincial Departments of Environment shall make visit to and comment on the project site as stated in Article 2 and 3 above whether an IEIA or EIA report is needed.

Article 9:

The Department of Environmental Impact Assessment Monitoring and Review or concerned Provincial Departments of Environment shall review and comment on the IEIA or EIA report following the general guidelines.

Article 11:

The review and clearance of IEIA or EIA report at the ministerial level shall, from the date of official receipt, subject to the following:

- Visit and comments made by technical officials of Department of Environmental Impact Assessment Monitoring and Review at the project site (within 10 working days);



- 
- Comments made by relevant departments of the Ministry of Environment (within 5 working days);
  - Comments by the management of the Ministry of Environment (within 5 working days);
  - Comments at inter ministries meeting chaired by the Minister of Ministry of Environment with representation from relevant government ministries/ agencies, local authorities, non-governmental organizations, and other stakeholders concerned with the investment project (within 5 working days).

Article 13:

The Ministry of Environment or provincial Department of Environment shall approve within 5 working days, make a formal notification to the applicant of approval or request for revision on the IEIA or full EIA report in accordance with article 11 and 12 above.

Where request for revision is made, the second review shall be made by the Ministry of Environment or provincial Department of Environment within 30 working days upon official receipt of the revised report.

Article 14:

The Department of Environmental Impact Assessment or the Provincial Department of Environment shall be responsible for follow-up, monitoring and taking appropriate measures to ensure compliance by the project owner of the Environmental Management Plan (EMP) during project construction, operation and closure as stated in the IEIA or EIA report approved by the Ministry of Environment or the Provincial Department of Environment.

<b>MPWT's Prakas on Organization and Function of Department of Planning, No. 227, 2016</b>
--

Article 1:

Department of Planning under management and leadership of General Department of Planning and Policies according to Article 17 of sub-decree no 216 issued on October 13, 2016 on organization and operation of MPWT as follows:

- Preparing public works and transport development plan
- Preparing statistics and facilitating public works and transport development plan
- Updating action plans related to public works and transport affairs at national and sub-national levels
- Preparing policies, strategies, development plan and public-private investment program in public works and transport sector
- Facilitating and looking for finance resource for public works and transport development
- Monitoring and promoting preparation of policies, strategies, short-term, medium-term and long-term development plan, national development plan strategy, 3-year and 5-year rolling plan, public-private investment program, action plan for road maintenance, multi-purposes transport infrastructure development and logistic plan.
- Involving in preparation of strategies, master plan, and logistics, public works and transport development plan or preparing strategies, master plan and development plan according to sub-sector: road, transportation, railway, navigation, marine navigation, ports and logistics.



- 
- Involving in cooperation, review and comments on international, national and sub-national planning related to public works and transport affairs.
  - Involving, reviewing, and commenting on assessment and resettlement social and environmental impacts of the public works and transport infrastructure development project.
  - Studying and monitoring tendency of changes at global and regional in order to preparing policies for public works and transport sector
  - Reviewing, monitoring and evaluating implementation of policies, plan, program, development projects in public works and transport.
  - Reporting the progress to management of the ministry
  - Fulfill any tasks assign by management of the ministry

#### Article 7

Environment and Social Office has responsibilities as below:

- Collecting and preparing documents or report associated to environment and social issues
- Involving in EIA report preparation for development projects under the public works and transport sector.
- Implementation of projects associated to Climate Change adaptation and Mitigation within the Public works and transport sector.
- Involving in study, preparation of policies, principles, plan and activities plan on the implementation of resettlement of the impacts, caused by development projects of public works and transport
- Involving with stakeholders to study, impact assessment and report preparation on detailed measurement survey (DMS) and results of resettling the impacts resulting from project development under the public works and transport
- Inspecting, monitoring and report preparation of the implementation framework compliance with environmental management or environmental management plan (EMP) on construction, rehabilitation and maintenance of transport infrastructure projects to be ensure compliance with the EMP.
- Involving and coordinating the social works and disasters associated to public works and transport sector.



### 3. Steps of EIA Process and Involvement by MPWT in Cambodia

#### 3.1 Steps of EIA Process in Cambodia as Nationwide

##### (1) IEIA/EIA Report Preparing Phase

Project Owner (PO) can prepare IEIA/EIA report themselves if qualified team is recognized by MoE or hire an independent consulting firm to prepare IEIA/EIA report, according to “Sub-Decree No.72 on Environmental Impact Assessment Process, 1999, MoE”.

The PO needs to possess management and technical skill in conducting IEIA/EIA Study and IEIA/EIA report preparation. In case, the PO does not have a qualified expert team to conduct and prepare IEIA/EIA report, Independent consulting firm can be hired to assist the PO to conduct and prepare IEIA/EIA report. The independent consulting firm must have sufficient technical skills and qualification to prepare IEIA/EIA reports and it must be recognized by the MoE.

According to “MoE’s Prakas No.376 on Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009, the IEIA/EIA report shall include the following items:

<b>IEIA Report Outline</b>	<b>EIA Report Outline</b>
Executive Summary	Executive Summary
Chapter 1: Introduction	Chapter 1: Introduction
Chapter 2: Legal frameworks	Chapter 2: Methodology
Chapter 3: Project Description	Chapter 3: Legal frameworks
Chapter 4: Description of Existing Environment	Chapter 4: Project Description
Chapter 5: Public Participation	Chapter 5: Description of Existing Environment
Chapter 6: Environmental Impacts and Mitigation Measures	Chapter 6: Public Participation
Chapter 7: Environmental Management Plan (EMP)	Chapter 7: Environmental Impacts and Mitigation Measures
Chapter 8: Conclusion and Recommendations	Chapter 8: Environmental Management Plan (EMP)
References	Chapter 9: Economic Analysis and Environmental Value
Annexes	Chapter 10: Conclusion and Recommendations
	References
	Annexes

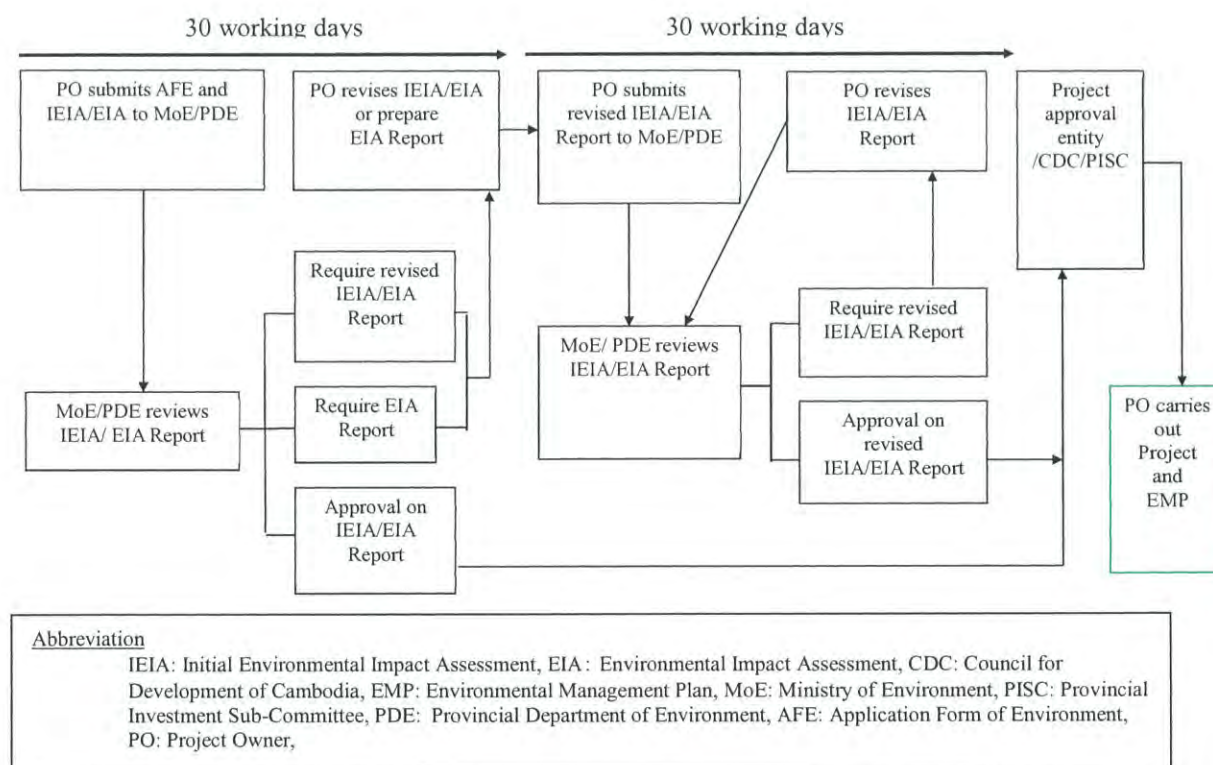
The MoE following a request from the public, shall provide information on its activities. and shall encourage public participation in environmental protection and natural resource management, according to the Article 16 of “Law on Environmental Protection and Natural Resources Management in Cambodia, 1996”.

Also, one of the objectives of Sub-decree on Environmental Impact Assessment Process, No.72 ANKR.BK, 1999 is to encourage public participation in the implementation of EIA process

and take into account of their conceptual input and suggestion for re-consideration prior to the implementation of any project.

## (2) IEIA/EIA Report Reviewing Phase

Figure 3.1 shows the IEIA/EIA reviewing procedure, including approval procedure of the EIA process in Cambodia.



Source: MoE’s Prakas No.376 on General Guidelines for Developing Initial and Environmental Impact Assessment Report, 2009”

**Figure 3.1 Process for IEIA/EIA Clearance for Proposals with Endorsement from Project approval entity/CDC or by Provincial Investment Sub-committee**

According to the Article 11 of “MoE’s Prakas No.376 on General Guidelines for Developing Initial and Environmental Impact Assessment Report, 2009”, at first, review of the IEIA or EIA report takes 30 working days from the date of MoE receive the AFE and the IEIA or EIA report.

Also, if the MoE requires that the Project Owner revise the IEIA or EIA report again, MoE will take another 30 working days for review and provide comment on the revised IEIA or EIA report.

## (3) Environmental Monitoring Phase

EIA Department of MoE has responsibilities to monitor, inspect and require the Project Owner (PO) to implement EMP during construction, operation, and phase-out (ending) stage as stated



---

in IEIA or EIA report approved by the MoE, according to Article 14 of “MoE’s Prakas on General Guidelines for Conducting Initial and Environmental Impact Assessment Report, 2009”.

According to “Sub-decree on Environmental Impact Assessment Process, No.72 ANRK.BK, 1999”, the PO shall implement the EMP as set out in the IEIA/EIA report approved by the MoE and the EMP must be carried out as stated in the EIA report for a period of 6 calendar months, commencing from the date the MoE confirmed that the IEIA/EIA report duly fulfilled the criteria of this sub decree.

### **3.2 Involvement Phases by MPWT for EIA Process in Cambodia**

For any public work infrastructure project, including road project, MPWT as the Project Owner (PO) or Project Proponent is involved in some of the above EIA process in Cambodia.

If there is an establishment of Project Management Unit (PMU) for a road project, ESO/DoP officials shall be involved in EIA issues in the PMU.

#### **(1) IEIA/EIA Report Preparing Phase**

The PO needs to possess management and technical skill in conducting IEIA/EIA Study and IEIA/EIA report preparation. If MPWT staff have insufficient technical skills in conducting EIA Study and EIA report preparation, an independent consulting firm with sufficient technical skills, and recognized by MoE should be hired. The MPWT would prepare the EIA Report under technical assistances from the independent EIA consulting firm.

For a road project, responsible General Department in charge of concerned project management in MPWT would be involved in “Public Participation”, which is a part of EIA Preparation Phase as PO or Project Proponent.

Responsible General Department in charge of concerned project management in MPWT provides detailed data and information to the EIA consulting firm, in particular “Project Description” in the EIA Report.

#### **(2) EIA Report Reviewing Phase**

The purpose of the EIA review is to assess the adequacy and quality of the EIA report, and to determine whether the information is sufficient for a final decision to be made regarding the approval of the EIA report.

- ◆ Reviewing of draft EIA report within the MPWT

As specified in the MPWT’s Prakas No. 227, ESO/DoP has duties on environment, so it reviews the draft EIA report and provides comments internally among technical officials after the EIA consulting firm submitting the draft EIA report to MPWT.

After that, ESO/DoP will send the EIA Report to MoE for detail review and approval.

- ◆ Inter-Ministerial Meeting chaired by MoE



For a public transport infrastructure project, after the MoE reviews the EIA report among technical officials and management team internally, MoE will invite MPWT and other relevant stakeholders to join the Inter-Ministerial Meeting to comment on the EIA report.

Responsible Department in charge of the concerned Project Management, on behalf of MPWT as PO should attend and reply comments from the participants in the Inter-Ministerial Meeting. This step is also one of the EIA report reviewing phase.

After all the above procedures to reply comments are completed, MoE compile comments from the meeting to send to the PO to revise on the EIA report.

### (3) Environmental Monitoring Phase

In the Environmental Monitoring Phase, the objective of the EMP and EMoP is to confirm whether mitigation measures are implemented during the construction and operation, and whether mitigation measures are implemented effectively.

Although, at present, there is no specific legal bases about monitoring phase of the project in Cambodia, the MoE have the following requirements to the PO in the Project Monitoring phase:

- PO needs to implement its activities in accordance with the EMP as set out in the EIA Report within 6 months, after the MoE approved on the EIA Report.
- PO must submit the Environmental Monitoring Report (EMoR) for every 3 or 6 months to the MoE as set out in the Environmental Management Plan (EMP)

MPWT must assign responsible department in charge of EIA and EMP to implement environmental monitoring process as following activities:

- Implement its activities in accordance with the EMP
- Prepare EMoR

MPWT involvement in steps of the EIA Process with responsible organization and involvement organizations could be shown in Table 3.1.

**Table 3.1 Some Steps of EIA Process by Involvement of MPWT for Road Projects**

Steps	Responsible Organization/Involvement Organizations	How to implement
Project Description Preparation	Responsible General Department in charge of the concerned Project Management in MPWT, the EIA Consulting firm	- Responsible General Department in charge of the concerned Project Management in MPWT hires an independent EIA consulting firm - Responsible General Department in charge of the concerned Project Management in MPWT provides data/information about Project Description to the EIA consulting firm
Field Visits by MPWT	ESO/DoP in MPWT, the EIA Consulting firm	ESO/DoP in MPWT conducts field visits with the EIA consulting firm, and concerned government agencies, if needed



Scoping	Responsible General Department in charge of the concerned Project Management in MPWT, MoE, the EIA consulting firm, concerned Stakeholders	<ul style="list-style-type: none"> <li>- The EIA consulting firm prepares ToR of the IEE/EIA</li> <li>- MoE provides comments and approval on the ToR</li> <li>- Responsible General Department in charge of the concerned Project Management in MPWT disclosure project information to the relevant agencies/organization and stakeholders</li> </ul>
Internal draft IEE/EIA report review within MPWT	ESO/DoP in MPWT, the EIA consulting firm	<ul style="list-style-type: none"> <li>- EIA consulting firm prepares draft EIA report.</li> <li>- ESO/DoP in MPWT review the draft EIA report internally within MPWT</li> <li>- Responsible General Department in charge of the concerned Project Management in MPWT submit a report to MoE for detail review and approval.</li> </ul>
Inter-ministerial Meeting	MoE, Responsible General Department in charge of the concerned Project Management in MPWT, the EIA consulting firm, Concerned stakeholders	<ul style="list-style-type: none"> <li>- MoE chairs the Meeting</li> <li>- Responsible General Department in charge of the concerned Project Management of MPWT and the EIA Consulting firm shall attend in the Inter-ministerial meeting to reply the comments.</li> </ul>
Environmental Monitoring Phase	Responsible General Department in charge of the concerned Project Management in MPWT, the EIA Consulting firm	<ul style="list-style-type: none"> <li>- Responsible General Department in charge of the concerned Project Management in MPWT implements the EMP under cooperation with the construction contractors, etc.</li> <li>- Responsible General Department in charge of the concerned Project Management in MPWT holds Stakeholder Meetings</li> <li>- Responsible General Department in charge of the concerned Project Management in MPWT prepares EMOR under assistances from the EIA consulting firm.</li> </ul>

---

## 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

### 4.1 EIA Report Preparation Phase

#### (1) EIA Report Contents

As specified Annex 1 of “MoE’s Prakas No. 376 on Guideline for developing IEIA/EIA Report, the general EIA Report in Cambodia should include the following chapters and content:

#### Executive Summary

A summary of the whole report including project objectives, project activities, the existing environment resources, output of public consultation, scope of environmental and social impacts and mitigation measures, the environmental management plans, conclusions and recommendations to mitigate environmental impacts shall be provided.

#### Chapter 1: Introduction

- Project overview: summary of project background, rationale for development of the project, and general situation on the project site, Objectives of the present EIA report;
- Methodologies and Scope of study: To describe the information and data need, and methodologies of data collection and data analysis. For EIA report, the project owner shall provide for detailed methodologies as a separate chapter.

#### Chapter 2: Methodology

For EIA report, the project owner shall provide for detailed methodologies as a separate chapter.

#### Chapter 3: Legal frameworks

Project owners shall provide a description of laws, sub-decrees and various policies related to project type to be implemented. All provisions of law and the regulation as described above have to be relevant to environmental protection, natural resource management, and the development project.

Environmental regulation and standards referred to in the project shall have clear reference.

#### Chapter 4: Project Description

A detailed project description as stipulated in the pre-feasibility study or feasibility study report or a master plan of the company shall be provided including the following:

- Background and experiences of the project owners/company,
- Project site (attached with local administration map and project location);
- Project type/scope and schedule of project activities (project pre-operation, operation and closure);
- Work plan: (1) sources and quantity of input to be used; (2) machinery requirements; (3) local and foreign work force requirements; (4) quantity of final products; (5) income and expenditure; (6) production chain of the project; and (7) Overall waste management plan etc;
- Activities program of the project.

#### Chapter 5: Description of Existing Environment

A detailed description of the natural environment and socio-economic aspects (based on primary and secondary data) within and in the surrounding environment of the project location shall be provided, including:



---

## 5.1 Natural Environment

### 5.1.1 Physical Resources

- Soil: geology, soil formation/topology, soil types, soil erosion and sedimentation. For EIA, a detailed seismology and geology study (mine resources, if applicable);
- Climate: temperature, rainfall, wind speed and pattern, air pressure, wind direction and humidity,
- Air quality (ambient air quality in the project location), noise and vibration (noise and vibration level in the project location);
- Hydrology: Quality and quantity of surface and under-ground water (including an analysis of the water quality in the project area), flow and discharge.

### 5.1.2 Biological Resources

- Forest: area of forest land, forest cover types, and forest classification;
- Wildlife species, rare species, endangered and endemic species and their migratory pattern, Habitat, Biodiversity and ecological systems, Wetland systems (attached with relevant maps)

## 5.2 Socio-economic Resources

- Demography and settlement, Economic status: employment and income (primary and secondary), Land use, Water use, Energy use, Infrastructure, Education, Public health and well-being;
- Cultural heritages, historical monuments, ancient temples, pagodas, customs/traditions, ethnic minority or indigenous people, etc; and
- Tourism destinations.

## **Chapter 6: Public participation**

The chapter describes in details public consultation with the following content:

### 6.1 Introduction

### 6.2 Public participation

- Dissemination by the project owner with local authorities and local communities of the development project;
- Feedback from relevant ministries/ agencies/ departments and relevant local authorities;
- Comments from relevant non-government organizations (NGOs);
- Consultation with affected local communities.

### 6.3 Conclusion on results for the public consultation

## **Chapter 7: Environmental Impacts and Mitigation Measures**

The chapter describes both positive and negative environmental and socio-economic impacts arising from their project activities, including:

7.1 Description of the negative environmental and socio-economic impacts during the project pre-operation (the project design and construction), operation and closure with mitigation measures;

7.2 A summary of point 6.1 on the scope of negative environmental impacts and mitigation measures

7.3 For EIA report, cumulative impacts should be provided; and

7.4 Description of the positive environmental and socio-economic impacts.

## **Chapter 8: Environmental Management Plan (EMP)**

As part of a project, the project owner shall make available sufficient fund and a unit/ team with sufficient skills and expertise, equipment, methodology, and schedule for monitoring



---

environmental quality in close collaboration with relevant ministries/ agencies, in order to implement measure to minimize adverse socio-economic and environmental impacts.

The EMP shall consist of:

- A summary of main negative environmental impacts and mitigation measures;
- Trainings to be provided;
- Environmental monitoring program (plan) for the construction, operation and closure periods illustrating the following:
  - i) Agency responsible for project monitoring, ii) Identified parameters to be monitored, iii) monitoring methodology, iv) Environmental standards or guidelines to base for monitoring, v) Schedule and cycle which be control, vi) assessment of monitoring results, vii) Quarterly report to be submitted to MoE and relevant ministries/agencies.

### **Chapter 9: Economic Analysis and Environmental Value**

For EIA report, the project owners shall provide a description of the benefits of the project in relation to scope and value of environmental damage arising from the project activities.

### **Chapter 10: Conclusions and Recommendations**

The chapter shall provide project owner's assurance and responsibility for their environmental impact assessment reports with relevant recommendations for the development project.

Therefore, MPWT, shall comply with the general table of contents of IEIA/EIA report as stated in Annex 1 of "MoE's Prakas No. 376 on Guideline for developing IEIA/EIA Report. Or MPWT, as a project owner, shall comply with any guidance or any regulations which will be developed or prepared by MoE

MPWT shall share information about the project to EIA consulting firm if there is any request from EIA consulting firm for preparing IEIA/EIA reports.

## **4.2 EIA Report Reviewing Phase**

### **(1) Introduction of the EIA Report Review**

The key objectives of EIA Report Review are as follows, according to "Environmental Impact Assessment Training Resource Manual", Second Edition, United Nations Environment Program, United Nation for Environmental Program (UNEP), 2002:

- Assess the adequacy and quality of an EIA report;
- Take account of public comments;
- Determine if the information is sufficient for a final decision to be made, and;
- Identify as necessary, the deficiencies that must be addressed before the report can be submitted.

Basically, identification of the deficiencies in the EIA Report using the Terms of Reference (ToR) for the EIA Study, and any similar comparative EIA Reports.

In addition, if some laws/regulations by national and local government are directly related to the project and stipulated, these compliances should be reviewed in the EIA Report. Also, if



---

project is financed by Development Partners (DPs), it should be checked whether the EIA Report fulfill the requirements of the guidelines, which are issued by the DPs.

## **(2) Practical Methods for the EIA Report Reviewing**

At first the following issues should be reviewed:

- The ToR has been fully satisfied on the EIA Report.
- There are no contradictions in the EIA Report.
- The EIA Report is easily read and understood by MoE and the Project Stakeholders.

The Executive Summary also should be reviewed to check whether it reflects the following contents of the EIA Report:

- Project objectives
- Project activities
- Existing environmental resources
- Output of public consultation
- Scope of environmental and social impacts and mitigation measures
- Environmental Management Plan
- Conclusion and recommendation

After that, the following items should be reviewed as follows, chapter by chapter:

### 1) Introduction

The following items are included concisely and clearly stated in the EIA Report as Introduction:

- Project overview (summary of project background, rational for development of the project, and general situation on the project site)
- Purpose of the EIA study
- Methodologies of data collection and data analyzed and scope of study

### 2) Methodology

The following items are included concisely with maps and clearly stated in the EIA Report as Methodology:

- What kinds of the data are collected as primary data or secondary data,
- What kinds of methods or models are used for impact analysis or forecasts;
- What types of mitigation measures are considered;

For a road project, impact forecasts are quantitative analyses are used as much as possible for air, noise/vibrations.

### 3) Legal Frameworks

The following items are included concisely and clearly stated in the EIA Report as Legal Frameworks:

- Applicable laws, sub-degrees, and policies related to project activities
- Applicable government environmental policies/plans related to project activities
- Applicable environmental regulations and standards in Cambodia and international agreements related to project activities

### 4) Project Description

The following items are included concisely with maps and clearly stated in the EIA Report as Project Description:

- Background and experiences of the project owners,
- Project site (attached with local administration map and project location);
- Project type/scope and schedule of project activities (project pre-operation, operation and closure);

For a road project, the overall construction plan, and off-site works such as planned location of the construction camps, access road, and quarries should be included.

5) Description of Existing Environment

The following items are included with maps and clearly stated in the EIA Report as Description of Existing Environment:

- Physical resources as baseline data in the Project Area
- Biological Resources as baseline data in the Project Area
- Socio-Economic Resources as baseline data in the Project Area

The Project Area includes the Project site and the surrounding sites, which may be affected directly and any environmental or socio-economic impacts from the project activities. It is important that the project site location and relevant physical, biological, and socio-economic resources, which may cause any direct impacts, should be plotted on map as much as possible, to make clear these relationships.

For a road project, the project site should include construction site, alternative sites, access roads, and all project construction related sites. Table 4.2 shows main necessary information/data of the description of existing environment in the Project Area.

**Table 4.2 Main Necessary Information/Data of the Description of Existing Environment in the Project Area for a Road Project**

Item	Necessary Information/Data
5.1 Natural Environment	
5.1.1 Physical Resources	
Soil	Characteristics of topography and geology features, (topographic/geological map)
Climate	Project site specific information on existing meteorological conditions (temperature, humidity, rainfall, wind speed/directions)
Air quality	Present air pollution data (TSP , CO, NO <sub>2</sub> , SO <sub>2</sub> , Pb, etc.)
Noise/Vibration	Current noise/vibration level
Hydrology	-Drainage characteristics of the rivers/lakes -Data for groundwater/well conditions
Water quality	Current surface/underground water quality data (pH, DO, BOD, , Turbidity, Grease and Oil, etc.,)
5.1.2 Biological Resources	
Forest	Present flora map and the valuable species list
Wildlife	Present fauna map and valuable species list
Habitats	Protected species habitat map, protected area list
Biodiversity	Biodiversity hotspot area map, protected area, if existed in the area
Wetland	Valuable wetland system (map)
5.2. Socio-economic Environment	



Demography and settlement	Regional population statistics and settlement pattern (map)
Economic status	Main economic activities/employment, income statistics
Land use	Present Land use map, Land use plan
Water use	Legal right, customary right
Energy use	Type and amount of energy use
Infrastructure	Transportation network, utility network
Education	Enrollment ratio, etc.
Public health	Epidemic statistics, etc.
Cultural heritage	Important cultural/historical heritage map and the list
Tourism destination	Tourism destination map and the list

#### 6) Public Participation

The following items are included each with a concise description and clearly stated in the EIA Report as Public Participation:

- Dissemination activities by the project owner with local authorities and local communities of the development project
- Feedback from Project Owner, relevant ministries/agencies/departments and relevant local authorities
- Comments from relevant non-government organizations (NGOs)
- Consultation results with affected local communities

#### 7) Environmental Impacts and Mitigation Measures

The following items are included each with a concise description and clearly stated in the EIA Report as Environmental Impacts and Mitigation Measures:

- Description of the negative environmental and socio-economic impacts during the project pre-operation (the project design and construction), operation and closure with mitigation measures
- Cumulative impacts
- A summary table (Scoping Matrix) of the scope of negative environmental impacts and mitigation measures
- Description of the positive environmental and socio-economic impacts

All significant negative and positive impacts have been clearly stated. All key environmental and socio-economic impact issues have been addressed, and

In terms of the mitigation measures, the following main points should be considered:

- Mitigation measures for all the significant impacts have been adequately developed
- Adequate consideration has been given to compensation for resettlement and land/ properties (crops, etc.) acquisitions
- Significant adverse impacts that cannot be avoided or mitigated have been described
- Mitigation support measures to enhance positive impacts have been properly developed
- Experience from similar projects carried out in the past, has been taken into account for the mitigation measures.
- Mitigation and support measures are technically and scientifically sound.

For a road project, main examples of the mitigation measures are listed in Table 4.3.



**Table 4.3 Main Examples of Mitigation Measure for a Road Project**

Items	Main Examples of the Mitigation Measures
To reduce impact on the land	- Avoiding road alignments on the sensitive areas (e.g. natural protected areas, steep area) - Install retaining structure (e.g. gabions, etc.)
To prevent air pollution (dust)	- Water sprinkling and transporting construction materials with proper coverage - Speed control on vehicles during transportation of materials
To prevent noise	- Develop of bypass road to avoid noise sensitive areas - Construction time control in residential/hospital/school areas
To conservation present hydrology	- Consider road alignment to minimize change present water flow. - Flow speed control by grasses, other devices in water channel
To mitigate construction wastes issues	- Prepare and implement appropriate construction waste management plan - Conduct proper quarry management
To conservation biodiversity (ecosystem)	- Avoid road alignments on the ecological vulnerable areas - A buffer zone to mitigate deterioration of the ecosystem should be maintained along the Right of Way (RoW).
To reduce adverse impacts on socio-economic environment	- If involuntary resettlement occurred by the project, appropriate compensation and livelihood assistances should be taken into account - Minimizing split of communities in the road design stage
To reduce workers conflicts with local peoples	- Hold periodical instruction seminar to promote for reducing the conflicts between the construction workers and the local peoples - Make and enforce a proper rule for reducing the conflicts.
To promote road safety	- Provision of safety signals, other materials to avoid the traffic accident - Provision roadside rest areas at strategic locations to minimize driver fatigue

8) Environmental Management Plan (EMP)

The following items are included and clearly stated in the EIA Report as EMP:

- Institutional Responsibilities (both implementer and supervisor) to conduct each mitigation measures. For a road infrastructure project, the following institutions should be involved and clarify their tasks:
  - Construction Contractor (Actual implementer for structural mitigation measures, etc.,)
  - Supervising Consultant (Advise/Supervisor to the Contractor for mitigation measures)
  - MPWT as Project Owner
  - MoE as Competent Authority for environmental management
  - Project site related local government
- Project Stage (Project pre-operation, Project operation, Project closing)
- Summary of each possible negative impacts item based on the environmental impact analysis
- Summary of each project activity, which are necessary to conduct any mitigation measures
- Description of each proposed mitigation measure
- Cost estimate for conducting each mitigation measure
- Training programs for all the EMP activities



---

For a road project, main technical contents of the EMP could be given as follows:

- EMP with mitigation measures for debris or soil, which will be generated by the project construction;
- If the project involves land reclamation, the EMP provides detail activities and the area for the land reclamation, and mitigation measures for possible adverse impacts.
- Quarry management plan
- EMP with mitigation measures for dust and fugitive emissions from the construction vehicles, machines/equipment
- EMP with mitigation measures for noise nuisances
- EMP with mitigation measures for the conservation of present hydrology
- EMP with mitigation measures for the conservation of present ecosystem, if vulnerable ecosystem or wildlife species exist.
- EMP with mitigation measures to reduce traffic accidents
- Training programs for all the EMP activities.

9) Economic Analysis and Environmental Value

This Chapter is included as much as possible, with descriptions of the benefits of the project implementation and overall costs of the unavoidable environmental damages by the project implementation, based on the available data/information.

10) Conclusion and Recommendations

The conclusion and recommendations are included, with concise description that the project is able to mitigate possible adverse impacts by proposed mitigation measures, and to enhance positive impacts in the project area.

The checklist for reviewing the EIA Report is listed at Appendix 1. The checklist for reviewing the EMP is listed at Appendix 2.

### **4.3 Environmental Monitoring Phase**

#### **(1) Introduction of the Environmental Monitoring**

After approval of the EIA Report, environmental monitoring should be performed, in order to validate the environmental impacts, which are predicted in the EIA Study, and the effectiveness of the mitigation measures. If environmental monitoring reveals that the mitigation measure is not effective, follow-up mitigation measures should be taken.

Environmental Monitoring shall be implemented periodically to evaluate each environmental condition in each project stage. Also, Environmental Monitoring shall be implemented, in order to confirm whether the conservation targets, which are set up to maintain desirable environmental conditions are achieved.

The purpose of Environmental Monitoring in EIA are to confirm whether mitigation measures are implemented during the project construction, operation, and closure stage, and whether the mitigation measures are implemented effectively.

#### **(2) Categories of Environmental Monitoring**

---

Environmental monitoring can be classified into the following two categories:

1) Compliance Environmental Monitoring

Compliance Environmental Monitoring is to confirm implementation of mitigation measures approved by EIA.

In Cambodia, an Environmental Management Plan (EMP) is regulated by “MoE’s Prakas No. 376 on General Guidelines for Developing Initial and Environmental Impact Assessment Reports”. And the EMP is included in the EIA Report as one of the important contents. One of the primary objectives of the EMP is to clarify each responsibility task of the concerned institutions for conducting the proposed mitigation measures.

Therefore, Environmental Management Plan (EMP) could be a key confirmation source for the implementation of the mitigation measures.

2) Environmental Monitoring for Effect Confirmation

Environmental Monitoring for Effect Confirmation is performed to confirm effectiveness of proposed mitigation measures proposed in EIA. Environmental Monitoring for Effect Confirmation should be conducted both at construction stage and after construction stage (operation stage).

The significance of the adverse impacts during construction stage may be higher than the significances during the operation phase. But duration of the impacts after construction stage may take longer than the construction stage.

Environmental Monitoring Program (Plan) is also regulated as a part of the EMP by “MoE’s Prakas No. 376 General Guidelines for Developing Initial and Environmental Impact Assessment Reports”.

**(3) Environmental Monitoring Plan (EMoP)**

The main objective of the Environmental Monitoring Plan (EMoP) is to prepare appropriate plan for validating the effectiveness of the implemented mitigation measures.

The Environmental Monitoring Plan (EMoP) should include the following contents as essential items:

- Institutional Responsibilities (both implementer and supervisor) to conduct each monitoring activity
- Monitoring activities during construction, operation and closing stages
- Monitoring items and parameters

For a road project, the following could be considered as primary monitoring items and parameters:

- Air Quality (TSP, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, etc)
- Hydrology
- Water Quality (pH, BOD, Grease and Oil, etc)



- 
- Noise and Vibration
  - Construction wastes
  - Monitoring location for each monitoring item
  - Means of Monitoring
  - Monitoring Frequency

The EMoP could be a supplemental confirmation source for evaluating effectiveness of the mitigation measures.

The checklist for reviewing the EMoP is listed at Appendix 3.

#### **(4) Environmental Monitoring Report (EMoR)**

After preparing EMoP, the PO has to prepare each Environmental Monitoring Report (EMoR) and submit to the MoE and relevant ministries/agencies periodically.

The EMoR is an analyzed periodical report to evaluate the effectiveness of the implemented mitigation measures with concrete sampled or analyzed data, which are compared with conservation targets.

The EMoR should include the following contents as essential items:

- Description of the Monitoring Implementer
- Monitoring activities are done during construction, operation and closing stages
- Monitoring Methodology including date/time and site characteristics for each monitored item
- Measured or Analyzed Monitoring Items and Parameters

For a road project, the following could be considered as primary monitoring items and parameters:

- Air Quality (TSP, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, etc)
- Hydrology
- Water Quality (pH, DO, BOD, , Turbidity, Grease and Oil, etc)
- Noise and Vibration
- Construction wastes
- Measured Monitoring (Sampling) location for each monitoring item
- Applied Means of Monitoring
- Applied Monitoring Frequency
- Each Monitoring Result, which is compared with each conservation target such as Environmental Standard in Cambodia
- Conclusion and Suggestions, including recommended follow-up mitigation measures, if needed.

The EMoR could be the primary confirmation source for evaluating effectiveness of the mitigation measures.

The checklist for reviewing the EMoR is listed at Appendix 4.

# **Appendices**

**Appendix 1 Checklists for Reviewing EIA Report for Road Project**

**Appendix 2 Checklists for Reviewing EMP for Road Project**

**Appendix 3 Checklists for Reviewing EMoP for Road Project**

**Appendix 4 Checklists for Reviewing EMoR for Road Project**



**Appendix 1**

**Checklists for Reviewing EIA Report for Road Project**

<b>Contents (Items)</b>	<b>Page on EIA Report</b>	<b>Yes</b>	<b>No</b>	<b>Evaluation (good, moderate, poor)</b>	<b>Comments (Remarks)</b>
<b>Executive summary</b>					
Project objectives					
Project activities					
Existing environment resources					
Output of public consultation					
Scope (Project area/component, etc.) of environmental and social impacts and mitigation measures					
Environmental Management Plan					
Conclusions and recommendations					
<b>1. Introduction</b>					
Project Overview (Project background, Rationale for project development, General situation on the project site)					
Purpose of the EIA Study					
Methodologies of data collection/analysis					
Scope (Study area/component, etc.) of study					
<b>2. Methodologies</b>					
Description of each data collection method					
Description of each impact analyses method (including stakeholder meetings)					
Description of each mitigation measure considering method					
<b>3. Legal Framework</b>					
Applicable laws, sub-degrees, and policies related to project activities					
Applicable government environmental policies/plans related to project activities					
Applicable Cambodia's environmental regulations/standards, international agreements related to project activities					
Applicable Environmental Guidelines by Development Partners					
<b>4. Project Description</b>					
Background (Key project requirements) and experiences of the project owner					
Project site including type of construction, material, sources of material, material transportation, information of machinery, safety measures, labor force, gender balance, utilities consumption, and attached with local administration Map and project location)					
Camp site and construction access road (structure, size, location, etc)					
Project type, schedule of project activities					
Present project conditions (e.g. road width, road alignment, etc.)					
Project outline (e.g. target road					

sections/lengths, road widening, bypass road construction, etc.)					
Project alternatives (Analyses of alternatives with zero option)					
<b>5. Description of Existing Environment in the Project Area</b>					
Physical resources as baseline data					
• Geography					
• Geology and soil					
• Soil erosion and sediment					
• Topography					
• Climate (wind, precipitation, temperature, evaporation etc)					
• Air quality (ambient and seasonal)					
• Noise and Vibration					
• Hydrology					
• Surface and ground water quality					
• Subsidence					
Biological Resources as baseline data					
• Natural Protected Area					
• Flora					
• Fauna					
• Protected species					
Socio-Economic Resources as baseline data					
• Main economic activities (Main industries)					
• Population (including gender balance)					
• Indigenous peoples or minorities					
• Employment					
• Education					
• Public health					
• Crime situations					
• Transportation networks					
• Waste (collection/disposal volume/systems)					
• Cultural/historical heritage site					
<b>6. Public participation</b>					
Dissemination activities by the project owner with local authorities and local communities of the development project					
Feedback results (records of questions and answers) among PO, relevant ministries/agencies/departments and relevant local authorities, and local residents					
Comments from relevant non-government organization (NGOs)					
Consultation with affected local community					
Conclusions on results of public consultation					
<b>7. Environmental Impacts and mitigation measure</b>					
Description of the negative environmental and social-economic impacts during the project pre-operation, operation and closure <i>(These are depended on the project types. The followings are examples of typical negative impacts caused by a road construction project).</i>					
Physical resources impacts					
• Climate (precipitation, temperature,					



evaporation etc)					
• Geology (rock type, structure, geochemistry, etc)					
• Soils (contamination, erosion)					
• Topography (slopes)					
• Hydrology (water volume, flow speed)					
• Surface water quality (river, lakes, users, etc.)					
• Groundwater (water level, water quality, users, etc)					
• Air quality (ambient and seasonal, point source and non-point source)					
<b>Biological impacts</b>					
• Terrestrial and aquatic ecology (vegetation and animal types, endemic/rare species)					
• Protected Area					
• Biodiversity					
<b>Socio-economic impacts</b>					
• Social structure of local community					
• Resettlement					
• Land use change					
• Demographics including gender dynamics, social status and empowerment of women, presence of vulnerable groups, etc					
• Education and skills (schools and education levels, availability of skills, etc)					
• Employment (formal and informal sectors, permanent and seasonal work)					
• Community facilities and services (e.g. school, health care facilities, emergency services, recreational facilities, waste removal services, libraries, etc)					
• Aesthetics (visual, noise, odor, sense of place, quality of life, etc)					
• Public health (including communicable disease such HIV/AIDS,, non-communicable diseases e.g. occupational health, community safety, etc.)					
• Crime and community safety					
• Sites of cultural/ religious significance					
• Sites of historical significance					
<b>Cumulative impacts, if available</b>					
Description of the positive environmental and social-economic impacts ( <i>These are depended on the project types. The followings are examples of typical positive impacts caused by a road construction project</i> ).					
• Regional economic development					
• Improve of traffic network					
• Access improvement to social facilities					
• Social services improvement due to convenient access					

<b>8. Environmental Management Plan (EMP)</b>						
A summary of main negative environmental impacts and mitigation measures						
Trainings to be provided						
Environmental Monitoring Program (Plan) for the construction, operation and closure period indicating as follows: <ul style="list-style-type: none"> <li>• Agency responsible for project monitoring</li> <li>• Identified parameters to be monitored</li> <li>• Monitoring methodology</li> <li>• Environmental standards or guidelines to base for monitoring</li> <li>• Schedule and cycle which be controlled</li> <li>• Assessment of monitoring results</li> <li>• Quarterly report (Environmental Monitoring Report) to be submitted to MoE and relevant ministries/agencies</li> </ul>						
<b>9. Economic analysis and environmental value</b>						
Description of overall project costs, including environmental damages						
Description of cost benefit analysis						
<b>10. Conclusions and recommendations</b>						
Description of conclusions based on analysis results for possible negative impacts and mitigation measures						
<b>Key questions</b>			<b>Page on EIA Report</b>	<b>Yes</b>	<b>No</b>	<b>Comments (Remarks)</b>
1. Has the EIA Report identified and evaluated not only negative impact, but also <u>positive impacts</u> and clearly described?						
2. Which are the <u>unavoidable adverse impacts</u> (e.g. noise)? Are they acceptable?						
3. Impacts on <u>any sensitive areas</u> (e.g. natural protected areas, or cultural heritage area) have been defined?						
4. Is the <u>Scoping Matrix</u> covered all possible environmental and social impacts with significance (slight, medium, significant)?						



**Appendix 2**

**Checklists for Reviewing EMP for Road Project**

Contents (Items)	Page on EMP	Yes	No	Evaluation (good, moderate, poor)	Comments (Remarks)
<b>1. Responsible Institutions</b>					
The implementer to conduct each EMP action					
The supervisor to conduct each EMP action					
<b>2. Project stage (pre-operation, operation and closure)</b>					
Project pre-operation (project planning) stage					
Project pre-operation (project construction) stage					
Project Operation stage					
Project Closure stage					
<b>3. Possible negative environmental and socio-economic items and each impact</b> <i>(These are depended on the project types. The followings are examples of the possible negative environmental socio-economic impacts for a typical road construction project).</i>					
Air pollution (Dust or gas emissions from construction vehicles or equipment)					
Surface water pollution (Ex: Spills of oils or wastes to the rivers; Discharge of wastewaters without treatment)					
Noise and Vibration issues (Ex: Construction noise/vibration from the construction equipment)					
Construction wastes issues (Scattering construction, including hazardous wastes)					
Hydrology (alteration of water flow) (Ex: Road constructions may cause present water flow alteration)					
Subsidence (Ex: Much embankment may cause subsidence)					
Habitat areas of vulnerable species decreasing (Ex: Road constructions may cause habitat areas decreasing.)					
Soils erosion (Ex: Insufficient slope protection may cause soil erosion)					
Loss of main sources of incomes (Loss of main sources of incomes due to land acquisition)					
Traffic accidents (number of traffic accidents) (Ex: Increase of traffic volume may cause increase of traffic accidents)					
Working environment degradation (Insufficient work safety measures may cause increase of construction accident)					
Local violence/conflicts increasing (Ex: Local violence/conflicts may cause by influx of outside construction workers)					
<b>4. Proposed Mitigation Measures for each project activity</b> <i>(These are depended on the project activities. The followings are examples of mitigation measures for a typical road construction project).</i>					
Conduct of construction vehicles/equipment well-maintained plan					
Strict control of oil/wastes spills					
Wastewater management with structure measures/non-structure measures					

Strict control of construction time for noise/vibration generation equipment							
Conduct of appropriate construction waste collection/disposal measures, including quarry management							
Install culverts/bridge to prevent alteration of water flow							
Conduct sufficient embank management to prevent possible subsidence							
Install culverts to prevent decrease of habitat area							
Conduct careful slope protection to prevent soil erosion							
Conduct livelihood supporting measures for the poor Project affected persons							
Conduct workers safety seminars, etc.							
Conduct traffic safety measures (regulate strict vehicle speed, etc.)							
<b>5. Cost estimate and Schedule for conducting each mitigation measure</b>							
Clear identification for cost estimate for each mitigation measure							
Schedule for conducting of each mitigation measure							
<b>Key questions</b>				<b>Page on EMP</b>	<b>Yes</b>	<b>No</b>	<b>Comments (Remarks)</b>
1. Concise description of all the <u>regulatory agency and organization</u> (construction contractor, etc.) involved and their <u>responsibility</u>							
2. Mitigation and support measures are <u>technically and scientifically sound</u>							
3. Significant adverse impacts that <u>cannot be avoided or mitigated have been described</u>							
4. <u>Mitigation support measures</u> to enhance positive impacts have been properly developed							
5. <u>Experience</u> from similar projects carried out in the past, has been taken into account for the mitigation measures.							
6. Is the <u>each cost estimate for mitigation measure</u> reasonably and realistically?							
7. Are the <u>Training programs</u> for implementing the EMP described clearly?							



### Appendix 3 Checklists for Reviewing EMoP for Road Project

Contents (Items)	Page on EMoP	Yes	No	Evaluation (good, moderate, poor)	Comments (Remarks)		
<b>1. Responsible Institution</b>							
Monitoring implementer to conduct each monitoring activity							
Monitoring supervisor to conduct each monitoring activity							
<b>2. Project stage (pre-operation, operation and closure)</b>							
Project pre-operation stage (project planning)							
Project pre-operation stage (project construction)							
Project Operation stage							
Project Closure stage							
<b>3. Monitoring Items and Parameters</b> <i>(These are depended on the project activities. The following items are possible monitoring items and parameters for a typical road construction project).</i>							
Air quality (TSP, CO, NO <sub>2</sub> , SO <sub>2</sub> , Pb, ., etc., )							
Surface water quality (pH, DO, BOD, Turbidity, Grease and Oil, etc.,)							
Noise and Vibration							
Construction wastes (waste volume, disposal system, procedures)							
Hydrology (water volume, flow speed)							
Subsidence (present ground level, etc.)							
Ecosystem (valuable species habitats)							
Soils (contamination, erosion situations)							
Traffic accidents (the number of traffic accidents)							
Working environment (the number of construction accidents)							
Public health (inflectional disease rate, etc.)							
<b>4. Monitoring Location</b>							
Clear identification of the location for each monitoring point							
<b>5. Means of Monitoring</b>							
Clear identification for monitoring mean.							
<b>6. Monitoring Frequency</b>							
Clear identification of monitoring frequency for each sampling point							
<b>7. Reporting</b>							
Clear identification of the submission frequency (schedule) of the EMoP							
Clear identification of the agency to whom submit the EMoP							
<b>Key questions</b>				<b>Page on EMoP</b>	<b>Yes</b>	<b>No</b>	<b>Comments (Remarks)</b>
1. Are the <u>sampling locations/frequencies</u> realistically, technically, and financially in the project site?							
2. Are the <u>sampling methods</u> reasonable realistically, technically, and financially in the project site?							
3. Are each <u>funding source</u> for conducting each monitoring activity identified clearly?							

#### Appendix 4 Checklists for Reviewing EMoR for Road Project

Contents (Items)	Page on EMoR	Yes	No	Evaluation (good, moderate, poor)	Comments (Remarks)		
<b>1. Responsible Institution</b>							
EMoR preparation implementer, including sampling and analyzing the data							
EMoR preparation supervisor, including quality control of the analyzed data							
<b>2. Monitoring methodology, including date/time and site characteristics for each monitored item</b>							
Clear identification of methodology for each monitored item							
Monitored date/time and the site characteristics for each monitored item							
<b>3. Measured or Analyzed Items and Parameters</b> <i>(These are depended on the project activities. The following items are typical items and parameters for a typical road construction project).</i>							
Air quality (TSP, CO, NO <sub>2</sub> , SO <sub>2</sub> , Pb, etc)							
Surface water quality (pH, BOD, Grease and oil, etc)							
Noise and Vibration							
Construction wastes (waste volume, disposal system, procedures)							
Hydrology (water volume, flow speed)							
Subsidence							
Ecosystems (valuable species habitat situation)							
Soils (contamination, erosion situations)							
Traffic accidents (number of traffic accidents)							
Working environment (number of construction accidents)							
Public health (inflectional disease rate, etc.)							
<b>4. Monitored Location</b>							
Clear identification of the location for each monitored point							
<b>5. Means of Monitoring</b>							
Clear identification for each mean of monitoring							
<b>6. Monitoring Frequency</b>							
Clear identification of the monitoring frequency for each monitored point							
<b>7. Each monitoring result (value)</b>							
Each monitored result value							
Comparison result with each conservation target							
<b>8. Conclusion and Suggestions</b>							
Clear description of each environmental condition compared with the conservation target							
Clear description of necessary follow-up mitigation measure, if need							
<b>Key questions</b>				<b>Page on EMoR</b>	<b>Yes</b>	<b>No</b>	<b>Comments (Remarks)</b>
1. How to be ensured for <u>quality control</u> of the analyzed data?							
2. Are the analyzed methods are <u>cost-effective</u> ?							







**THE 2<sup>ND</sup> JOINT COORDINATING  
COMMITTEE (JCC)  
OF  
THE PROJECT FOR CAPACITY  
ENHANCEMENT ON ENVIRONMENTAL  
AND SOCIAL CONSIDERATIONS IN  
IMPLEMENTING AGENCY IN ROAD  
SECTOR IN CAMBODIA**

**6<sup>TH</sup> FEBRUARY, 2018**

**SUNWAY HOTEL, PHNOM PENH**



FOR MORE INFORMATION CONTACT: OFFICE +855(0)61-960-213



AGENDA  
The 2nd Joint Coordinating Committee (JCC)  
of  
The Project for Capacity Enhancement on Environmental and Social  
Considerations in Implementing Agency in Road Sector in Cambodia  
(CESCoR)

Sunway Hotel, Phnom Penh, 6<sup>th</sup> February 2018

Time	Program
08:00-08:30	Registration
08:30-08:40	<b>Cambodian National Anthem</b>
08:40-08:55	<b>Opening Remarks</b> (1) <b>H.E. Tauch Chankosal</b> , Secretary of State, Ministry of Public Works and Transport (2) <b>Mr. SUGANO Yuichi</b> Chief Representative, JICA Cambodia Office
08:55-09:00	<b>Introduction of JCC Member and Taskforce Member</b>
09:00-09:15	<b>1. Project Progress</b> Outline of Project Progress in 2017 by Project Team
09:15-09:55	<b>2. Technical Item for EIA Task</b> by Project Team (1) Overview of Draft Road Environmental Guidelines (REG) (2) Authorization Process of REG
09:55-10:10	Coffee Break
10:10-11:00	<b>3. Technical Item for Right of Way (ROW) Management Task</b> by Project Team (1) Draft of ROW Management Guidelines(RMG) (2) Concept of ROW Management Map (RMM) and Database (RMD) (3) Pilot Project Site for Right of Way Management System (RMS)
11:00-11:10	<b>4. Confirmation Items at JCC</b> (1) Reformed Taskforce Member, (2) Road Environmental Guidelines, (3) Draft of ROW Management Guidelines, (4) Pilot Project Site for ROW Management System,
11:10-11:25	<b>5. Following Activities in 2018</b> <b>H.E. Nou Vaddhanak</b> , Director General, General Department of Techniques, Ministry of Public Works and Transport
11:25-11:30	<b>Closing Remarks</b> <b>H.E. Tauch Chankosal</b> , Secretary of State, Ministry of Public Works and Transport
11:30-13:30	Lunch Break

Note: MC: Ms. SRENG Sorphea, ICD, MPWT

### JCC Members

Assignment	Name	Position
Chair Parson, Project Director	H.E. Tauch Chankosal	Secretary of State, Ministry of Public Works and Transport (MPWT)
Member, Project Manager	H.E. Nou Vaddhanak	Director General, General Department of Technique, MPWT
Member, Deputy Project Manager	Ms. Pin Vuthea	Director, International Cooperation Department (ICD), MPWT
Member, Deputy Project Manager	Mr. Prok Novida	Director, Planning Department, MPWT
Member, Deputy Project Manager	Mr. Chhim Phalla	Director, Road Infrastructure Department (RID)
Member	Mr. Yong Sy	Chief of Domestic Public Investment III Office, Investment Department, General Department of Budget, Ministry of Economy and Finance (MEF)
Member	Representative(s)	JICA Cambodia Office
Member	Experts	JICA Project Team

### Taskforce Members

Assignment	Name	Position	
Project Director	H.E. Tauch Chankosal	Secretary of State	
Project Manager	H.E. Nou Vaddhanak	Director General, General Department of Technique	
Taskforce	Deputy Manager	Ms. Pin Vuthea Director, International Cooperation Department (ICD)	
	EIA/EMP Team		
	Deputy Manager	Mr. Prok Novida Director, Planning Department (DoP)	
	Taskforce Member	1. Mr. Uy Sambath	Deputy Chief, Social and Environmental Office, Planning Department
		2. Mr. Srey Vireak	Officer, Social and Environmental Office, Planning Department
		3. Mr. Bour Chhay Ya	Officer, Social and Environmental Office, Planning Department
		4. Mr. Manh Vutha	Officer, Road Infrastructure Department <i>(Former ICD Officer until 18<sup>th</sup> January, 2018)</i>
		5. Mr. Song Kimheng	Officer, Road Infrastructure Department <i>(Former ICD Officer until 18<sup>th</sup> January, 2018)</i>
		6. Mr. Ngel Sovanarith	Officer, Road Infrastructure Department <i>(Former ICD Officer until 18<sup>th</sup> January, 2018)</i>
	Advisor	Mr. Chea Leng Deputy Director, Environmental Impact Assessment Department, Ministry of Environment	
Observer	Mr. Kong Youreth Chief, Environment and Public Service Office, Public Infrastructure Department		



ROW Management Team		
Deputy Manager	Mr. Chhim Phalla	Director, Road Infrastructure Department (RID)
Taskforce Member	1. Mr. You Dara	Deputy Director, Road Infrastructure Department
	2. Mr. Chea Samnang	Chief, ROW Management Office, Road Infrastructure Department
	3. Mr. Khoun Kompheak	Chief, Traffic Safety Office, Road Infrastructure Department
	4. Mr. Khai Saray	Deputy Chief, ROW Management Office, Road Infrastructure Department
	5. Mr. Hay Chandara	Deputy Chief, ROW Management Office, Road Infrastructure Department
	6. Kaing Theara	Officer, Road Infrastructure Department
	7. Mr. Long Davuth	Officer, Road Infrastructure Department
	8. Mr. Sok Chandy	Officer, Road Infrastructure Department
	9. Mr. Sokun Piseth	Officer, Road Infrastructure Department
	10. Mr. Sao Premarak	Technical Officer, Road Infrastructure Department
	11. Mr. Keat Sarun	Officer, Road Infrastructure Department
	12. Mr. Sor Yilin	Deputy Director of Department of Logistics Monitoring and Evaluation <i>(Former Deputy Chief, Regional Cooperation Office, International Cooperation Department until 1<sup>st</sup> August, 2017)</i>
	13. Mr. Sok Ly	Deputy Director, International Cooperation Department
	14. Mr. Von Sarom	Deputy Director, International Cooperation Department
	15. Mr. Peang Samoeun	Deputy Chief, Administrative Office, International Cooperation Department
	16. Mrs. Sreng Sorphea	Officer, Administrative Office, International Cooperation Department
	17. Mrs. Eam Runthearin	Deputy Chief, Regional Cooperation Office, International Cooperation Department
	18. Mr. An Menghour	Officer, Regional Cooperation Office, International Cooperation Department
	19. Mr. Chea Sophanith	Deputy Chief, Bilateral Cooperation Office, International Cooperation Department
	20. Mrs. Oum Sokvasey	Deputy Chief, Multilateral Cooperation Office, International Cooperation Department
	21. Mr. Lor Vicheth	Deputy Chief, Multilateral Cooperation Office, International Cooperation Department
	22. Ms. Laing Sengkim	Officer, Multilateral Cooperation Office, International Cooperation Department
Advisor	1. Mr. Sek Sothirith	Director, Urban Planning Department, Ministry of Land Management, Urban Planning and Constructions
	2. Mr. Sao Vary	Director, Department of Conservation, Ministry of Land Management, Urban Planning and Constructions
Observer	Ms. Em Sokchea	Deputy Chief, Environment and Public Service Office, Public Infrastructure Department



## Road Environmental Guidebook (REG)

(Draft)

for

Ministry of Public Works and Transport (MPWT)  
in Cambodia

February, 2018

## Table of Contents

Acknowledgements	
List of the EIA/EMP Taskforce Members, Advisor, and Expert	
Definition of Terms	
Preface	
<b>1. Introduction</b>	<b>1</b>
1.1 Backgrounds	1
1.2 Objectives, Users and Scope of REG	1
1.3 General Steps in conducting EIA	2
1.4 Project Cycle and EIA	3
(1) General Project Cycle and EIA	3
(2) Road Project Cycle and EIA Steps	4
<b>2. Essential Laws/Prakas and Guidelines related to REG</b>	<b>5</b>
<b>3. Steps of EIA Process and Involvement Phases by MPWT in Cambodia</b>	<b>11</b>
3.1 Steps of EIA Process in Cambodia as Nationwide	11
(1) IEIA/EIA Report Preparing Phase	11
(2) IEIA/EIA Report Reviewing Phase	12
(3) Environmental Monitoring Phase	13
3.2 Involvement Phases by MPWT for EIA Process in Cambodia	13
(1) EIA Report Preparing Phase	13
(2) EIA Report Reviewing Phase	14
(3) Environmental Monitoring Phase	14
<b>4. Practical Involvement Methods by MPWT for EIA Process in Cambodia</b>	<b>15</b>
4.1 EIA Report Preparing Phase	15
(1) EIA Report Contents	16
4.2 EIA Report Reviewing Phase	17
(1) Introduction of the EIA Report Review Phase	17
(2) Practical Methods for the EIA Report Review	18
4.3 Environmental Monitoring Phase	22
(1) Introduction of Environmental Monitoring	22
(2) Two categories of Environmental Monitoring	22
(3) Environmental Monitoring Plan	23
(4) Environmental Monitoring Report	24
<b>Appendices</b>	
Appendix 1: Checklist for Reviewing EIA Report for Road Project	
Appendix 2: Checklist for Reviewing EMP for Road Project	
Appendix 3: Checklist for Reviewing EMOF for Road Project	
Appendix 4: Checklist for Reviewing EMOF for Road Project	

i

## ACKNOWLEDGEMENTS

This **Road Environmental Guidebook (REG)** for Ministry of Public Works and Transport (MPWT) was produced as part of The Project for Capacity Enhancement on Environmental and Social Consideration in Implementing Agency in Road Sector in the Kingdom of Cambodia (CESCoR) to assist Ministry of Public Works and Transport's officials in charge of Environmental Impact Assessment (EIA) to be more effective in reviewing and giving comments on the EIA report and the related EIA monitoring activities on road infrastructure project to ensure the sustainable development on road sector. The project is financially and technically supported by Japan International Cooperation Agency (JICA) and executed by the MPWT with technical advice from Environmental Impact Assessment Department of the Ministry of Environment (MoE).

We would also like to sincerely thank H.E. Tauch Chankosal, Secretary of State and CESCoR project director, H.E. Nou Vadhanak, Director General of Technic, H.E. Heng Rath Piseth, Director General of Public Works, H.E. Var Simsorya, Director General of Administration and H.E. Seung Sokong, Director General of Planning and Policy for support and cooperation in developing this guidebook.

We would like to acknowledge the contribution from numerous individuals, agencies, and concerned departments—Department of Planning (DoP), International Cooperation Department (ICD), and Road Infrastructure Department (RID) for providing space and technical officials for preparing and reviewing this guidebook.

Our acknowledgement would also go to Department of EIA, Ministry of Environment, for technical reviewing and advices.

Our sincerest thanks also go to JICA team Dr. Tsuchida Takayuki, Japanese Expert, Mr. Ito Tsuyoshi, Japanese Expert, Mr. Kumagai Takahiro, Project Coordinator, Mr. Penh Socheat and their staffs for the valuable advice and insights.

We also acknowledge and appreciate the support and collaboration provided from all EIA taskforce members, especially Mr. Prok Novida, director of Department of Planning, Mr. Chhim Phalla, director of Road Infrastructure Department, and Mrs. Pin Vuthea, director of International Cooperation Department.

Phnom Penh, February 2018

**H.E. Sun Chanthol**

**Senior Minister, Minister of Ministry of Public Works and Transport**

ii



**List of the EIA/EMP Taskforce Members, Advisor, and Expert**

**EIA taskforce members**

Mr. Prok Novida	Director, Department of Planning, MPWT
Mr. Uy Sambath	Deputy Chief, Social and Environmental Office, Department of Planning, MPWT
Mr. Srey Vireak	Officer, Social and Environmental Office, Department of Planning, MPWT
Mr. Bour Chhay Ya	Officer, Social and Environmental Office, Planning Department, MPWT
Mr. Manh Vutha	Deputy Chief, Bilateral Cooperation Office, International Cooperation Department, MPWT
Mr. Ngel Sovannarith	Officer, Bilateral Cooperation Office, International Cooperation Department, MPWT
Mr. Song Kimheng	Officer, Administrative Office, International Cooperation Department, MPWT

**Advisor to the Taskforce**

Mr. Chea Leng	Deputy Director, Environmental Impact Assessment Department, Ministry of Environment
---------------	--

**JICA Expert**

Mr. ITO Tsuyoshi	Environmental and Social Considerations/EIA/EMP Expert
Mr. Penh Socheat	Technical Assistant

Environmental Investigation	One of the survey components of EIA study. Main activities of the investigations are project site visits and baseline data collections in the project area for present environmental conditions.
IEIA or IEE:	Initial Environmental Impact Assessment (IEIA) or Initial Environmental Examination/Evaluation (IEE) is the preliminary assessment of primarily secondary data of physical, biological and socio-economic environment and resources on the area within or in the surrounding the project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts.
Mitigation Measures	Mitigation Measures are counter measures, which consists of structural measures and non-structural measures for mitigating possible negative environmental and socio-economic impacts.
Project Owner	Project owner is a holder of ownership, or project developer, or physical or legal person, or organization permitted to conduct a study, exploration, design, construct and implement a project. Project owner is a governmental or private sector or an organization responsible for a development project.
Public Participation	Public Participation: is the participation of all stakeholders concerned with the development project including ministries/institutions, local authorities, relevant departments, project owners, consulting companies, representatives of affected people and non-governmental Organizations concerned with the project area(s).
Scoping:	“Scoping” means choosing alternatives for analysis, a range of significant and potentially significant impacts, and study methods.
Screening:	“Screening” means deciding whether proposed projects are likely to have impacts that need to be assessed by conducting EIA studies according to project description and site description. Development Partners (DPs) are usually conducts screening by classifying proposed projects into four categories: A, B, C, and FL.
Stakeholder	Stakeholder is a person who has an interest in or investment in something and who is impacted by and cares about how it turns out
Terms of Reference:	“Terms of Reference” (TOR) are a set of administrative, procedural, and technical requirements. A TOR for a EIA study are specified analytical items/scope and methods for project descriptions and area, related legal frameworks, alternative analysis, public involvement, identification of possible environmental and socio-economic impacts, mitigation measures, and contents/structure of EIA Report

**Definition of Terms**

Alternative Analysis	Alternative Analysis is the evaluation of the different choices available to achieve a particular project management objective. It is an analytical comparison of different factors like operational cost, risks, effectiveness, and the shortfalls in an operational capability.
Cost Benefit Analysis	Cost Benefit Analysis is a systematic process for calculating and comparing benefits and costs of a decision, policy ( with particular regard to government policy) or (in general) project.
Cumulative Impacts	The combination of multiple impacts from existing projects, the proposed project, and anticipated future projects that may result in significant adverse and/or beneficial impacts that cannot be expected in the case of a stand-alone project.
Development Partners:	Foreign donors, which assists for developing countries financially and technically, such as World Bank, Asian Development Bank, Japan International Cooperation Agency (JICA), Korea International Cooperation Agency (KOICA).
EIA	Environmental Impact Assessment (EIA) is the detailed assessment of physical, biological and socio-economic environment and resources, based mainly on primary data on the area within or in the surrounding the project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts.
EMoP	Environmental Monitoring Plan (EMoP) is a project specific plan developed to validate the effectiveness of the implemented mitigation measures are followed during the construction and/or operation of a project.
EMoR	Environmental Monitoring Report (EMoR) is a periodical report, including the monitoring data compared with each conservation target to validate the effectiveness of the implemented mitigation measures are followed during the construction and/or operation of a project.
EMP	Environmental Management Plan (EMP) is a site or project specific plan developed to ensure that appropriate environmental management practices are followed during the construction and/or operation of a project.
Environmental Assessment	A generic term used to describe a process of environmental analysis and planning to address the environmental impacts and risks associated with a project. The assessment may take the form of an EIA, IEE, or Matrix of Environmental Impacts.

**Preface**

This Road Environmental Guidebook (REG) is developed and prepared through a series of capacity development trainings for Ministry of Public Works and Transport (MPWT)'s officials as one of the development components of the Japan International Cooperation Agency (JICA) Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency in Road Sector in Cambodia (CESCoR).

The purposes of the REG development are:

- To improve technical capacities of MPWT's officials, who are in charge of EIA and EMP related tasks of road infrastructure development projects, which the Project Owner or Project Proponent is the MPWT.
- To clarify the involvement tasks by the MPWT for the EIA and EMP as the Project Owner or Project Proponent for road infrastructure development projects in Cambodia

This REG is not the Road Sector EIA Guidelines in Cambodia, which the Ministry of Environment (MoE) in Cambodia will prepare in the near future, but a practical and concise EIA guidebook only for MPWT's officials as internal use. Therefore, the REG is not disclosed to the public and outside of the MPWT. The REG is only used by the related MPWT's officials in Cambodia.

This REG is complied with all the related present laws or sub-decrees or ministerial orders (*Prakas*) of the MoE and MPWT. The REG is not conflict with the Road Sector EIA Guidelines or other related guidelines in Cambodia by the MoE as well.

Implementation of the REG for actual road infrastructure development projects in Cambodia will necessitate continuous dissemination and cooperation within the MPWT. It is also hoped that there will be supported from the MoE, the multilateral donor agencies and development partners so that such capacity development can be carried on a sustainable basis.

Finally, I would like to express my sincere appreciation of the initiative of the JICA in providing the funding required for the preparation of the REG through a series of capacity development trainings for MPWT's officials

# 1. INTRODUCTION

## 1.1 Backgrounds

In 1993 the Royal Government of Cambodia (RGC) made active efforts to establish a secretariat for environmental management, a leading body in efforts to conserve and manage the environment and natural resources in Cambodia. After that, the Secretariat was transferred into the Ministry of Environment in 1996. In 1997, Environmental Impact Assessment Department was established.

To ensure sustainable development in Cambodia, the Royal Government of Cambodia requires that a development project be subjected to an environmental impact assessment (EIA) before making a decision on whether the development project should proceed. Under the Law on Environmental Protection and Natural Resources Management (1996) and the Sub-decree on Environmental Impact Assessment (1999), the Ministry of Environment has the authority to make decisions on Initial EIA and EIA.

EIA for road infrastructure development requires participation from all stakeholders in order to document an EIA report which will go through review and comment by Ministry of Environment (MoE), Ministry of Public Works and Transport (MPWT) and other relevant stakeholder prior to its submission for approval from RGC.

In order to assist MPWT officials in charge of EIAs to review IEIA/EIA reports, and implementing Environmental Management Plan (EMP) more effectively, an EIA taskforce was established to develop Road Environment Guidebook. The guidebook was developed with technical support from JICA experts and with advice from the Department of Environment Impact Assessment of MoE.

## 1.2 Objective, Users and Scope of REG

The objective of the Road Environment Guidebook (REG) is to assist MPWT officials in charge of EIA to be more effective in reviewing and giving comments on IEIA/EIA reports and implementing EMP for road projects, to ensure effective environmental management and sustainable development in the road sector.

The REG will be used by MPWT officials for their internal use within MPWT in carrying out their daily duties/tasks in terms of EIA related activities; therefore the REG is practical and concise, but is based on EIA related academic/technical knowledge/skills.

The REG is not a road sector EIA guideline in Cambodia. The MoE will prepare and develop the Road Sector EIA Guideline in Cambodia in the near future.

The Scope of the Guidebook is as follows:

- REG is to assist MPWT officials, who are in charge of tasks associated with EIA especially, Environmental Management Plan (EMP), Environmental Monitoring Plan (EMoP), and Environmental Monitoring Report (EMoR), to understand the main areas of concern and use that understanding to enhance the quality of the IEIA/EIA report, EMP, EMoP, and EMoR

An Environment Management Plan (EMP) is usually prepared as part of the EIA process. The EMP translates recommended mitigation and monitoring measures into specific actions that have to be carried out by the Project Owner (PO) or the Project Proponent. Depending upon specific requirements, the EMP may be included in the IEIA/EIA Report or can be prepared as a separate document.

## 1.4 Project Cycle and EIA

### (1) General Project Cycle and EIA

A development project is accomplished in six stages in general: i) project concept, ii) pre-feasibility, iii) feasibility, iv) design and engineering, v) implementation, and vi) monitoring and evaluation. EIA plays an important role in every stage of this cycle (Refer to Figure 1.1).

Most of the EIA activities take place during Pre-Feasibility and Feasibility stage of project cycle, or even in Project Concept stage. Between project concept and pre-feasibility stage, the EIA process involves the site selection, environmental screening and scoping. Detailed EIA starts at feasibility phase.

After predicting likely environmental impacts, an EIA identifies alternative solutions or consider measures to avoid or minimize problems to improve environmental performance of a project. The aim of an EIA is to ensure that potential environmental problems are foreseen and avoided at an early stage in planning cycle so as to pre-empt problems.

An Environmental Management Plan (EMP) could be applied in the design and engineering and Implementation stage of project cycle. The EMP, which describes the mitigation measures, is also considered in the project cycle from the implementation of the project (during construction, during operation and maintenance). The main aim of an EMP is to reduce the adverse impacts of road project.

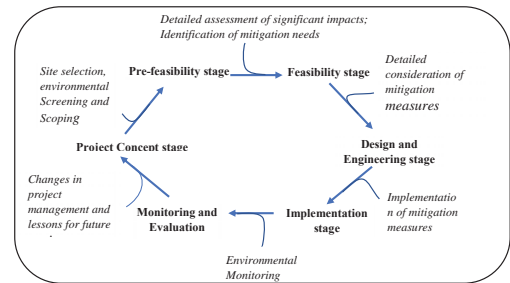


Figure 1.1 General Project Cycle and EIA

- The Appendices are prepared more practical use for road project, and for effective and efficient use reviewing of IEIA/EIA report, EMP, EMoP, and EMoR
- The REG focuses on environmental and social impacts aspects, and does not focus resettlement issues. In Cambodia had Basic Resettlement Procedures, which was developed jointly by Ministry of Economic Finance (MEF) and MPWT as Inter-ministerial Resettlement Committee (IRC).
- The guidebook is applicable for road and bridge infrastructure project.

## 1.3 General Steps in conducting EIA

In general, conducting EIA comprises of the following six steps:

### 1) Screening

The aim of screening is to determine the extent to which a full environmental impact study is required or not. The screening procedure results in an environmental categorization of the project. An appropriately designed screening system can prove to be an effective tool to prevent unnecessary use of time on assessing projects with minor environmental impacts.

### 2) Scoping

The main objective of the scoping process is to establish the environmental and social priorities, set the boundaries for the study and define the Terms of Reference (ToR) of the EIA. Ideally, the role of scoping is to determine three key issues: (i) Site alternatives, (ii) Design alternatives, (iii) Justifications for the project.

### 3) Baseline data collection in the Project Area

Collection of baseline data on physical, biological, socio-economic, and cultural aspects of the project area is also important reference for conducting IEIA/EIA study. The description of environmental, socio-economic, and cultural settings includes the characteristic of area in which the activity of proposed project would occur.

### 4) Impact assessment

The characteristics of potential impacts are identified, evaluated and predicted using the baseline information on one hand and the features of the project on the other (cause-effect relationship). Impact predictions are normally done by using common methodologies and models, expert judgments etc.

### 5) Consideration of Mitigation Measures

Once the potential impacts have been analyzed, their significance will be determined. The possible preventive, remedial and compensatory counter measures for each adverse impact are considered and determined. Mitigation measures normally include technical, social, and institutional measures to be implemented as integral elements of the project.

### 6) Consideration of Environmental Management Plan (EMP)

## (2) Road Project Cycle and EIA Steps

A road project involves a number of technical studies that are essentially the planning and design, construction and operation stages.

All steps of EIA process can be undertaken along project cycle activities. So, by regarding EIA as part of the project cycle, provision is made for these various procedures to be included in the planning, feasibility study, design, construction, and operation/maintenance phases.

In general, the EIA process for road projects is comprised of project brief, screening, scoping, IEIA/EIA report preparation, IEIA/EIA report reviewing and approval, implementation of mitigation measures, and environmental monitoring.

Figure 1.2 shows a normal main project cycle for road project and how the EIA steps are corresponding to the project cycle.

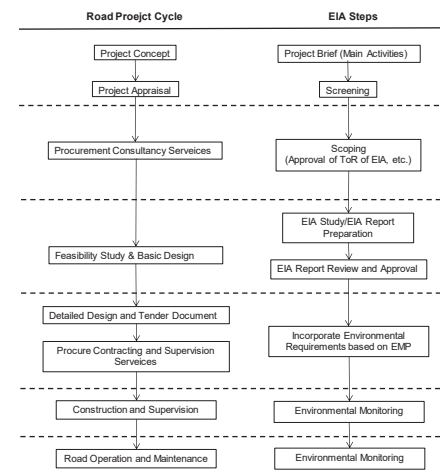


Figure 1.2 Road project Cycle and EIA Steps



## 2. ESSENTIAL LAWS, SUB-DECREE AND PRAKAS related to REG

The following are main descriptions of the articles of the essential laws and Prakas, and the guideline directly related to the REG.

### Law on Environmental Protection and Natural Resources Management in Cambodia, 1996

#### Article 6:

An environmental impact assessment shall be done on every project and activity, private or public, and shall be reviewed and evaluated by the Ministry of Environment before being submitted to the Royal Government for decision.

This assessment shall also be done for existing and in-process activities that have not yet been assessed for environmental impact.

The procedures of the environmental impact assessment process shall be determined by Sub-decree following a proposal of the Ministry of Environment.

The nature and size of the proposed projects and activities and existing and in-process activities, both private and public, that shall be subject to that environmental impact assessment shall be determined by Sub-decree following a proposal of the Ministry of Environment.

#### Article 7:

All Investment Project Applications and all projects proposed by the State shall have an initial Environmental Impact Assessment or an Environmental Impact Assessment as specified in article 6 of this law. The Ministry of Environment shall review and provide recommendations on the initial Environmental Impact Assessment or the Environmental Impact Assessment to the competent organization within the period determined in the Law on Investment of the Kingdom of Cambodia.

#### Article 16:

The Ministry of Environment, following a request from the public, shall provide information on its activities, and shall encourage public participation in environmental protection and natural resource management.

#### Article 17:

The procedures for public participation and access to information on environmental protection and natural resource management shall be determined by Sub-decree following a proposal of the Ministry of Environment.

#### Article 18:

Information related to environmental protection or natural resource management shall be mutually disseminated between the Ministry of Environment and different ministries.

### Sub-decree on Organization and Functioning of Ministry of Environment, No. 135ANKR.BK, 2016

#### Article 17:

Environmental Impact Assessment Department (EIA) of Ministry of Environment (MoE) has responsibilities and duties as below:

5

- To prepare draft of policy, legal documents, plan and budget promoting cooperation with relevant stakeholders, capacity building of officials of the department, financial management, monitoring and other administrative works which are related to responsibilities and duties of EIA Department.
- To prepare legal documents and other EIA-related guidelines
- To enforce law and other legal documents relate to EIA and environmental agreement through coordinating and cooperating with line ministries and agencies.<sup>1</sup>

### Sub-decree on Environmental Impact Assessment Process, No.72 ANKR.BK, 1999

#### Article 1:

The main objectives of this sub-decree are:

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

#### Article 3:

The MoE has responsibilities as following:

- a/ scrutinize and review the report of the Environmental Impact Assessment in collaboration with other concerned ministries;
- b/ follow up, monitor and take appropriate measures to ensure a Project Owner will follow the Environmental Management Plan (EMP) while project construction is taking place and accede to their EIA report's approval.

#### Article 4:

Institutions and ministries who are responsible for proposed project, shall have the right to examine and approve any project(s) that stated in the annex of this sub-decree, after the MoE has reviewed and commented on their EIA report.

#### Article 6:

A Project Owner must conduct Initial Environmental Impact Assessment (IEIA) in order to comply with the EIA requirement as stated in the annex of this sub-decree.

#### Article 7:

A Project Owner must apply to the MoE for reviewing their IEIA report and report of pre-feasibility study.

#### Article 8:

A Project Owner must apply to the MoE for reviewing their EIA report and pre-feasibility study, in case a project tends to cause a serious impact to the natural resources, ecosystem,

<sup>1</sup> Further responsibilities and duties of EIA Department of MoE are described in " Sub-decree No 135"

6

health and public welfare.

#### Article 14:

A Project Owner must prepare a report, as described in Article 7, and must submit it to the MoE and forward a copy to the Project Approval Ministry/Institution.

#### Article 16:

When a project is requested to submit a report of EIA, as described in Article 8, the Project Owner/Responsible Person shall submit it to the MoE along with their application for project's investment with the Project Approval Ministry/Institution.

#### Article 23:

Project Owner/Responsible Person must carry out the EMP as stated in the EIA for period of 6 calendar months, commencing from the date of the MoE confirmation of their EIA report duly fulfilled the criteria of this sub-decree.

### MoE's Prakas on General Guidelines for Developing Initial and Environmental Impact Assessment Report, No 376, 2009

#### Article 1:

The Prakas aims to provide general guidelines on the development of Initial Environmental Impact Assessments (IEIA) and Environmental Impact Assessment (EIA) and check lists as per Annex 1 and 2 to this Prakas.

#### Article 4

Project owners as stipulate in Article 2 and 3 above may use consulting services that will be responsible for developing an IEIA or EIA report following the general guidelines provided in the present prakas.

#### Article 5

Project owner(s) with qualified professional capacity recognized by the Ministry of Environment may develop an IEIA or EIA report on its own.

#### Article 7:

The Department of Environmental Impact Assessment Monitoring and Review or concerned Provincial Departments of Environment shall make visit to and comment on the project site as stated in Article 2 and 3 above whether an IEIA or EIA report is needed.

#### Article 9:

The Department of Environmental Impact Assessment Monitoring and Review or concerned Provincial Departments of Environment shall review and comment on the IEIA or EIA report following the general guidelines.

#### Article 11:

The review and clearance of IEIA or EIA report at the ministerial level shall, from the date of official receipt, subject to the following:

- Visit and comments made by technical officials of Department of Environmental Impact Assessment Monitoring and Review at the project site (within 10 working days);

7

- Comments made by relevant departments of the Ministry of Environment (within 5 working days);
- Comments by the management of the Ministry of Environment (within 5 working days);
- Comments at inter ministries meeting chaired by the Minister of Ministry of Environment with representation from relevant government ministries/ agencies, local authorities, non-governmental organizations, and other stakeholders concerned with the investment project (within 5 working days).

#### Article 13:

The Ministry of Environment or provincial Department of Environment shall approve within 5 working days, make a formal notification to the applicant of approval or request for revision on the IEIA or full EIA report in accordance with article 11 and 12 above.

Where request for revision is made, the second review shall be made by the Ministry of Environment or provincial Department of Environment within 30 working days upon official receipt of the revised report.

#### Article 14:

The Department of Environmental Impact Assessment or the Provincial Department of Environment shall be responsible for follow-up, monitoring and taking appropriate measures to ensure compliance by the project owner of the Environmental Management Plan (EMP) during project construction, operation and closure as stated in the IEIA or EIA report approved by the Ministry of Environment or the Provincial Department of Environment.

### MPWT's Prakas on Organization and Function of Department of Planning, No. 227, 2016

#### Article 1:

Department of Planning under management and leadership of General Department of Planning and Policies according to Article 17 of sub-decree no 216 issued on October 13, 2016 on organization and operation of MPWT as follows:

- Preparing public works and transport development plan
- Preparing statistics and facilitating public works and transport development plan
- Updating action plans related to public works and transport affairs at national and sub-national levels
- Preparing policies, strategies, development plan and public-private investment program in public works and transport sector
- Facilitating and looking for finance resource for public works and transport development
- Monitoring and promoting preparation of policies, strategies, short-term, medium-term and long-term development plan, national development plan strategy, 3-year and 5-year rolling plan, public-private investment program, action plan for road maintenance, multi-purposes transport infrastructure development and logistic plan.
- Involving in preparation of strategies, master plan, and logistics, public works and transport development plan or preparing strategies, master plan and development plan according to sub-sector: road, transportation, railway, navigation, marine navigation, ports and logistics.

8

- Involving in cooperation, review and comments on international, national and sub-national planning related to public works and transport affairs.
- Involving, reviewing, and commenting on assessment and resettlement social and environmental impacts of the public works and transport infrastructure development project.
- Studying and monitoring tendency of changes at global and regional in order to preparing policies for public works and transport sector
- Reviewing, monitoring and evaluating implementation of policies, plan, program, development projects in public works and transport.
- Reporting the progress to management of the ministry
- Fulfill any tasks assign by management of the ministry

Article 7

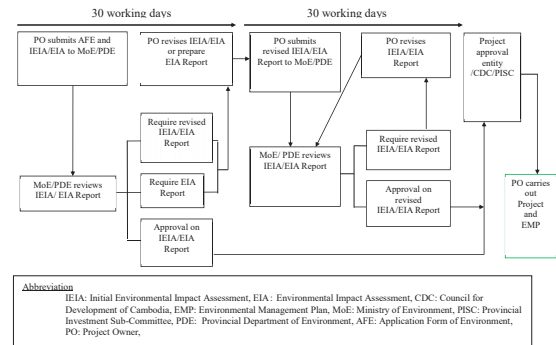
Environment and Social Office has responsibilities as below:

- Collecting and preparing documents or report associated to environment and social issues
- Involving in EIA report preparation for development projects under the public works and transport sector.
- Implementation of projects associated to Climate Change adaptation and Mitigation within the Public works and transport sector.
- Involving in study, preparation of policies, principles, plan and activities plan on the implementation of resettlement of the impacts, caused by development projects of public works and transport
- Involving with stakeholders to study, impact assessment and report preparation on detailed measurement survey (DMS) and results of resettling the impacts resulting from project development under the public works and transport
- Inspecting, monitoring and report preparation of the implementation framework compliance with environmental management or environmental management plan (EMP) on construction, rehabilitation and maintenance of transport infrastructure projects to be ensure compliance with the EMP.
- Involving and coordinating the social works and disasters associated to public works and transport sector.

and take into account of their conceptual input and suggestion for re-consideration prior to the implementation of any project.

(2) IEIA/EIA Report Reviewing Phase

Figure 3.1 shows the IEIA/EIA reviewing procedure, including approval procedure of the EIA process in Cambodia.



Source: MoE's Prakas No.376 on General Guidelines for Developing Initial and Environmental Impact Assessment Report, 2009"

**Figure 3.1 Process for IEIA/EIA Clearance for Proposals with Endorsement from Project approval entity/CDC or by Provincial Investment Sub-committee**

According to the Article 11 of "MoE's Prakas No.376 on General Guidelines for Developing Initial and Environmental Impact Assessment Report, 2009", at first, review of the IEIA or EIA report takes 30 working days from the date of MoE receive the AFE and the IEIA or EIA report.

Also, if the MoE requires that the Project Owner revise the IEIA or EIA report again, MoE will take another 30 working days for review and provide comment on the revised IEIA or EIA report.

(3) Environmental Monitoring Phase

EIA Department of MoE has responsibilities to monitor, inspect and require the Project Owner (PO) to implement EMP during construction, operation, and phase-out (ending) stage as stated

3. Steps of EIA Process and Involvement by MPWT in Cambodia

3.1 Steps of EIA Process in Cambodia as Nationwide

(1) IEIA/EIA Report Preparing Phase

Project Owner (PO) can prepare IEIA/EIA report themselves if qualified team is recognized by MoE or hire an independent consulting firm to prepare IEIA/EIA report, according to "Sub-Decree No.72 on Environmental Impact Assessment Process, 1999, MoE".

The PO needs to possess management and technical skill in conducting IEIA/EIA Study and IEIA/EIA report preparation. In case, the PO does not have a qualified expert team to conduct and prepare IEIA/EIA report, Independent consulting firm can be hired to assist the PO to conduct and prepare IEIA/EIA report. The independent consulting firm must have sufficient technical skills and qualification to prepare IEIA/EIA reports and it must be recognized by the MoE.

According to "MoE's Prakas No.376 on Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009, the IEIA/EIA report shall include the following items:

IEIA Report Outline	EIA Report Outline
Executive Summary	Executive Summary
Chapter 1: Introduction	Chapter 1: Introduction
Chapter 2: Legal frameworks	Chapter 2: Methodology
Chapter 3: Project Description	Chapter 3: Legal frameworks
Chapter 4: Description of Existing Environment	Chapter 4: Project Description
Chapter 5: Public Participation	Chapter 5: Description of Existing Environment
Chapter 6: Environmental Impacts and Mitigation Measures	Chapter 6: Public Participation
Chapter 7: Environmental Management Plan (EMP)	Chapter 7: Environmental Impacts and Mitigation Measures
Chapter 8: Conclusion and Recommendations	Chapter 8: Environmental Management Plan (EMP)
References	Chapter 9: Economic Analysis and Environmental Value
Annexes	Chapter 10: Conclusion and Recommendations
	References
	Annexes

The MoE following a request from the public, shall provide information on its activities, and shall encourage public participation in environmental protection and natural resource management, according to the Article 16 of "Law on Environmental Protection and Natural Resources Management in Cambodia, 1996".

Also, one of the objectives of Sub-decree on Environmental Impact Assessment Process, No.72 ANKR.BK, 1999 is to encourage public participation in the implementation of EIA process

in IEIA or EIA report approved by the MoE, according to Article 14 of "MoE's Prakas on General Guidelines for Conducting Initial and Environmental Impact Assessment Report, 2009".

According to "Sub-decree on Environmental Impact Assessment Process, No.72 ANKR.BK, 1999", the PO shall implement the EMP as set out in the IEIA/EIA report approved by the MoE and the EMP must be carried out as stated in the EIA report for a period of 6 calendar months, commencing from the date the MoE confirmed that the IEIA/EIA report duly fulfilled the criteria of this sub decree.

3.2 Involvement Phases by MPWT for EIA Process in Cambodia

For any public work infrastructure project, including road project, MPWT as the Project Owner (PO) or Project Proponent is involved in some of the above EIA process in Cambodia.

If there is an establishment of Project Management Unit (PMU) for a road project, ESO/DoP officials shall be involved in EIA issues in the PMU.

(1) IEIA/EIA Report Preparing Phase

The PO needs to possess management and technical skill in conducting IEIA/EIA Study and IEIA/EIA report preparation. If MPWT staff have insufficient technical skills in conducting EIA Study and EIA report preparation, an independent consulting firm with sufficient technical skills, and recognized by MoE should be hired. The MPWT would prepare the EIA Report under technical assistances from the independent EIA consulting firm.

For a road project, responsible General Department in charge of concerned project management in MPWT would be involved in "Public Participation", which is a part of EIA Preparation Phase as PO or Project Proponent.

Responsible General Department in charge of concerned project management in MPWT provides detailed data and information to the EIA consulting firm, in particular "Project Description" in the EIA Report.

(2) EIA Report Reviewing Phase

The purpose of the EIA review is to assess the adequacy and quality of the EIA report, and to determine whether the information is sufficient for a final decision to be made regarding the approval of the EIA report.

- ◆ Reviewing of draft EIA report within the MPWT

As specified in the MPWT's Prakas No. 227, ESO/DoP has duties on environment, so it reviews the draft EIA report and provides comments internally among technical officials after the EIA consulting firm submitting the draft EIA report to MPWT. After that, ESO/DoP will send the EIA Report to MoE for detail review and approval.

- ◆ Inter-Ministerial Meeting chaired by MoE



For a public transport infrastructure project, after the MoE reviews the EIA report among technical officials and management team internally, MoE will invite MPWT and other relevant stakeholders to join the Inter-Ministerial Meeting to comment on the EIA report. Responsible Department in charge of the concerned Project Management, on behalf of MPWT as PO should attend and reply comments from the participants in the Inter-Ministerial Meeting. This step is also one of the EIA report reviewing phase. After all the above procedures to reply comments are completed, MoE compile comments from the meeting to send to the PO to revise on the EIA report.

**(3) Environmental Monitoring Phase**

In the Environmental Monitoring Phase, the objective of the EMP and EMoP is to confirm whether mitigation measures are implemented during the construction and operation, and whether mitigation measures are implemented effectively.

Although, at present, there is no specific legal bases about monitoring phase of the project in Cambodia, the MoE have the following requirements to the PO in the Project Monitoring phase:

- PO needs to implement its activities in accordance with the EMP as set out in the EIA Report within 6 months, after the MoE approved on the EIA Report.
- PO must submit the Environmental Monitoring Report (EMoR) for every 3 or 6 months to the MoE as set out in the Environmental Management Plan (EMP)

MPWT must assign responsible department in charge of EIA and EMP to implement environmental monitoring process as following activities:

- Implement its activities in accordance with the EMP
- Prepare EMoR

MPWT involvement in steps of the EIA Process with responsible organization and involvement organizations could be shown in Table 3.1.

**Table 3.1 Some Steps of EIA Process by Involvement of MPWT for Road Projects**

Steps	Responsible Organization/Involvement Organizations	How to implement
Project Description Preparation	Responsible General Department in charge of the concerned Project Management in MPWT, the EIA Consulting firm	- Responsible General Department in charge of the concerned Project Management in MPWT hires an independent EIA consulting firm - Responsible General Department in charge of the concerned Project Management in MPWT provides data/information about Project Description to the EIA consulting firm
Field Visits by MPWT	ESO/DoP in MPWT, the EIA Consulting firm	ESO/DoP in MPWT conducts field visits with the EIA consulting firm, and concerned government agencies, if needed

**4. Practical Involvement Methods by MPWT for EIA Process in Cambodia**

**4.1 EIA Report Preparation Phase**

**(1) EIA Report Contents**

As specified Annex 1 of “MoE’s Prakas No. 376 on Guideline for developing IEIA/EIA Report, the general EIA Report in Cambodia should include the following chapters and content:

**Executive Summary**

A summary of the whole report including project objectives, project activities, the existing environment resources, output of public consultation, scope of environmental and social impacts and mitigation measures, the environmental management plans, conclusions and recommendations to mitigate environmental impacts shall be provided.

**Chapter 1: Introduction**

- Project overview: summary of project background, rationale for development of the project, and general situation on the project site, Objectives of the present EIA report;
- Methodologies and Scope of study: To describe the information and data need, and methodologies of data collection and data analysis. For EIA report, the project owner shall provide for detailed methodologies as a separate chapter.

**Chapter 2: Methodology**

For EIA report, the project owner shall provide for detailed methodologies as a separate chapter.

**Chapter 3: Legal frameworks**

Project owners shall provide a description of laws, sub-decrees and various policies related to project type to be implemented. All provisions of law and the regulation as described above have to be relevant to environmental protection, natural resource management, and the development project. Environmental regulation and standards referred to in the project shall have clear reference.

**Chapter 4: Project Description**

A detailed project description as stipulated in the pre-feasibility study or feasibility study report or a master plan of the company shall be provided including the following:

- Background and experiences of the project owners/company,
- Project site (attached with local administration map and project location);
- Project type/scope and schedule of project activities (project pre-operation, operation and closure);
- Work plan: (1) sources and quantity of input to be used; (2) machinery requirements; (3) local and foreign work force requirements; (4) quantity of final products; (5) income and expenditure; (6) production chain of the project; and (7) Overall waste management plan etc;
- Activities program of the project.

**Chapter 5: Description of Existing Environment**

A detailed description of the natural environment and socio-economic aspects (based on primary and secondary data) within and in the surrounding environment of the project location shall be provided, including:

Scoping	Responsible General Department in charge of the concerned Project Management in MPWT, MoE, the EIA consulting firm, concerned Stakeholders	- The EIA consulting firm prepares ToR of the IEE/EIA - MoE provides comments and approval on the ToR - Responsible General Department in charge of the concerned Project Management in MPWT disclose project information to the relevant agencies/organization and stakeholders
Internal draft IEE/EIA report review within MPWT	ESO/DoP in MPWT, the EIA consulting firm	- EIA consulting firm prepares draft EIA report. - ESO/DoP in MPWT review the draft EIA report internally within MPWT - Responsible General Department in charge of the concerned Project Management in MPWT submit a report to MoE for detail review and approval.
Inter-ministerial Meeting	MoE, Responsible General Department in charge of the concerned Project Management in MPWT, the EIA consulting firm, Concerned stakeholders	- MoE chairs the Meeting - Responsible General Department in charge of the concerned Project Management of MPWT and the EIA Consulting firm shall attend in the Inter-ministerial meeting to reply the comments.
Environmental Monitoring Phase	Responsible General Department in charge of the concerned Project Management in MPWT, the EIA Consulting firm	- Responsible General Department in charge of the concerned Project Management in MPWT implements the EMP under cooperation with the construction contractors, etc. - Responsible General Department in charge of the concerned Project Management in MPWT holds Stakeholder Meetings - Responsible General Department in charge of the concerned Project Management in MPWT prepares EMoR under assistances from the EIA consulting firm.

**5.1 Natural Environment**

**5.1.1 Physical Resources**

- Soil: geology, soil formation/topology, soil types, soil erosion and sedimentation. For EIA, a detailed seismology and geology study (mine resources, if applicable);
- Climate: temperature, rainfall, wind speed and pattern, air pressure, wind direction and humidity,
- Air quality (ambient air quality in the project location), noise and vibration (noise and vibration level in the project location);
- Hydrology: Quality and quantity of surface and under-ground water (including an analysis of the water quality in the project area), flow and discharge.

**5.1.2 Biological Resources**

- Forest: area of forest land, forest cover types, and forest classification;
- Wildlife species, rare species, endangered and endemic species and their migratory pattern, Habitat, Biodiversity and ecological systems, Wetland systems (attached with relevant maps)

**5.2 Socio-economic Resources**

- Demography and settlement, Economic status: employment and income (primary and secondary), Land use, Water use, Energy use, Infrastructure, Education, Public health and well-being;
- Cultural heritages, historical monuments, ancient temples, pagodas, customs/traditions, ethnic minority or indigenous people, etc; and
- Tourism destinations.

**Chapter 6: Public participation**

The chapter describes in details public consultation with the following content:

**6.1 Introduction**

**6.2 Public participation**

- Dissemination by the project owner with local authorities and local communities of the development project;
- Feedback from relevant ministries/ agencies/ departments and relevant local authorities;
- Comments from relevant non-government organizations (NGOs);
- Consultation with affected local communities.

**6.3 Conclusion on results for the public consultation**

**Chapter 7: Environmental Impacts and Mitigation Measures**

The chapter describes both positive and negative environmental and socio-economic impacts arising from their project activities, including:

- 7.1 Description of the negative environmental and socio-economic impacts during the project pre-operation (the project design and construction), operation and closure with mitigation measures;
- 7.2 A summary of point 6.1 on the scope of negative environmental impacts and mitigation measures
- 7.3 For EIA report, cumulative impacts should be provided; and
- 7.4 Description of the positive environmental and socio-economic impacts.

**Chapter 8: Environmental Management Plan (EMP)**

As part of a project, the project owner shall make available sufficient fund and a unit/ team with sufficient skills and expertise, equipment, methodology, and schedule for monitoring

environmental quality in close collaboration with relevant ministries/ agencies, in order to implement measure to minimize adverse socio-economic and environmental impacts.

The EMP shall consist of:

- A summary of main negative environmental impacts and mitigation measures;
- Trainings to be provided;
- Environmental monitoring program (plan) for the construction, operation and closure periods illustrating the following:
  - i) Agency responsible for project monitoring,
  - ii) Identified parameters to be monitored,
  - iii) monitoring methodology,
  - iv) Environmental standards or guidelines to base for monitoring,
  - v) Schedule and cycle which be control,
  - vi) assessment of monitoring results,
  - vii) Quarterly report to be submitted to MoE and relevant ministries/agencies.

#### Chapter 9: Economic Analysis and Environmental Value

For EIA report, the project owners shall provide a description of the benefits of the project in relation to scope and value of environmental damage arising from the project activities.

#### Chapter 10: Conclusions and Recommendations

The chapter shall provide project owner's assurance and responsibility for their environmental impact assessment reports with relevant recommendations for the development project.

Therefore, MPWT, shall comply with the general table of contents of IEIA/EIA report as stated in Annex 1 of "MoE's Prakas No. 376 on Guideline for developing IEIA/EIA Report. Or MPWT, as a project owner, shall comply with any guidance or any regulations which will be developed or prepared by MoE

MPWT shall share information about the project to EIA consulting firm if there is any request from EIA consulting firm for preparing IEIA/EIA reports.

#### 4.2 EIA Report Reviewing Phase

##### (1) Introduction of the EIA Report Review

The key objectives of EIA Report Review are as follows, according to "Environmental Impact Assessment Training Resource Manual", Second Edition, United Nations Environment Program, United Nation for Environmental Program (UNEP), 2002:

- Assess the adequacy and quality of an EIA report;
- Take account of public comments;
- Determine if the information is sufficient for a final decision to be made, and;
- Identify as necessary, the deficiencies that must be addressed before the report can be submitted.

Basically, identification of the deficiencies in the EIA Report using the Terms of Reference (ToR) for the EIA Study, and any similar comparative EIA Reports.

In addition, if some laws/regulations by national and local government are directly related to the project and stipulated, these compliances should be reviewed in the EIA Report. Also, if

The following items are included concisely with maps and clearly stated in the EIA Report as Project Description:

- Background and experiences of the project owners,
- Project site (attached with local administration map and project location);
- Project type/scope and schedule of project activities (project pre-operation, operation and closure);

For a road project, the overall construction plan, and off-site works such as planned location of the construction camps, access road, and quarries should be included.

##### 5) Description of Existing Environment

The following items are included with maps and clearly stated in the EIA Report as Description of Existing Environment:

- Physical resources as baseline data in the Project Area
- Biological Resources as baseline data in the Project Area
- Socio-Economic Resources as baseline data in the Project Area

The Project Area includes the Project site and the surrounding sites, which may be affected directly and any environmental or socio-economic impacts from the project activities. It is important that the project site location and relevant physical, biological, and socio-economic resources, which may cause any direct impacts, should be plotted on map as much as possible, to make clear these relationships.

For a road project, the project site should include construction site, alternative sites, access roads, and all project construction related sites. Table 4.2 shows main necessary information/data of the description of existing environment in the Project Area.

**Table 4.2 Main Necessary Information/Data of the Description of Existing Environment in the Project Area for a Road Project**

Item	Necessary Information Data
5.1 Natural Environment	
5.1.1 Physical Resources	
Soil	Characteristics of topography and geology features, (topographic/geological map)
Climate	Project site specific information on existing meteorological conditions (temperature, humidity, rainfall, wind speed/directions)
Air quality	Present air pollution data (TSP, CO, NO <sub>2</sub> , SO <sub>2</sub> , Pb, etc.)
Noise/Vibration	Current noise/vibration level
Hydrology	-Drainage characteristics of the rivers/lakes -Data for groundwater/well conditions
Water quality	Current surface/underground water quality data (pH, DO, BOD, Turbidity, Grease and Oil, etc.)
5.1.2 Biological Resources	
Forest	Present flora map and the valuable species list
Wildlife	Present fauna map and valuable species list
Habitats	Protected species habitat map, protected area list
Biodiversity	Biodiversity hotspot area map, protected area, if existed in the area
Wetland	Valuable wetland system (map)
5.2 Socio-economic Environment	

project is financed by Development Partners (DPs), it should be checked whether the EIA Report fulfill the requirements of the guidelines, which are issued by the DPs.

##### (2) Practical Methods for the EIA Report Reviewing

At first the following issues should be reviewed:

- The ToR has been fully satisfied on the EIA Report.
- There are no contradictions in the EIA Report.
- The EIA Report is easily read and understood by MoE and the Project Stakeholders.

The Executive Summary also should be reviewed to check whether it reflects the following contents of the EIA Report:

- Project objectives
- Project activities
- Existing environmental resources
- Output of public consultation
- Scope of environmental and social impacts and mitigation measures
- Environmental Management Plan
- Conclusion and recommendation

After that, the following items should be reviewed as follows, chapter by chapter:

##### 1) Introduction

The following items are included concisely and clearly stated in the EIA Report as Introduction:

- Project overview (summary of project background, rationale for development of the project, and general situation on the project site)
- Purpose of the EIA study
- Methodologies of data collection and data analyzed and scope of study

##### 2) Methodology

The following items are included concisely with maps and clearly stated in the EIA Report as Methodology:

- What kinds of the data are collected as primary data or secondary data,
- What kinds of methods or models are used for impact analysis or forecasts;
- What types of mitigation measures are considered;

For a road project, impact forecasts are quantitative analyses are used as much as possible for air, noise/vibrations.

##### 3) Legal Frameworks

The following items are included concisely and clearly stated in the EIA Report as Legal Frameworks:

- Applicable laws, sub-degrees, and policies related to project activities
- Applicable government environmental policies/plans related to project activities
- Applicable environmental regulations and standards in Cambodia and international agreements related to project activities

##### 4) Project Description

Demography and settlement	Regional population statistics and settlement pattern (map)
Economic status	Main economic activities/employment, income statistics
Land use	Present Land use map, Land use plan
Water use	Legal right, customary right
Energy use	Type and amount of energy use
Infrastructure	Transportation network, utility network
Education	Enrollment ratio, etc.
Public health	Epidemic statistics, etc.
Cultural heritage	Important cultural/historical heritage map and the list
Tourism destination	Tourism destination map and the list

##### 6) Public Participation

The following items are included each with a concise description and clearly stated in the EIA Report as Public Participation:

- Dissemination activities by the project owner with local authorities and local communities of the development project
- Feedback from Project Owner, relevant ministries/agencies/departments and relevant local authorities
- Comments from relevant non-government organizations (NGOs)
- Consultation results with affected local communities

##### 7) Environmental Impacts and Mitigation Measures

The following items are included each with a concise description and clearly stated in the EIA Report as Environmental Impacts and Mitigation Measures:

- Description of the negative environmental and socio-economic impacts during the project pre-operation (the project design and construction), operation and closure with mitigation measures
- Cumulative impacts
- A summary table (Scoping Matrix) of the scope of negative environmental impacts and mitigation measures
- Description of the positive environmental and socio-economic impacts

All significant negative and positive impacts have been clearly stated. All key environmental and socio-economic impact issues have been addressed, and

In terms of the mitigation measures, the following main points should be considered:

- Mitigation measures for all the significant impacts have been adequately developed
- Adequate consideration has been given to compensation for resettlement and land/ properties (crops, etc.) acquisitions
- Significant adverse impacts that cannot be avoided or mitigated have been described
- Mitigation support measures to enhance positive impacts have been properly developed
- Experience from similar projects carried out in the past, has been taken into account for the mitigation measures.
- Mitigation and support measures are technically and scientifically sound.

For a road project, main examples of the mitigation measures are listed in Table 4.3.



**Table 4.3 Main Examples of Mitigation Measure for a Road Project**

Items	Main Examples of the Mitigation Measures
To reduce impact on the land	- Avoiding road alignments on the sensitive areas (e.g. natural protected areas, steep area) - Install retaining structure (e.g. gabions, etc.)
To prevent air pollution (dust)	- Water sprinkling and transporting construction materials with proper coverage - Speed control on vehicles during transportation of materials
To prevent noise	- Develop of bypass road to avoid noise sensitive areas - Construction time control in residential/hospital/school areas
To conservation present hydrology	- Consider road alignment to minimize change present water flow. - Flow speed control by grasses, other devices in water channel
To mitigate construction wastes issues	- Prepare and implement appropriate construction waste management plan - Conduct proper quarry management
To conservation biodiversity (ecosystem)	- Avoid road alignments on the ecological vulnerable areas - A buffer zone to mitigate deterioration of the ecosystem should be maintained along the Right of Way (RoW).
To reduce adverse impacts on socio-economic environment	- If involuntary resettlement occurred by the project, appropriate compensation and livelihood assistances should be taken into account - Minimizing split of communities in the road design stage
To reduce workers conflicts with local peoples	- Hold periodical instruction seminar to promote for reducing the conflicts between the construction workers and the local peoples - Make and enforce a proper rule for reducing the conflicts.
To promote road safety	- Provision of safety signals, other materials to avoid the traffic accident - Provision roadside rest areas at strategic locations to minimize driver fatigue

8) Environmental Management Plan (EMP)

The following items are included and clearly stated in the EIA Report as EMP:

- Institutional Responsibilities (both implementer and supervisor) to conduct each mitigation measures. For a road infrastructure project, the following institutions should be involved and clarify their tasks:
  - Construction Contractor (Actual implementer for structural mitigation measures, etc.)
  - Supervising Consultant (Advise/Supervisor to the Contractor for mitigation measures)
  - MPWT as Project Owner
  - MoE as Competent Authority for environmental management
  - Project site related local government
- Project Stage (Project pre-operation, Project operation, Project closing)
- Summary of each possible negative impacts item based on the environmental impact analysis
- Summary of each project activity, which are necessary to conduct any mitigation measures
- Description of each proposed mitigation measure
- Cost estimate for conducting each mitigation measure
- Training programs for all the EMP activities

Environmental monitoring can be classified into the following two categories:

1) Compliance Environmental Monitoring

Compliance Environmental Monitoring is to confirm implementation of mitigation measures approved by EIA.

In Cambodia, an Environmental Management Plan (EMP) is regulated by “MoE’s Prakas No. 376 on General Guidelines for Developing Initial and Environmental Impact Assessment Reports”. And the EMP is included in the EIA Report as one of the important contents. One of the primary objectives of the EMP is to clarify each responsibility task of the concerned institutions for conducting the proposed mitigation measures.

Therefore, Environmental Management Plan (EMP) could be a key confirmation source for the implementation of the mitigation measures.

2) Environmental Monitoring for Effect Confirmation

Environmental Monitoring for Effect Confirmation is performed to confirm effectiveness of proposed mitigation measures proposed in EIA. Environmental Monitoring for Effect Confirmation should be conducted both at construction stage and after construction stage (operation stage).

The significance of the adverse impacts during construction stage may be higher than the significances during the operation phase. But duration of the impacts after construction stage may take longer than the construction stage.

Environmental Monitoring Program (Plan) is also regulated as a part of the EMP by “MoE’s Prakas No. 376 General Guidelines for Developing Initial and Environmental Impact Assessment Reports”.

(3) Environmental Monitoring Plan (EMoP)

The main objective of the Environmental Monitoring Plan (EMoP) is to prepare appropriate plan for validating the effectiveness of the implemented mitigation measures.

The Environmental Monitoring Plan (EMoP) should include the following contents as essential items:

- Institutional Responsibilities (both implementer and supervisor) to conduct each monitoring activity
  - Monitoring activities during construction, operation and closing stages
  - Monitoring items and parameters
- For a road project, the following could be considered as primary monitoring items and parameters:
- Air Quality (TSP, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, etc)
  - Hydrology
  - Water Quality (pH, BOD, Grease and Oil, etc)

For a road project, main technical contents of the EMP could be given as follows:

- EMP with mitigation measures for debris or soil, which will be generated by the project construction;
- If the project involves land reclamation, the EMP provides detail activities and the area for the land reclamation, and mitigation measures for possible adverse impacts.
- Quarry management plan
- EMP with mitigation measures for dust and fugitive emissions from the construction vehicles, machines/equipment
- EMP with mitigation measures for noise nuisances
- EMP with mitigation measures for the conservation of present hydrology
- EMP with mitigation measures for the conservation of present ecosystem, if vulnerable ecosystem or wildlife species exist.
- EMP with mitigation measures to reduce traffic accidents
- Training programs for all the EMP activities.

9) Economic Analysis and Environmental Value

This Chapter is included as much as possible, with descriptions of the benefits of the project implementation and overall costs of the unavoidable environmental damages by the project implementation, based on the available data/information.

10) Conclusion and Recommendations

The conclusion and recommendations are included, with concise description that the project is able to mitigate possible adverse impacts by proposed mitigation measures, and to enhance positive impacts in the project area.

The checklist for reviewing the EIA Report is listed at Appendix 1. The checklist for reviewing the EMP is listed at Appendix 2.

4.3 Environmental Monitoring Phase

(1) Introduction of the Environmental Monitoring

After approval of the EIA Report, environmental monitoring should be performed, in order to validate the environmental impacts, which are predicted in the EIA Study, and the effectiveness of the mitigation measures. If environmental monitoring reveals that the mitigation measure is not effective, follow-up mitigation measures should be taken.

Environmental Monitoring shall be implemented periodically to evaluate each environmental condition in each project stage. Also, Environmental Monitoring shall be implemented, in order to confirm whether the conservation targets, which are set up to maintain desirable environmental conditions are achieved.

The purpose of Environmental Monitoring in EIA are to confirm whether mitigation measures are implemented during the project construction, operation, and closure stage, and whether the mitigation measures are implemented effectively.

(2) Categories of Environmental Monitoring

- Noise and Vibration
- Construction wastes
- Monitoring location for each monitoring item
- Means of Monitoring
- Monitoring Frequency

The EMoP could be a supplemental confirmation source for evaluating effectiveness of the mitigation measures.

The checklist for reviewing the EMoP is listed at Appendix 3.

(4) Environmental Monitoring Report (EMoR)

After preparing EMoP, the PO has to prepare each Environmental Monitoring Report (EMoR) and submit to the MoE and relevant ministries/agencies periodically.

The EMoR is an analyzed periodical report to evaluate the effectiveness of the implemented mitigation measures with concrete sampled or analyzed data, which are compared with conservation targets.

The EMoR should include the following contents as essential items:

- Description of the Monitoring Implementer
  - Monitoring activities are done during construction, operation and closing stages
  - Monitoring Methodology including date/time and site characteristics for each monitored item
  - Measured or Analyzed Monitoring Items and Parameters
- For a road project, the following could be considered as primary monitoring items and parameters:
- Air Quality (TSP, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, etc)
  - Hydrology
  - Water Quality (pH, DO, BOD, Turbidity, Grease and Oil, etc)
  - Noise and Vibration
  - Construction wastes
  - Measured Monitoring (Sampling) location for each monitoring item
  - Applied Means of Monitoring
  - Applied Monitoring Frequency
  - Each Monitoring Result, which is compared with each conservation target such as Environmental Standard in Cambodia
  - Conclusion and Suggestions, including recommended follow-up mitigation measures, if needed.

The EMoR could be the primary confirmation source for evaluating effectiveness of the mitigation measures.

The checklist for reviewing the EMoR is listed at Appendix 4.

# Appendices

Appendix 1 Checklists for Reviewing EIA Report for Road Project

Appendix 2 Checklists for Reviewing EMP for Road Project

Appendix 3 Checklists for Reviewing EMoP for Road Project

Appendix 4 Checklists for Reviewing EMoR for Road Project

A - 1

sections/lengths, road widening, bypass road construction, etc.)					
Project alternatives (Analyses of alternatives with zero option)					
<b>5. Description of Existing Environment in the Project Area</b>					
Physical resources as baseline data					
• Geography					
• Geology and soil					
• Soil erosion and sediment					
• Topography					
• Climate (wind, precipitation, temperature, evaporation etc)					
• Air quality (ambient and seasonal)					
• Noise and Vibration					
• Hydrology					
• Surface and ground water quality					
• Subsidence					
Biological Resources as baseline data					
• Natural Protected Area					
• Flora					
• Fauna					
• Protected species					
Socio-Economic Resources as baseline data					
• Main economic activities (Main industries)					
• Population (including gender balance)					
• Indigenous peoples or minorities					
• Employment					
• Education					
• Public health					
• Crime situations					
• Transportation networks					
• Waste (collection/disposal volume/systems)					
• Cultural/historical heritage site					
<b>6. Public participation</b>					
Dissemination activities by the project owner with local authorities and local communities of the development project					
Feedback results (records of questions and answers) among PO, relevant ministries/agencies/departments and relevant local authorities, and local residents					
Comments from relevant non-government organization (NGOs)					
Consultation with affected local community					
Conclusions on results of public consultation					
<b>7. Environmental Impacts and mitigation measure</b>					
Description of the negative environmental and social-economic impacts during the project pre-operation, operation and closure (These are depended on the project types. The followings are examples of typical negative impacts caused by a road construction project).					
Physical resources impacts					
• Climate (precipitation, temperature,					

A - 3

## Appendix 1 Checklists for Reviewing EIA Report for Road Project

Contents (Items)	Page on EIA Report	Yes	No	Evaluation (good, moderate, poor)	Comments (Remarks)
<b>Executive summary</b>					
Project objectives					
Project activities					
Existing environment resources					
Output of public consultation					
Scope (Project area/component, etc.) of environmental and social impacts and mitigation measures					
Environmental Management Plan					
Conclusions and recommendations					
<b>1. Introduction</b>					
Project Overview (Project background, Rationale for project development, General situation on the project site)					
Purpose of the EIA Study					
Methodologies of data collection/analysis					
Scope (Study area/component, etc.) of study					
<b>2. Methodologies</b>					
Description of each data collection method					
Description of each impact analyses method (including stakeholder meetings)					
Description of each mitigation measure considering method					
<b>3. Legal Framework</b>					
Applicable laws, sub-degrees, and policies related to project activities					
Applicable government environmental policies/plans related to project activities					
Applicable Cambodia's environmental regulations/standards, international agreements related to project activities					
Applicable Environmental Guidelines by Development Partners					
<b>4. Project Description</b>					
Background (Key project requirements) and experiences of the project owner					
Project site including type of construction, material, sources of material, material transportation, information of machinery, safety measures, labor force, gender balance, utilities consumption, and attached with local administration Map and project location)					
Camp site and construction access road (structure, size, location, etc)					
Project type, schedule of project activities					
Present project conditions (e.g. road width, road alignment, etc.)					
Project outline (e.g. target road					

A - 2

evaporation etc)					
• Geology (rock type, structure, geochemistry, etc)					
• Soils (contamination, erosion)					
• Topography (slopes)					
• Hydrology (water volume, flow speed)					
• Surface water quality (river, lakes, users, etc.)					
• Groundwater (water level, water quality, users, etc)					
• Air quality (ambient and seasonal, point source and non-point source)					
Biological impacts					
• Terrestrial and aquatic ecology (vegetation and animal types, endemic/rare species)					
• Protected Area					
• Biodiversity					
Socio-economic impacts					
• Social structure of local community					
• Resettlement					
• Land use change					
• Demographics including gender dynamics, social status and empowerment of women, presence of vulnerable groups, etc					
• Education and skills (schools and education levels, availability of skills, etc)					
• Employment (formal and informal sectors, permanent and seasonal work)					
• Community facilities and services (e.g. school, health care facilities, emergency services, recreational facilities, waste removal services, libraries, etc)					
• Aesthetics (visual, noise, odor, sense of place, quality of life, etc)					
• Public health (including communicable disease such HIV/AIDS, non-communicable diseases e.g. occupational health, community safety, etc.)					
• Crime and community safety					
• Sites of cultural/ religious significance					
• Sites of historical significance					
Cumulative impacts, if available					
Description of the positive environmental and social-economic impacts (These are depended on the project types. The followings are examples of typical positive impacts caused by a road construction project).					
• Regional economic development					
• Improve of traffic network					
• Access improvement to social facilities					
• Social services improvement due to convenient access					

A - 4



8. Environmental Management Plan (EMP)					
A summary of main negative environmental impacts and mitigation measures					
Trainings to be provided					
Environmental Monitoring Program (Plan) for the construction, operation and closure period indicating as follows:					
<ul style="list-style-type: none"> <li>Agency responsible for project monitoring</li> <li>Identified parameters to be monitored</li> <li>Monitoring methodology</li> <li>Environmental standards or guidelines to base for monitoring</li> <li>Schedule and cycle which be controlled</li> <li>Assessment of monitoring results</li> <li>Quarterly report (Environmental Monitoring Report) to be submitted to MoE and relevant ministries/agencies</li> </ul>					
9. Economic analysis and environmental value					
Description of overall project costs, including environmental damages					
Description of cost benefit analysis					
10. Conclusions and recommendations					
Description of conclusions based on analysis results for possible negative impacts and mitigation measures					
Key questions		Page on EIA Report	Yes	No	Comments (Remarks)
1. Has the EIA Report identified and evaluated not only negative impact, but also positive impacts and clearly described?					
2. Which are the unavoidable adverse impacts (e.g. noise)? Are they acceptable?					
3. Impacts on any sensitive areas (e.g. natural protected areas, or cultural heritage area) have been defined?					
4. Is the Scoping Matrix covered all possible environmental and social impacts with significance (slight, medium, significant)?					

A - 5

Strict control of construction time for noise/vibration generation equipment										
Conduct of appropriate construction waste collection/disposal measures, including quarry management										
Install culverts/bridge to prevent alteration of water flow										
Conduct sufficient embank management to prevent possible subsidence										
Install culverts to prevent decrease of habitat area										
Conduct careful slope protection to prevent soil erosion										
Conduct livelihood supporting measures for the poor Project affected persons										
Conduct workers safety seminars, etc.										
Conduct traffic safety measures (regulate strict vehicle speed, etc.)										
5. Cost estimate and Schedule for conducting each mitigation measure										
Clear identification for cost estimate for each mitigation measure										
Schedule for conducting of each mitigation measure										
Key questions							Page on EMP	Yes	No	Comments (Remarks)
1. Concise description of all the regulatory agency and organization (construction contractor, etc.) involved and their responsibility										
2. Mitigation and support measures are technically and scientifically sound										
3. Significant adverse impacts that cannot be avoided or mitigated have been described										
4. Mitigation support measures to enhance positive impacts have been properly developed										
5. Experience from similar projects carried out in the past, has been taken into account for the mitigation measures.										
6. Is the each cost estimate for mitigation measure reasonably and realistically?										
7. Are the Training programs for implementing the EMP described clearly?										

A - 7

#### Appendix 2 Checklists for Reviewing EMP for Road Project

Contents (Items)	Page on EMP	Yes	No	Evaluation (good, moderate, poor)	Comments (Remarks)
<b>1. Responsible Institutions</b>					
The implementer to conduct each EMP action					
The supervisor to conduct each EMP action					
<b>2. Project stage (pre-operation, operation and closure)</b>					
Project pre-operation (project planning) stage					
Project pre-operation (project construction) stage					
Project Operation stage					
Project Closure stage					
<b>3. Possible negative environmental and socio-economic items and each impact (These are depended on the project types. The followings are examples of the possible negative environmental socio-economic impacts for a typical road construction project).</b>					
Air pollution (Dust or gas emissions from construction vehicles or equipment)					
Surface water pollution (Ex: Spills of oils or wastes to the rivers; Discharge of wastewaters without treatment)					
Noise and Vibration issues (Ex: Construction noise/vibration from the construction equipment)					
Construction wastes issues (Scattering construction, including hazardous wastes)					
Hydrology (alteration of water flow) (Ex: Road constructions may cause present water flow alteration)					
Subsidence (Ex: Much embankment may cause subsidence)					
Habitat areas of vulnerable species decreasing (Ex: Road constructions may cause habitat areas decreasing.)					
Soils erosion (Ex: Insufficient slope protection may cause soil erosion)					
Loss of main sources of incomes (Loss of main sources of incomes due to land acquisition)					
Traffic accidents (number of traffic accidents) (Ex: Increase of traffic volume may cause increase of traffic accidents)					
Working environment degradation (Insufficient work safety measures may cause increase of construction accident)					
Local violence/conflicts increasing (Ex: Local violence/conflicts may cause by influx of outside construction workers)					
<b>4. Proposed Mitigation Measures for each project activity (These are depended on the project activities. The followings are examples of mitigation measures for a typical road construction project).</b>					
Conduct of construction vehicles/equipment well-maintained plan					
Strict control of oil/wastes spills					
Wastewater management with structure measures/non-structure measures					

A - 6

#### Appendix 3 Checklists for Reviewing EMOp for Road Project

Contents (Items)	Page on EMOp	Yes	No	Evaluation (good, moderate, poor)	Comments (Remarks)			
<b>1. Responsible Institution</b>								
Monitoring implementer to conduct each monitoring activity								
Monitoring supervisor to conduct each monitoring activity								
<b>2. Project stage (pre-operation, operation and closure)</b>								
Project pre-operation stage (project planning)								
Project pre-operation stage (project construction)								
Project Operation stage								
Project Closure stage								
<b>3. Monitoring Items and Parameters (These are depended on the project activities. The following items are possible monitoring items and parameters for a typical road construction project).</b>								
Air quality (TSP, CO, NO <sub>2</sub> , SO <sub>2</sub> , Pb, etc.)								
Surface water quality (pH, DO, BOD, Turbidity, Grease and Oil, etc.)								
Noise and Vibration								
Construction wastes (waste volume, disposal system, procedures)								
Hydrology (water volume, flow speed)								
Subsidence (present ground level, etc.)								
Ecosystem (valuable species habitats)								
Soils (contamination, erosion situations)								
Traffic accidents (the number of traffic accidents)								
Working environment (the number of construction accidents)								
Public health (infectious disease rate, etc.)								
<b>4. Monitoring Location</b>								
Clear identification of the location for each monitoring point								
<b>5. Means of Monitoring</b>								
Clear identification for monitoring mean.								
<b>6. Monitoring Frequency</b>								
Clear identification of monitoring frequency for each sampling point								
<b>7. Reporting</b>								
Clear identification of the submission frequency (schedule) of the EMOp								
Clear identification of the agency to whom submit the EMOp								
Key questions					Page on EMOp	Yes	No	Comments (Remarks)
1. Are the sampling locations/frequencies realistically, technically, and financially in the project site?								
2. Are the sampling methods reasonable realistically, technically, and financially in the project site?								
3. Are each funding source for conducting each monitoring activity identified clearly?								

A - 8

**Appendix 4 Checklists for Reviewing EMoR for Road Project**

Contents (Items)	Page on EMoR	Yes	No	Evaluation (good, moderate, poor)	Comments (Remarks)
<b>1. Responsible Institution</b>					
EMoR preparation implementer, including sampling and analyzing the data					
EMoR preparation supervisor, including quality control of the analyzed data					
<b>2. Monitoring methodology, including date/time and site characteristics for each monitored item</b>					
Clear identification of methodology for each monitored item					
Monitored date/time and the site characteristics for each monitored item					
<b>3. Measured or Analyzed Items and Parameters</b> (These are depended on the project activities. The following items are typical items and parameters for a typical road construction project).					
Air quality (TSP, CO, NO <sub>2</sub> , SO <sub>2</sub> , Pb, etc)					
Surface water quality (pH, BOD, Grease and oil, etc)					
Noise and Vibration					
Construction wastes (waste volume, disposal system, procedures)					
Hydrology (water volume, flow speed)					
Subsidence					
Ecosystems (valuable species habitat situation)					
Soils (contamination, erosion situations)					
Traffic accidents (number of traffic accidents)					
Working environment (number of construction accidents)					
Public health (infectious disease rate, etc.)					
<b>4. Monitored Location</b>					
Clear identification of the location for each monitored point					
<b>5. Means of Monitoring</b>					
Clear identification for each mean of monitoring					
<b>6. Monitoring Frequency</b>					
Clear identification of the monitoring frequency for each monitored point					
<b>7. Each monitoring result (value)</b>					
Each monitored result value					
Comparison result with each conservation target					
<b>8. Conclusion and Suggestions</b>					
Clear description of each environmental condition compared with the conservation target					
Clear description of necessary follow-up mitigation measure, if need					
<b>Key questions</b>		<b>Page on EMoR</b>	<b>Yes</b>	<b>No</b>	<b>Comments (Remarks)</b>
1. How to be ensured for quality control of the analyzed data?					
2. Are the analyzed methods are cost-effective?					





THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



**Date:** 06 February 2018  
**Time:** 8:00 – 11:30  
**Location:** Sunway Hotel  
**Topic:** 2<sup>nd</sup> JCC meeting

### Sign-in Sheet (JICA Project Team)

#### JCC Members

No	Name	Department/Ministry	Position	Phone	E-mail	Signature
1	H.E Tauch Chankosal	MPWT	Secretary of State			
2	H.E Nou Vaddhanak	General Department of Technique	Director General			
3	Mr. Prok Novida	Department of Planning, MPWT	Director			
4	Mrs. Pin Vuthea	International Cooperation Department, MPWT	Director			
5	Mr. Yong Sy	Department of Investment, MEF	Chief of Office			

#### JICA Cambodia Office

No	Name	Department/Ministry	Position	Phone	E-mail	Signature
6	Mr. IWASE Hideaki	JICA Cambodia Office				
7	Mr. Ouk Reaksmeay	JICA Cambodia Office	Program Officer			



THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



**Advisor**

No	Name	Department/Ministry	Position	Phone	E-mail	Signature
8	Mr. Sek Sothirith	Urban Planning Department, MLUPC	Director			
9	Mr. Sao Vary	Department of Conservation, MLMUPC	Director			

**Taskforce Members**

No	Name	Department/Ministry	Position	Phone	E-mail	Signature
10	Mr. Chea Samnang	ROW Office, RID, MPWT	Chief of Office			
11	Mr. Sor Yilin	ICD, MPWT	Deputy Chief of Office			
12	Mr. Bour Chhay Ya	E&S Office, DoP, MPWT	Official			
13	Mr. Manh Vutha	Bilateral Cooperation Office, ICD, MPWT	Deputy Chief			
14	Mr. Song Kimheng	ICD, MPWT	Official			
15	Mr. Ngel Sovanarith	ICD, MPWT	Official			
16	Mr. Peang Samoeun	ICD, MPWT	Deputy Chief of Office			





THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



17	Mrs. Sreng Sorphhea	ICD, MPWT	Official			
18	Mr. SAO Premarak	RID, MPWT	Officer			
19	Mr. Sokun Piseth	RID, MPWT	Officer			
20	Mr. Kaing Theara	RID, MPWT	Officer			
21	Mr. Von Sarom	ICD, MPWT	Deputy Director			

**Observers**

No	Name	Department/Ministry	Position	Phone	E-mail	Signature
22	Mr. OGAWA Koichi	Project for Strengthening Capacity for Maintenance of Road and Bridge	Chief Advisor			
23	Mr. CHIBA Toshiaki	Metropolitan Expressway Company Limited, Bangkok Office	Deputy Director			
24	Mr. HIDEOTOSHI Kume		JICA Expert			
25	Mr. Dun Vandyreagan	Monitoring and Evaluation office, ICD, MPWT	Chief of Office			
26	Mr. Kong Youreth	Department of Public Infrastructure, MPWT	Chief of Office			



THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



27	Ms. Em Sokchea	Department of Public Infrastructure, MPWT	Deputy Chief of Office		
28	Mr. KHUON Davith	Department of Resettlement I/GDR/MEF	Deputy Director		
29	Mr. MAO Visal	Electricité du Cambodge (EDC)	Chief Office		
30	Mr. Yav Net	EIA/MoE	Officer		
31	Ms. Men Uonmalin	EIA/MoE	Officer		
32	Mr. Hok Angkearith Vongsa	RID, MPWT	Officer		
33	Mr. Choup Chan Reaksmeay	RID, MPWT	Officer		

JICA Project Team

No	Name	Department/ Ministry	Position	Phone	E-mail	Signature
34	Dr. TSUCHIDA Takayuki	JICA project team	Team Leader			
35	Mr. YAMASHITA Akira	JICA project team	Deputy Team Leader			
36	Mr. Ito Tsuyoshi	JICA project team	ESC/EIA/EMP			
37	Mr. NARA Hiroshi	JICA project team	Land Management Framework			





THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



38	Mr. KIYOTA Daisaku	JICA project team	Land Management Framework/Database Development		
39	Mr. KUMAGAI Takahiro	JICA project team	Project Coordinator /Database Management		
40	Ms. Ches Sophy	JICA project team	Project Assistant		
41	Mr. Penh Socheat	JICA project team	Technical Assistant		
42	Mr. Douk Khemera	JICA project team	Administrative Assistant		



THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA (CESCoR)



## Project Progress

2<sup>nd</sup> JCC Meeting  
Phnom Penh, February 6, 2018

Dr. TSUCHIDA Takayuki  
Team Leader, JICA Project Team

1

## Contents of Presentation

- Progress of the Project
- Japan Training
- Third Country Technical Exchange
- Seminar
- Monitoring Sheet
- Procurement (Machinery and Equipment)
- Items to be Discussed and Approved by 2<sup>nd</sup> JCC

2

## Project Progress Status

<b>Overall Goal</b>	ESC in road sector is implemented properly by MPWT.	
<b>Project Purpose</b>	Capacity of MPWT officials on ESC is enhanced through applying REG and RMS	
<b>Outputs</b>	Output 1	Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management. <b>[Status]</b> Completed (100%)
	Output 2	Implementation framework of EC related to EIA and EMP is strengthened. <b>[Status]</b> Almost Completed (95%)
	Output 3	Implementation framework of SC related to ROW management is strengthened by establishing RMS. <b>[Status]</b> On going (30%)
	Output 4	Capacity of SC required for ROW management is strengthened through OJT. <b>[Status]</b> Not started (0%)

Note: REG: Road Environment Guideline, RMS: ROW Management System, EIA: Environmental Impact Assessment, EMP: Environmental Management Plan

5

## Japan Training

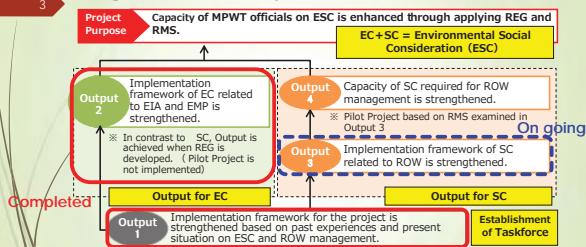
- 1<sup>st</sup> Japan Training (EIA/EMP): June 13 - 22, 2017 - Completed
- 2<sup>nd</sup> Japan Training (ROW Management): February 27 - March 8, 2018 - Scheduled
- 3<sup>rd</sup> Japan Training (ROW Management) : February 2019 - Scheduled



Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, ROW: Right of Way

6

## Progress of the Project



Note: The resettlement/Land Acquisition issues, e.g. compensation, detailed measurement survey, resettlement cost survey, etc. are NOT included in the contents of the Project.

3

## Third Country Technical Exchange

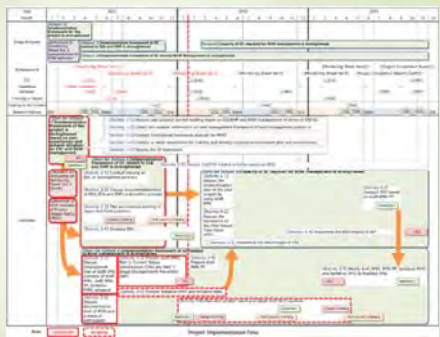
- 1<sup>st</sup> Third Country Technical Exchange (EIA/EMP): October 24 - 28, 2017 - Completed
- 2<sup>nd</sup> Third Country Technical Exchange (ROW Management): August to September 2018 - Scheduled
- 3<sup>rd</sup> Third Country Technical Exchange (IAIA) : April 2019 - Scheduled



Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, ROW: Right of Way, IAIA: International Association for Impact Assessment

7

## Progress of the Project



"Please Refer Attached Sheet"

4

## Seminar

- 1<sup>st</sup> Seminar: May 4, 2017 - Completed
- 2<sup>nd</sup> Seminar: June 6, 2017 - Completed
- 3<sup>rd</sup> Seminar: February 6, 2018 - Scheduled
- 4<sup>th</sup> Seminar: October 2018 - Scheduled
- 5<sup>th</sup> Seminar: July 2019 - Scheduled



8



## Monitoring Sheet

9

- Monitoring Sheet Ver. 1.0: April 6, 2017 - Completed
- Monitoring Sheet Ver. 2.0: July 7, 2017 - Completed
- Monitoring Sheet Ver. 3.0: December 6, 2017 - Completed
- Monitoring Sheet Ver. 4.0: June 2018 - Scheduled
- Monitoring Sheet Ver. 5.0: December 2018 - Scheduled
- Monitoring Sheet Ver. 6.0: June 2019 - Scheduled

## Procurement (Machinery and Equipment)

10

- All of machineries and equipment were procured as follows,
  - 4-PC
  - 1-Printer
  - 1-Copy Machine
  - 1-Video Camera (Drone: unmanned aircraft)
  - 1-Projector
  - 1-Total Station

## Items to be approved by 2<sup>nd</sup> JCC

11

- Road Environmental Guideline (REG)
- Authorization Process of REG
- Draft of ROW Management Guideline (RMG)
- Pilot Project Site for ROW Management System (RMS)

THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA

# CESCO<sup>R</sup>

12

Dr. TSUCHIDA Takayuki  
Team Leader, JICA Project Team

tsuchida@ctii.co.jp

## Technical Item for EIA Task

### Road Environmental Guidebook (REG) (Draft) for MPWT in Cambodia Overview Activities related to Output 2 Authorization Process of REG

6<sup>th</sup> February 2018

## Chapter 1 Backgrounds, Objectives, Users, and Scope of REG

### 1.1 Backgrounds

Road Environmental Guidebook (REG) has been developed through collaboration works among the MPWT's EIA/EMP TF members, JICA Expert, and Adviser from the Ministry of Environment (MoE) in Cambodia.

### 1.2 Objectives, Users, and Scope of REG

- ◆ The objectives of development of REG is to assist MPWT's officials in charge of EIA/EMP to be more effective, in particular reviewing and giving comments on EIA Report and Environmental Management Plan (EMP), Environmental Monitoring Plan (EMoP) on Road Project in Cambodia.
- ◆ Users of the REG is MPWT's officials for their internal use within MPWT, Not the Road Sectoral EIA guideline in Cambodia, which will be developed by MoE.
- ◆ Scope of the REG
  - Assist MPWT officials, who are in charge of EIA, EMP, EMoP, to understand the main areas of concern and use that understanding to enhance the quality of the EIA, EMP, and EMoP.
  - The Appendices are prepared more practical for road project, and for effective/efficient reviewing of EIA Report, EMP, EMoP.

1

## Characteristics and Documentation Level of REG

### Characteristics of REG

- ◆ The Main parts of the REG will be **concise and practical** to use the REG for relevant tasks of the MPWT staff.
- ◆ The Appendices of the REG are "practical checklists" for reviewing EIA/EMP/EMoP/EMoR by MPWT's officials based on related environmental technical knowledge.
- ◆ The REG is dealt with **environmental and socio-economic impacts**, but is NOT focused on resettlement issues. MPWT had "Basic Resettlement Procedures", which was prepared in 2012 through another JICA Technical Cooperation Project.

### Documentation Level of the REG

- ◆ The REG will be authorized as a **MPWT's Ministerial Order (Prakas)** so that relevant MPWT staff could use it in daily official tasks in accordance with authorized legal base.

4

## 1.3 General Steps in Conducting EIA

The aim of "screening" is to determine the extent to which a full environmental impact study is required or not.

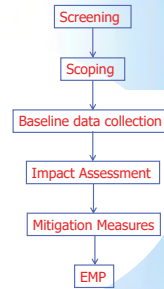
The main objective of the "scoping" process is to establish the environmental and social priorities, set the boundaries for the study and define the Terms of Reference (ToR) of the EIA.

"Baseline Data Collection" on physical, biophysical, socio-economic, and cultural aspects of the project area.

The potential impacts are identified, evaluated and predicted using the baseline information on one hand and the features of the project on the other (cause-effect relationship).

Once the potential impacts have been analyzed, their significance will be determined. The possible preventive, remedial and compensatory counter measures for each adverse impact.

The EMP translates recommended mitigation and monitoring measures into specific actions that have to be carried out by the Project Owner (PO) or the Project Proponent.



5

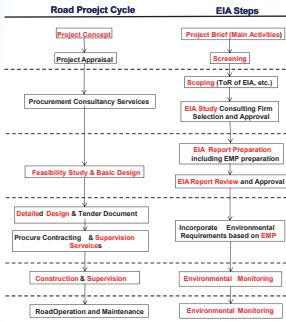
## Main Parts (Chapter 1, 2, 3) of TOC of REG

### Main Parts

1. Introduction
  - 1.1 Backgrounds
  - 1.2 Objectives, Users and Scope of REG
  - 1.3 General Steps in Conducting EIA
  - 1.4 Project Cycle and EIA
2. Essential Laws/Prakas and Guidelines related to REG
3. Steps of EIA Process and Involvement Phases by MPWT in Cambodia
  - 3.1 Steps of EIA Process in Cambodia as Nationwide
    - (1) IEIA/EIA Report Preparing Phase
    - (2) IEIA/EIA Report Reviewing Phase
    - (3) Environmental Monitoring Phase
  - 3.2 Involvement Phases by MPWT for EIA Process in Cambodia
    - (1) EIA Report Preparing Phase
    - (2) EIA Report Reviewing Phase
    - (3) Environmental Monitoring Phase

2

## 1.4 (2) Road Project Cycle and EIA



6

## Main Parts (Chapter 4) of TOC and Appendices of REG

4. Practical Involvement Methods by MPWT for EIA Process in Cambodia
  - 4.1 EIA Report Preparing Phase
    - (1) EIA Report Contents
  - 4.2 EIA Report Reviewing Phase
    - (1) Introduction of EIA Report Review
    - (2) Practical Methods for EIA Report Reviewing
  - 4.3 Environmental Monitoring Phase
    - (1) Introduction of Environmental Monitoring
    - (2) Two categories of Environmental Monitoring
    - (3) Environmental Monitoring Plan (EMoP)
    - (4) Environmental Monitoring Report (EMoR)

### Appendices

- Appendix 1: Checklist for Reviewing EIA Report for Road Project
- Appendix 2: Checklist for Reviewing EMP for Road Project
- Appendix 3: Checklist for Reviewing EMoP for Road Project
- Appendix 4: Checklist for Reviewing EMoR for Road Project

3

## 2. Essential Law/Prakas and Reference Guidebook related to REG

- ◆ Law on Environmental Protection and Natural Resource Management, 1996, MoE
- ◆ Sub-Decree No.72 on Environmental Impact Assessment Process, 1999, MoE
- ◆ Sub-Decree No.135 on Organization and Functioning of MoE, 2016, MoE
- ◆ MoE's Prakas No.49 on Guideline for Conducting Environmental Impact Assessment Report, 2000, MoE
- ◆ MoE's Prakas on General Guidelines for Developing Initial and Full Environmental Impact Assessment Report, 2009, MoE
- ◆ MPWT's Prakas No. 302 on Establishment of New Offices under Department of Planning of General Department of Administration, 2009
- ◆ MPWT's Prakas No.227 on Organization and Function of Department of Planning of MPWT, 2016, MPWT

7



### 3. Steps of EIA Process and Involvement Phases by MPWT in Cambodia

#### 3.1 Steps of EIA Process in Cambodia

##### (1) IEIA/EIA Report Preparing Phase

Table 3.1 IEIA/EIA Report Outlines in Cambodia

IEIA Report Outline	EIA Report Outline
Executive Summary Chapter 1: Introduction Chapter 2: Legal frameworks Chapter 3: Project Description Chapter 4: Description of Existing Environment Chapter 5: Public Participation Chapter 6: Environmental Impacts and Mitigation Measures Chapter 7: Environmental Management Plan (EMP) Chapter 8: Conclusion and Recommendations References Annexes	Executive Summary Chapter 1: Introduction Chapter 2: Methodology Chapter 3: Legal frameworks Chapter 4: Project Description Chapter 5: Description of Existing Environment Chapter 6: Public Participation Chapter 7: Environmental Impacts and Mitigation Measures Chapter 8: Environmental Management Plan (EMP) Chapter 9: Economic Analysis and Environmental Value Chapter 10: Conclusion and Recommendations References Annexes

8

### 3. Steps of EIA Process and Involvement Phases by MPWT in Cambodia

- The IEIA/EIA Report shall be included the items, which is shown in Table 3.1, according to "MoE's Prakas No.376.
  - For road projects, MPWT as Project Owner (PO) can prepare IEIA/EIA report themselves or hire an independent consulting firm to do this, according to "Sub-Decree No.72 on Environmental Impact Assessment Process, 1999, MoE".
  - In case, PO does not have qualified expert team to conduct and prepare IEIA/EIA Report, an Independent consultant can be hired to assist PO to conduct and prepare IEIA/EIA Report.
- (2) IEIA/EIA Report Reviewing Phase by Sub-Decree No.72
- The MoE reviews and provide comments on the IEIA or EIA report by the procedures, including "meeting with relevant inter-ministries" within 30 working days at national level.
  - After the above procedure, MoE has 5 days to approval on the IEE or EIA report or require the Project Owner to revise the IEE and EIA report again.
  - If the MoE requires that the Project Owner revise the IEIA or EIA report again, MoE will take another 30 working days for review/provide comment on the revised IEIA or EIA report.

9

### 3.2 Involvement phases by MPWT for EIA Process in Cambodia

Table 3.2 Summary Steps of EIA Process by Involvement of MPWT for Road Projects (1)

Steps	Responsible Organization/Involvement Organizations	How to implement
Project Description Preparation	Responsible General Department in charge of the concerned Project Management of MPWT, the EIA Consulting Firm	<ul style="list-style-type: none"> <li>Responsible General Department in charge of the concerned Project Management of MPWT hires an independent EIA consulting firm</li> <li>Responsible General Department in charge of the concerned Project Management of MPWT provides data/information for Project Description to the EIA Consulting Firm</li> </ul>
Field Visits by MPWT	ESO, DoP of MPWT, the EIA Consulting Firm	<ul style="list-style-type: none"> <li>ESO/DoP of MPWT conducts field visits with the EIA consulting firm, and concerned government agencies, if need</li> </ul>
Scoping	Responsible General Department in charge of the concerned Project Management of MPWT, MoE, the EIA Consulting firm, Concerned Stakeholders	<ul style="list-style-type: none"> <li>The EIA Consulting Firm prepares ToR of the EIA</li> <li>MoE provides comments for the ToR</li> <li>Responsible General Department in charge of the concerned Project Management of MPWT disclosure Project Information to the relevant agencies/organization and stakeholders</li> </ul>

12

### 3.2 Involvement phases by MPWT for EIA Process in Cambodia

Table 3.2 Summary of Steps of EIA Process by Involvement of MPWT for Road Projects (2)

Steps	Responsible Organization/Involvement Organizations	How to implement
Internal draft EIA report review within MPWT	ESO, DoP of MPWT, the EIA Consulting Firm	<ul style="list-style-type: none"> <li>EIA consulting firm prepares draft EIA report.</li> <li>ESO, DoP of MPWT review the draft EIA report within MPWT</li> </ul>
Inter-ministerial Meeting	MoE, Responsible Department in charge of the concerned Project Management of MPWT, the EIA consulting firm, Concerned stakeholders	<ul style="list-style-type: none"> <li>MoE chairs the Meeting</li> <li>Responsible General Department in charge of the concerned Project Management of MPWT and the EIA Consulting firm shall attend in the Inter-ministerial meeting to reply the comments from the Participants.</li> </ul>
Environmental Monitoring Phase	Responsible Department in charge of the concerned Project Management of MPWT, the EIA Consulting firm	<ul style="list-style-type: none"> <li>Responsible Department in charge of the concerned Project Management of MPWT implements the EMP under cooperation with the construction contractors, etc.</li> <li>Responsible Department in charge of the concerned Project Management of MPWT holds Stakeholder Meetings</li> <li>Responsible Department in charge of the concerned Project Management of MPWT prepares EMoR under assistances from the EIA Consulting firm.</li> </ul>

13

### 3. Steps of EIA Process and Involvement Phases by MPWT in Cambodia

#### (3) Environmental Monitoring Phase

- EIA Department, MoE has responsibilities to monitor, inspect and require the Project Owner (PO) to implement EMP during constructing, operating, and phase-out (ending) stage as stated in IEIA or EIA report approved by MoE.
- PO must carry out the EMP as stated in the EIA for period of 6 calendar months, commencing from the date of the MoE confirmation of their EIA report duly fulfilled the criteria.

#### 3.2 Involvement phases by MPWT for EIA Process in Cambodia

- Environment and Social Office (ESO), Department of Planning (DoP) must take responsibilities and assignment for the Environmental and Social Consideration (ESC), including EIA matters/safe guards for the some steps of EIA process for road projects in Cambodia.
- If there is an establishment of Project Management Unit (PMU) for a road project, ESO/DoP officials shall be involved in the PMU for the EIA issues.

#### (1) EIA Report Preparing Phase

- Responsible General Department in charge of concerned project management of MPWT could provide detail data and information to the EIA consulting firm, in particular "Project Description" in the EIA Report.

10

### 3.2 Involvement phases by MPWT for EIA Process in Cambodia

#### (2) EIA Report Reviewing Phase

- Reviewing of draft EIA report within the MPWT  
ESO, DoP has duties on environment and social issues, so it reviews and provides the comments for the draft EIA report internally among technical officials after the EIA consulting firm submitting the draft EIA report to MPWT.
- Inter-Ministerial Meeting chaired by MoE  
Responsible Department in charge of the concerned Project Management, on behalf of MPWT as PO should attend and reply comments in the Inter-Ministerial Meeting.

#### (3) Environmental Monitoring Phase

- Project Owner (PO) needs to implement its activities in accordance with the EMP as set out in the EIA Report within 6 months, after MoE approved on the EIA Report.
- Project monitoring should look into impacts, verify the responses to mitigation measures as set out in the EIA Report.
- For a road project, MPWT as PO must submit the Environmental Monitoring Report (EMoR) for every 3 or 6 months to the MoE as set out in the Environmental Management Plan (EMP).

11

### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

#### 4.1 EIA Report Preparation Phase

##### (1) IEIA/EIA Report Contents

- PO shall comply with the following contents of IEIA/EIA Report by Appendix 1 of MoE's Prakas No. 376.

##### Executive Summary

A summary of the whole report including Project Objectives, Project Activities, the Existing Environment Resources, Output of Public Consultation, Scope of Environmental and Social Impacts and Mitigation Measures, the Environmental Management Plan, Conclusions and Recommendations to mitigate environmental impacts.

##### Chapter 1: Introduction

- Project Overview: Summary of Project background, Rationale for development of the project, and general situation on the Project site, and Objective of the IEIA/EIA Report
- Methodologies and Scope of study: Data collection and Data analysis Method and Scope

##### Chapter 2: Methodology

For EIA report, the project owner shall provide for detailed methodologies as a separate chapter.

##### Chapter 3: Legal frameworks

Project Owners shall provide a description of laws, sub-decrees and various policies related to project type to be implemented.

##### Chapter 4: Project Description

Background and Experiences of the Project Owners, Project site, Project type/scope and Schedule of project activities, Work plan, Activities program of the project

14

### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

#### 4.1 EIA Report Preparation Phase

##### Chapter 5: Description of Existing Environment

Natural Environment (Physical Resources, Biological Resources, Socio-economic Resources)

##### Chapter 6: Public Participation

- Dissemination by the PQ with local authorities/communities of the Development Project
- Feedback from relevant ministries/agencies/departments and relevant local authorities
- Comments from relevant NGOs, Consultation with affected local communities

##### Chapter 7: Environmental Impacts and Mitigation Measures

- Description of the Negative environmental and socio-economic impacts
- A summary of point 7.1 on the Scope of negative environmental impacts/mitigation measures
- Cumulative impacts, Description of the Positive environmental and socio-economic impacts

##### Chapter 8: Environmental Management Plan (EMP)

- A Summary of main negative environmental impacts and mitigation measures
- Trainings to be provided
- Environmental Monitoring Program (Plan) for the construction, operation and closure periods

##### Chapter 9: Economic Analysis and Environmental Value

Description of the Benefits of the Project in relation to Scope and Value of Environmental Damage arising from the project activities

##### Chapter 10: Conclusions and Recommendations

PO's assurance and responsibility for their Environmental Impact Assessment Reports with relevant Recommendations.

15

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.2 EIA Report Reviewing Phase

###### (1) Introduction of the EIA Report Review

The key objectives of EIA Report Review are

- ◆ Assess the adequacy and **quality of an EIA report**
- ◆ Take account of **public comments**
- ◆ Determine if the information is sufficient for a **final Decision** to be made, and;
- ◆ Identify as necessary, **the deficiencies** that must be addressed

###### (2) Practical Methods for the EIA Report Review

Table 4.1 Reviewing Contents for Each Chapter of the EIA (1)

Chapter	Reviewing contents of EIA Report
Introduction	<ul style="list-style-type: none"> <li>• Project overview (summary of project background, rational for development of the project, and general situation on the project site, Purpose of the EIA study)</li> </ul>
Legal Frameworks	<ul style="list-style-type: none"> <li>• Applicable Laws, Sub-degrees, and Policies related to Project activities</li> <li>• Applicable Environmental Regulations and Standards in Cambodia</li> </ul>
Methodology	<ul style="list-style-type: none"> <li>• What kinds of <b>data are collected</b> as primary data or secondary data?</li> <li>• What kinds of <b>methods or models</b> are used for impact analysis or forecasts?</li> <li>• What types of <b>mitigation measures</b> are considered?</li> </ul>
Project Description	<ul style="list-style-type: none"> <li>• <b>Background</b> and experiences of the project owners</li> <li>• <b>Project site</b> (attached with local administration map and project location)</li> <li>• <b>Project type/scope</b> and schedule of project activities at each project stage</li> </ul>

16

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.2 EIA Report Reviewing Phase

Table 4.3 Main Examples of Mitigation Measure for a Road Project

Items	Main Examples of the Mitigation Measures
To reduce impact on the land	- Avoiding road alignments on the sensitive areas
To prevent air pollution (dust)	- Install retaining structure (e.g. gabions, etc.)
To prevent noise	- Water sprinkling and transporting materials with proper coverage
To conservation present hydrology	- Speed control on vehicles during transportation of materials
To mitigate construction wastes issues	- Develop of bypass road to avoid noise sensitive areas
To conservation biodiversity (ecosystem)	- Construction time control in residential/hospital/school areas
To reduce adverse impacts on socio-economic environment	- Consider road alignment to minimize changing present water flow
To reduce conflicts with local peoples	- Flow speed control by grasses, other devices in water channel
To promote road safety	- Prepare/implement appropriate construction waste management plan
	- Conduct proper quarry management
	- Avoid road alignments on the ecological vulnerable areas
	- A buffer zone to mitigate deterioration of the ecosystem
	- If involuntary resettlement occurred by the project, appropriate compensation and livelihood assistances should be taken into account
	- Minimizing split of communities in the road design stage
	- Hold periodical instruction seminar to promote for reducing the conflicts
	- Make and enforce a proper rule for reducing the conflicts.
	- Provision of safety signals, other materials to avoid the traffic accident
	- Provision of roadside rest areas to minimize driver fatigue

20

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.2 EIA Report Reviewing Phase

Table 4.1 Reviewing Contents for Each Chapter of the EIA (2)

Chapter	Reviewing Contents of EIA Report
Description of Existing Environment	<ul style="list-style-type: none"> <li>• <b>Physical Resources, Biological Resources, Socio-Economic Resources</b> in Project Area</li> </ul>
Public Participation	<ul style="list-style-type: none"> <li>• Dissemination activities by the project owner, Feedback from Project Owner</li> <li>• Comments from relevant NGOs, Consultation results with affected local communities</li> </ul>
Environmental Impacts and Mitigation Measures	<ul style="list-style-type: none"> <li>• Description of the Negative and Positive Environmental and Socio-economic Impacts during the project pre-operation (the project design and construction), operation and closure with mitigation measures, and the Summary Table (Scoping Matrix), and Cumulative impacts</li> </ul>
Environmental Management Plan (EMP)	<ul style="list-style-type: none"> <li>• Institutional Responsibilities (both implementer and supervisor)</li> <li>• Project Stage (Project pre-operation, Project operation, Project closing)</li> <li>• Summary of each possible negative impacts, each project activity</li> <li>• Description of each proposed mitigation measure and cost estimate</li> <li>• Training programs for all the EMP activities</li> </ul>
Economic Analysis and Environmental Value	<ul style="list-style-type: none"> <li>• Descriptions of the benefits of the project implementation and overall costs of the unavoidable environmental damages by the project implementation</li> </ul>
Conclusion and Recommendations	<ul style="list-style-type: none"> <li>• Concise description that the project can mitigate possible adverse impacts by proposed mitigation measures, to enhance positive impacts in the project area.</li> </ul>

17

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.3 Environmental Monitoring Phase

###### (1) Introduction of the Environmental Monitoring

- ◆ Environmental Monitoring shall be implemented **periodically** to evaluate each environmental condition in each project stage.

###### (2) Two Categories of the Environmental Monitoring

###### 1) Compliance Environmental Monitoring

- ◆ Compliance environmental monitoring is to **confirm implementation of mitigation measures** approved by EIA.
- ◆ Environmental Management Plan (EMP) could be a key confirmation source for implementation of the mitigation measures.

###### 2) Environmental Monitoring for Effect Confirmation

- ◆ Environmental Monitoring for Effect Confirmation is performed to **confirm effectiveness of the mitigation measures** in EIA.
- ◆ Environmental Monitoring Report (EMoR) could be a **key confirmation source** for evaluating effectiveness of the mitigation measures.
- ◆ **Environmental Monitoring Program Plan** could be a **supplemental confirmation source** for evaluating effectiveness of the mitigation measures.

21

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.2 EIA Report Reviewing Phase

- ◆ In terms of **Chapter 5: Description of Existing Environment (Baseline Data)** for a Road Project, MPWT shall review the following necessary information/data as references (Table 4.2);
- ◆ In terms of **Chapter 7: Environmental Impacts and Mitigation Measures** for a Road Project, MPWT shall review the following mitigation measures as references. (Table 4.3);

Table 4.2 Main Necessary Information/Data as the Baseline Data for a Road Project (1)

Item	Necessary Information/Data
5.1 Natural Environment	
5.1.1 Physical Resources	
Soil	Characteristics of topography and geology features, (topographic/geological map)
Climate	Project site specific information on existing meteorological conditions (temperature, humidity, rainfall, wind speed/directions)
Air quality	Present air pollution data (TSP, CO, NO <sub>2</sub> , SO <sub>2</sub> , Pb, etc.)
Noise/Vibration	Current noise/vibration level
Hydrology	-Drainage characteristics of the rivers/lakes -Data for groundwater/well conditions
Water quality	Current surface/underground water quality data (pH, BOD, COD, etc.)

18

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.3 Environmental Monitoring Phase

###### (3) Environmental Monitoring Plan (EMoP)

Table 4.4 Essential Reviewing Contents for Each EMoP

Item	Details and Remarks
Institutional Responsibilities	<ul style="list-style-type: none"> <li>• Implementer to conduct each monitoring activity</li> <li>• Supervisor to conduct each monitoring activity</li> </ul>
Project Stage	<ul style="list-style-type: none"> <li>• Project planning stage, Project construction stage, Project operation stage, and Project closure stage</li> </ul>
Monitoring Items and parameters	<ul style="list-style-type: none"> <li>• Air Quality (TSP, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb)</li> <li>• Hydrology</li> <li>• Water Quality (pH, BOD, COD)</li> <li>• Noise and Vibration</li> <li>• Construction wastes</li> </ul>
Monitoring location for each monitoring item	<ul style="list-style-type: none"> <li>• Requirements (How far from the expected pollution sources, etc.) of each monitoring location</li> </ul>
Means of Monitoring	<ul style="list-style-type: none"> <li>• Comparison methods (Monitored values with Conservation targets (Environmental Standards in Cambodia or Others (WHO, etc.))</li> </ul>
Monitoring Frequency	<ul style="list-style-type: none"> <li>• Requirements of the frequencies for each monitoring item</li> </ul>

22

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.2 EIA Report Reviewing Phase

Table 4.2 Main Necessary Information/Data as the Baseline Data for a Road Project (2)

Item	Necessary Information/Data
5.1.2 Biological Resources	
Forest	Present flora map and the valuable species list
Wildlife	Present fauna map and valuable species list
Habitats	Protected species habitat map, protected area and the species list
Biodiversity	Biodiversity hotspot area map, protected area, if existed in the area
Wetland	Valuable wetland system (with map)
5.2 Socio-economic Resources	
Demography and settlement	Regional population statistics and settlement pattern (map)
Economic status	Main economic activities/employment, income statistics
Land use	Present Land use map, Land use plan
Water use	Legal right, customary right
Energy use	Type and amount of energy use
Infrastructure	Transportation network, utility network
Education	Enrollment ratio, etc.
Public health	Epidemic statistics, etc.
Cultural heritage	Important cultural/historical heritage map and the list
Land scape	Important Land scape
Tourism destination	Tourism destination map and the list

19

#### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

##### 4.3 Environmental Monitoring Phase

###### (4) Environmental Monitoring Report (EMoR)

Table 4.5 Essential Reviewing Contents for Each EMoR

Item	Details and Remarks
Monitoring Implementer	<ul style="list-style-type: none"> <li>• Descriptions (Organizations, Licenses, etc.)</li> </ul>
Project Stage	<ul style="list-style-type: none"> <li>• Project planning stage, Project construction stage, Project operation stage, and Project closure stage</li> </ul>
Monitoring Methodology	<ul style="list-style-type: none"> <li>• Monitoring Methodologies (including date/time and site characteristics for each monitored item)</li> </ul>
Measured or Analyzed Monitoring Items and Parameters	<ul style="list-style-type: none"> <li>• Air Quality (TSP, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb)</li> <li>• Hydrology</li> <li>• Water Quality (pH, BOD, COD)</li> <li>• Noise and Vibration</li> <li>• Construction wastes</li> </ul>
Applied Means of Monitoring	<ul style="list-style-type: none"> <li>• Applied monitoring equipment/devices, etc.</li> </ul>
Applied Monitoring Frequency	<ul style="list-style-type: none"> <li>• Actual monitored frequencies for each monitoring item with reasons of the frequencies</li> </ul>
Each Monitoring Result	<ul style="list-style-type: none"> <li>• Comparing Results with each conservation target</li> </ul>
Conclusion and Suggestions	<ul style="list-style-type: none"> <li>• Conclusions for present environmental conditions</li> <li>• Future plan for recommended follow-up mitigation measures, if needed</li> </ul>

23



Activities related to Output 2 & Authorization Process of REG

6<sup>th</sup> February 2018

Thank you very much for your attention.

សូមអរគុណចំពោះការយកចិត្តទុកដាក់ស្តាប់

Arigatou gozaimasu

Past Activities related to Output 2 by February 2018

Activities	Year 2017												Year 2018		
	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Jan.	Feb.	
2.1 Understandings of Main Concepts on Environmental Social Considerations (ESC)	←	→													
2.2 Confirmation of Documentation Level of REG	←					←							←	→	
2.3 Lessons learned on EC in other countries are reflected to REG development					←	→	←	→	←	→	←	→			
2.4 REG is prepared and developed through collaboration works, and authorized (Supporting authorization of REG as a MPWT's Prakas)			←	→											
2.5 REG is monitored based on EIAEMP related activities.															

Presentations: 1) EIA Process and EIA Implementation Issues ▲  
 2) Draft REG 1<sup>st</sup> JCC and 2<sup>nd</sup> Seminar ▲  
 2<sup>nd</sup> JCC and 3<sup>rd</sup> Seminar ▲

- Main Events related to Output 2 by the begging of February, 2018
- 1<sup>st</sup> JCC and 2<sup>nd</sup> Seminar- 4<sup>th</sup> May, 2017
  - Technical Training in Japan - the middle of June, 2017
  - Third country Technical Exchange - the end of October, 2017
  - Consultation Meetings with Project Director/Manager to get basic consensus of the draft REG - the middle of January, 2018
  - Consultation Meetings with the 3DGs of MPWT to get basic consensus of the draft REG - the middle of January, 2018
  - 2<sup>nd</sup> JCC and 3<sup>rd</sup> Seminar for Disclosure of the draft REG - 6<sup>th</sup> February, 2018

Authorization Process of REG as a MPWT's Prakas

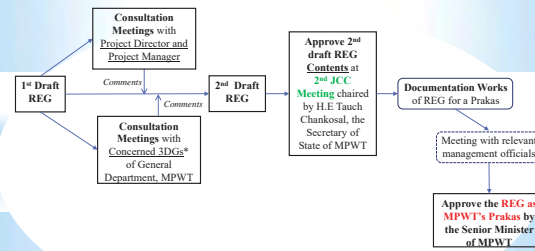


Figure 1. Authorization Procedure of the REG as MPWT's Prakas

Tentative Schedule related to Output 2 from March 2018 to February 2019

Activities	Year 2018												Year 2019		
	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Jan.	Feb.	
2.1 Understandings of Main Concepts on Environmental Social Considerations (ESC)	←	→													
2.2 Confirmation of Documentation Level of REG															
2.3 Lessons learned on EC in other countries are reflected to REG development															
2.4 REG is prepared and developed through collaboration works, and authorized (Supporting authorization of REG as a MPWT's Prakas)			←	→											
2.5 REG is monitored based on EIAEMP related activities.															

Presentations: 1) Authorized REG and Applying Project ▲  
 2) REG Monitoring Progress 3<sup>rd</sup> JCC ▲

Technical Item for Right of Way (ROW) Management Task  
Draft of ROW Management Guidelines (RMG)

A. General Structure of ROW Management			
Part 1: Current Situation Identification		Part 2: Illegal Encroachment Prevention	
<ul style="list-style-type: none"> <li>ROW Management Map (RMM)</li> <li>ROW Management Database (RMD)</li> </ul>		<ul style="list-style-type: none"> <li>Patrol</li> <li>Dissemination etc.</li> </ul>	
Conducted by ROW Management System (RMS) which consists of (1) ROW Management Guidelines (RMG), (2) RMS Training Plan (RMS-TP), and (3) RMM and RMD			
B. Classification and Policy of ROW Management			
Classification	Urban	Pari Urban	Rural
Legal Basis	Local Urban Planning		ROW Sub-Decree
Image of Present Situation			
ROW Demarcation	Existing Border between road and private land	ROW pole	
RMM (MAP)	Google Earth/Map	Aerial Photo (Unmanned Aerial Vehicle, UAV)	
RDD (DATA)	Google earth image with photographing date	- Number of structures - Coordination of Road Center Line	
Target Monitoring Area of IEP	Within Road Area	All width of ROW with priority for 1st line of houses	All width of ROW

1

Discussions on ROW Management so far (1/3)

C. Current Situation Identification (CSI) at National Level				
Record existing properties and land uses within ROW at a certain time to make baseline map (RMM) and database (RMD) for the future ROW management (IEP activities)				
(1) Possible Mapping Tools for RMM and RMD				
Tools	Advantage	Weakness		
(a) Google Earth / Map	- Free of Charge - Wide area coverage	- Uncertainty on photographing date, Rights on secondary-use, etc.		
(b) Land Photo	- Quick photographing by car-mounted camera (Motor)	- Impossible to record behind the 1st houses line facing to existing road		
(c) Satellite Image	- Accurate coordination and distances on the photo map	- Expensive photo - Difficult on photographing time		
(d) Aerial Photo (UAV)	- Good resolution photo - Rough coordination	- Expensive equipment - Difficulty on maintenance		
(2) Target Quality Level of RMM				
Map	Quality	Purpose	Equipment	Efficiency
(a) Map for Land Registration	Accurate Location	ROW registration	Total Station, GPS	Very low even for limited areas
(b) Map with Coordination	Accurate GIS coordination	Management on GIS	Fixed-Wing UAV Multi-Copter	High Low
(c) Map with Center Line Coordination	Simple coordination	IRP with accurate ROW line	Fixed-Wing UAV Multi-Copter	High Low
(d) Image Map	Rough Coordination	IRP with rough ROW line	Google Earth / Map	Very high

2

Draft of ROW Management Guidelines (RMG)

- Part 0: Basic Policy
  - Background (ROW Issues)
  - Objectives
  - Scope (National Road and Provincial Roads, Urban areas)
  - Definition (Key Terms will be identified later)
  - Legal Basis
    - Law on Road
    - Law on Expropriation
    - Law on Land Management
    - Sub-decree on ROW Management
    - Prakas No.06
    - Decision on ROW Committee
    - Sarachor 007
    - etc

5

Draft of ROW Management Guidelines (RMG)

- Part 1: Current Status Identification (CSI)
  - ROW Management Map (RMM)
    - Concept of RMM
    - Survey Methodology
    - Mapping Methodology
    - Items Observed (types of structures)
  - ROW Management Database (RMD)
    - Concept of RMD (Data processing, storing, sharing, managing acquired data)
    - Database Structure
    - Update Rules (every 2 years for hot spot: many illegal encroachment, and every 5 years for overall)

6

Discussions on ROW Management so far (2/3)

D. Illegal Encroachment Prevention (IEP) at Sub-National Level						
Based on CSI, relevant control and law enforcement take measures against non-legal encroachment. Zoning for priority management should be discussed to find effective approaches for each ROW zone						
(1) Possible Approaches for IEP						
Approaches	Considerable Activities in CESCOR	Further Discussion apart from CESCOR				
(a) Dissemination	Public Consultation Meeting Public Relation (Movie, etc.)	Dissemination structures for local authorities with patrol system				
(b) Patrol	ROW Patrol Plan by using RMM Institutional Arrangement	Obtaining budgetary stability Inter-ministerial coordination between MOI and Province				
(c) Physical Access Control	Piling Paving Plan	Obtaining budgetary stability				
(d) Regulation	Encourage compliance for existing law and regulation	Draft implementation Documents under Sub-Decree on ROW				
(e) Land Registration	Examine effectiveness and feasibility of ROW registration	Inter-ministerial coordination between MAMPU				

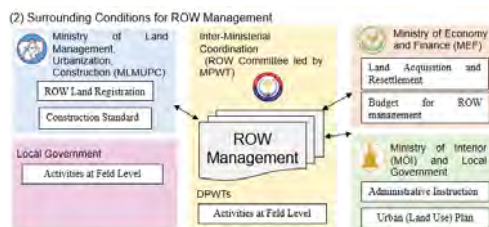
3

Draft of ROW Management Guidelines (RMG)

- Part 2: Illegal Encroachment Prevention (IEP)
  - Boundary Management
    - ROW Pole Installation (Temporary Pole (in urban) and ROW Pole (rural))
    - Sign Board for Boundary Demarcation
    - ROW Land Registration
    - Other Measures
  - Monitoring and Public Enlightenment
    - Field Monitoring
    - Warning to New Encroachment
    - Dissemination (training)
      - Set-up the ROW Education into Secondary School
  - Registration/Permission of Application for ROW Usage
    - Road Development Planning
    - Land Filling within and nearby ROW
    - Access to Road from Private Land
    - Public or Private Utilities/Facilities in ROW
    - Private Utilities/Facilities in ROW

7

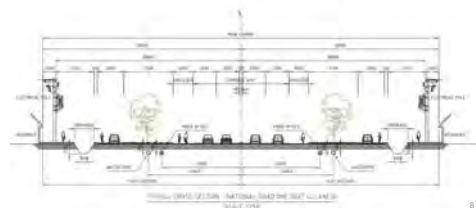
Discussions on ROW Management so far (3/3)



4

Draft of ROW Management Guidelines (RMG)

- Part 3: Standard Drawing (utilities, access road, etc.)
- Part 4: Budgetary Plan
  - Budget for CSI, 2.1, 2.2, 2.3 and part 3
  - Source: MEF, Development Partners and other
- Appendices
- RMS Training Plan (RMS-TP)
- Pilot Project Report (if necessary)



8



# CONCEPT OF RMM: ROW MANAGEMENT MAP AND RMD: ROW MANAGEMENT DATABASE

DAISAKU KIYOTA JICA STUDY TEAM  
FEBRUARY 2018

1

## OUTLINE OF THE RMM AND RMD

- 1. RMM: Using Fixed Wing Drone and take ROW condition with Propeller Drone for updating
- 2. RMD: Construct Server as well as the Web GIS system which realize referencing and inputting information in Field

2

## CAUTION !

- No Panacea exists!
- The tool only enhance the part of the capacity of MPWT
- Not all the process is automated.
- Rather Increase your daily work

3

## RMM WILL BE REALIZED BY

- 1. Google Earth
- 2. Satellite image
- 3. Aero photo
- 4. UAV: Drones (Propeller / Fixed Wing)

Google Earth	Satellite Image	Aero photo	UAV: Drones (Propeller / Fixed Wing)
Free	Expensive (Highest)	Expensive (Hight)	Expensive (Medium)
Not timely (Fixed)	Semi Timely	Semi Timely	Timely
same as Satellite/Aero Photo	High Resolution (0.5M)	High Resolution (cs)	High Resolution (cm)
Legally not viable	Legally viable	Legally viable	Legally viable
Can not work with DBMS	Work with DBMS	Work with DBMS	Work with DBMS

4

## PROBLEMS TO BE SOLVED

-OBJECTIVE OF THE ROW MANAGEMENT: TO PREVENT ENCROACHMENT-

### 1. Current Status Identification

- No ROW Status at certain juncture is officially available
- Cadastral data is not shared by MLMUPC and out of Jurisdiction of MPWT

### 2. Patrolling (Field Reconnaissance)

- Field Data by DPWT is also not shared.
- Hard to Refer
- Hard to aggregate the field information, nobody access except for DPWT

5

## FIXED WIND / PROPELLER DRONE

Length / Flight	0.75 km / Flight	6.8 km / Flight
Flight Times / Day	6	4
The number of UAV needed during initial phase	1	1
Survey Length /Working Day	With No Risk Factor	4.5km
	With Risk Factor	1.7 km / Day
		27.2km
		35.1km
		10.3 km / Day

6

## NECESSARY TOOLS TO ENHANCE THE CAPACITY OF MPWT

- The Tool shall have the following capacities

- Take ROW condition at certain juncture
- Handle Geographic Information
- Refer the information of ROW in Field
- Store and aggregate the collected information
- Share all above information in any places

7

## RMD WILL BE REALIZED BY

- 1. Excel
- 2. Access
- 3. SQL Server
- 4. PostGIS with GeoServer

Excel	Access	SQL Server	GeoServer
Not a Database	Database	Database	Database
Only work on a client	Only work on a client	Work on Network	Work on Network
-	-	Require License	No License Required
-	-	Only run on Windows	Run on Linux

8

## ARCHITECTURE

- 1. Server Machine & Android Pad as client, any windows PC can be access
- 2. Ubuntu Server (Linux)
- 3. GeoServer + PostGIS as Server Side Application
- 4. Q-GIS and Web interface as Client Software

9



THANK YOU!

10

## ABOUT UBUNTU (LINUX)

- No license required, no upgrade or maintenance fee required.
- Less chance to be attacked regarding security
- With security software which is free, can have relatively high security system.
- Certain frequency of distribution patch

11

## ROUGH SCHEDULE

- Establishing server February
- Construction of the RMD April to May

12



THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA (CESCoR)



### Technical Item for ROW Management Task

#### (3) Pilot Project Site for ROW Management System

2<sup>nd</sup> JCC Meeting  
Phnom Penh, February 6, 2018

Dr. TSUCHIDA Takayuki  
Team Leader, JICA Project Team

1

2

### Purpose of Pilot Project

**[Output]** Capacity of Social Consideration (SC) required for ROW management is strengthened (Output 4).

#### **[Activities]**

- 4.1 Discuss the implementation plan of the pilot project by using draft RMS
- 4.2 Discuss the framework of the Pilot Project Task Force
- 4.3 Implement the Pilot Project of CSI
- 4.4 Implement the Pilot Project of IEP
- 4.5 Conduct TOT based on draft RMS-TP

Note: **CSI**: Current Status Identification, **IEP**: Illegal Encroachment Prevention, **TOT**: Training of Trainers, **RMS-TP**: RMS Training Plan

5

### Recommendation

#### **[Pilot Project Site]**

- **National Road No. 5 (NR5)**  
(at section to be improved by Japan's yen Loan project)

\* The other one digit national road may be added if the pilot project had completed ahead of schedule.

6

THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA

# CESCOr

Dr. TSUCHIDA Takayuki  
Team Leader, JICA Project Team

tsuchida@ctii.co.jp

3

### National Road to be maintain by MPWT

- One Digit NR:  
Approx. 2,000km
- Two Digit NR:  
Approx. 3,000km
- NR 5:  
Approx. 400km



4

### Selection of Pilot Project Site

#### **[Criteria for Selection]**

- Illegal Encroachment Prevention is Urgently Required.
- Road Improvement Project is Planned/on-going.
- Easy Accessibility to the Site from Phnom Penh.

#### **[Candidates and Evaluation]**

	NR 1	NR 4	NR 5
Urgency	✓		✓
Project Implementation			✓
Accessibility	✓	✓	✓
<b>Recommendation</b>			✓



## Confirmation Items at JCC

1. Reformed Taskforce Members
2. Road Environmental Guidebook
3. Draft of ROW Management Guideline
4. Pilot Project Site for RMS

### JCC Member

Assignment	Name	Position
1. Chair Person, Project Director	H.E. Tauch Chankosal	Secretary of State, Ministry of Public Works and Transport (MPWT)
2. Member, Project Manager	H.E. Nou Vaddhanak	Director General of General Department of Technique, MPWT
3. Member, Deputy Project Manager	Ms. Pin Vuthea	Director of International Cooperation Department, MPWT
4. Member, Deputy Project Manager	Mr. Prok Novida	Director of Planning Department, MPWT
5. Member, Deputy Project Manager	Mr. Chhim Phalla	Director of Road Infrastructure Department, MPWT
6. Member	Mr. Yong Sy	Chief of Office, Office of Domestic Public Investment III, General Department of Budget, Ministry of Economy and Finance (MEF)
7. Member	Representative(s)	JICA Cambodia Office
8. Member	Experts	JICA Project Team

## 3. Draft of ROW Management Guidelines

Draft of Table of Contents

- ▶ Part0: Basic Policy
- ▶ Part1: Current Status Identification
- ▶ Part2: Illegal Encroachment Prevention
- ▶ Part3: Standard Drawing
- ▶ Part4: Budgetary Plan
- ▶ Appendices: ROW Management System Training Plan, Pilot Project Report

## 4. Pilot Project Site for ROW Management System

National Road No. 5 (NR5)  
(at section to be improved by Japan's yen Loan project)

\* The other one digit national road may be added if the pilot project had completed ahead of schedule.

## Taskforce Member (as of 1<sup>st</sup> JCC)

To be updated

### EIA/EMP Team

Taskforce Member	Name	Position
1. Mr. Uk Raksmeay	Chief, Social and Environmental Office, DCP	
2. Mr. Uy Sambath	Deputy Chief, Social and Environmental Office, DCP	
3. Mr. Srey Vireak	Officer, Social and Environmental Office, DCP	
4. Mr. Bour Chhay Ya	Officer, Social and Environmental Office, DCP	
5. Mr. Manh Vutha	Deputy Chief, Stakeholder Cooperation Office, ICD	
6. Mr. Song Kimheng	Officer, Stakeholder Cooperation Office, ICD	
7. Mr. Ngel Sovanneth	Officer, Stakeholder Cooperation Office, ICD	
Advisor	Mr. Chea Leng	Deputy Director, Department of EIA, Ministry of Environment
Observer	Mr. Kong Youreth	Chief, Environment and Public Service Office, PDS, MPWT

### ROW Management Team

Taskforce Member	Name	Position
1. Mr. You Dara	Deputy Director, RRD	
2. Mr. Chea Samnang	Chief, ROW Management Office, RRD	
3. Mr. Khoun Kompheak	Chief, Traffic Safety Office, RRD	
4. Mr. Khai Saray	Deputy Chief, ROW Management Office, RRD	
5. Mr. Hay Chandara	Deputy Chief, ROW Management Office, RRD	
6. Mr. Sor Yilin	Deputy Chief, Regional Cooperation Office, ICD	
7. Mr. Peang Samoeun	Deputy Chief, Administrative Office, ICD	
8. Ms. Laing Sengkim	Officer, Multilateral and International Organization Cooperation Office, ICD	
Advisor	Mr. Sek Sotharith	Director, Urban Planning Department, RUMSIC
	Mr. Sao Vary	Director, Department of Communities, RUMSIC
Observer	Ms. Em Sokchea	Deputy Chief, Environment and Public Service Office, PDS, MPWT

## 2. Road Environmental Guidelines

- ▶ Draft REG has been approved as MPWT's Internal Procedures.
- ▶ Documentation Works of REG will be proceeded in order to approve for Prakas (or Decision) by Senior Minister of MPWT



THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCoR)



## Following Activities in 2018

6<sup>th</sup> FEBRUARY, 2018

H.E. NOU VADDHANAK,

DIRECTOR GENERAL, GENERAL DEPARTMENT OF TECHNIQUES

PROJECT MANAGER, JICA CESCOR PROJECT

## Contents

- > Outputs
- > Following Activities
- > Trainings
- > Next Joint Coordinating Committee

## Trainings

Feb 2018: 2<sup>nd</sup> Training in Japan

Oct 2018: 2<sup>nd</sup> Third Country Exchange

Oct 2018: 4<sup>th</sup> Seminar

## Next Joint Coordinating Committee

The 3<sup>rd</sup> Joint Coordinating Committee(JCC) Meeting will be organized in February 2019.

The Project Progress such as result of Pilot Project will be reported at the JCC Meeting.

## Outputs

JICA CESCoR Project has consisted 4 Outputs

Output 1: Implementation Framework of the Project

Output 2: Implementation Framework of Environmental Considerations related to EIA and EMP

Output 3: Implementation Framework of Social Considerations related to ROW Management

Output 4: Capacity of Social Consideration required for ROW Management

Conduct Activities in 2018

## Following Activities

In 2018, ROW Taskforce continues to conduct project activities in order to finalize ROW Management Guidelines(RMG).

RMG will be updated through the implementation of Pilot Project which was approved this 2<sup>nd</sup> JCC Meeting.

- 4-8. Minutes of the third JCC Meeting
- 4-9. Materials for the third JCC Meeting





**Minutes of the Third Joint Coordinating Committee Meeting of  
The Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency  
in Road Sector in Cambodia**

The Third Joint Coordinating Committee (JCC) meeting among the Ministry of Public Works and Transport (MPWT) of Cambodia, Japan International Cooperation Agency (JICA), and the other agencies concerned of the Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency in Road Sector in Cambodia (CESCoR) was held at the Conference Room of MPWT, Phnom Penh on 7th of February, 2019. Discussions and exchanges of opinion were made, which resulted in the mutual agreement on several items as described below.

1. Confirmation on Right of Way (RoW) Management Guidelines

It was confirmed at the JCC meeting that progress and principal framework of draft ROW Management Guidelines (RMG) by all participants with remaining issues and coming schedule for finalization. Outstanding points confirmed are:

- Basic structure of ROW Management System (RMS) consists of RMG, ROW Management Map (RMM), ROW Management Database, and RMG Training Plan (RMG-TP),
- Basic concept/design of RMM and RMD,
- Proposed / Estimated schedule for final draft RMS.

2. Confirmation on Pilot Project Site for Illegal Encroachment Prevention (IEP)

It was agreed at the JCC meeting that the location of Pilot Project Site for IEP approaches has been selected from the border between Kandal and Kampong Chhnang Province to Kampong Chhnang City for 43km along National Road No. 5. The reasons of the selection are;

- Current Status Identification (CSI) and Data Encoding of RMM and RMD have been completed at this area which consists 11 communes, Chhuk Sa, Longveaek, Ou Russei Peani, Saeb, Ta Ches, Thma Edth, Andoung Snay, Rolea B'ier, Tuek Hout and Sedthei in 2018.
- Typical types of the classification are included in this area such as Non-Dense, Potential and Populated.

3. Confirmation on Participation in International Association for Impact Assessment (IAIA)

It was confirmed at the JCC meeting that CESCoR will participate in the annual conference of International Association for Impact Assessment (IAIA) in April to exchange our experiences and report our achievement to relevant countries and institution widely. Major confirmed points are:

- Paper presentation with title of "RIGHT OF WAY MANAGEMENT SYSTEM IN CAMBODIA"
- Poster presentation with title of "JICA'S RIGHT OF WAY MANAGEMENT PROJECT IN CAMBODIA"
- Necessary procedures for participating in IAIA: Obtaining VISA of Australia, Reviewing Papers, etc.

4. Road Environmental Guidebook (REG) as a Decision of MPWT

It was reported and confirmed at the JCC meeting that drafted Road Environmental Guidebook (REG) will be authorized as a Decision of MPWT. MPWT side will support its authorization process for early officialization.

5. Necessary Budget for ROW Management in MPWT

It was confirmed at the JCC meeting that appropriate budget securing is required to continue relevant activities and develop further capacity enhancement for comprehensive ROW management. CESCoR project supports to make budgetary plan as a part of RMS and MPWT side make effort to allocate necessary budget to ROW management.

6. Other issues

Task force on ROW management made a suggestion regarding the bypasses along the National Road No.5 Improvement Project. According to the suggestion, one of the hard measures of IEP, construction from outer border of ROW with frontage road, might be effective for that bypass sections where land acquisition had been completed for full ROW width of 60m. JCC members confirmed that continuous discussion including such option to find best way on effective ROW management is quite meaningful and important.

CONFIRMED BY: 

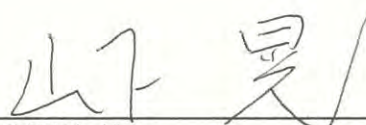


---

**H.E. TAUCH Chankosal**  
Secretary of State  
Ministry of Public Works and Transport

---

**TANAKA Kotaro**  
Senior Representative  
JICA Cambodia Office



---

**YAMASHITA Akira**  
Deputy Team Leader  
JICA Project Team





**THE 3<sup>RD</sup> JOINT COORDINATING  
COMMITTEE (JCC) MEETING**

**OF**

**THE PROJECT FOR CAPACITY  
ENHANCEMENT ON ENVIRONMENTAL  
AND SOCIAL CONSIDERATIONS IN  
IMPLEMENTING AGENCY IN ROAD  
SECTOR IN CAMBODIA  
(CESCOR)**

**7<sup>TH</sup> FEBRUARY, 2019**

**MPWT, PHNOM PENH**



FOR MORE INFORMATION CONTACT: OFFICE +855(0)61-960-213

AGENDA  
The 3rd Joint Coordinating Committee (JCC)  
of  
The Project for Capacity Enhancement on Environmental and Social  
Considerations in Implementing Agency in Road Sector in Cambodia  
(CESCoR)

Meeting Room of MPWT, Phnom Penh, 7<sup>th</sup> February, 2019

Time	Program
02:00-02:30	Registration
02:30-02:40	<b>Cambodian National Anthem</b>
02:40-02:55	<b>Opening Remarks</b> (1) <b>H.E. Tauch Chankosal</b> , Secretary of State, Ministry of Public Works and Transport (2) <b>Mr. TANAKA Kotaro</b> Senior Representative, JICA Cambodia Office
02:55-03:00	<b>Introduction of JCC Member and Taskforce Member</b>
03:00-03:15	<b>1. Project Progress</b> Outline of Project Progress in 2018 by Taskforce Member
03:15-03:30	<b>2. Technical Item for EIA Task</b> by Taskforce Member (1) Overview of Road Environmental Guidebook (REG) (2) Authorization Process of REG
03:30-04:00	<b>3. Technical Item for Right of Way (ROW) Management Task</b> by JICA Project Team and Taskforce member (1) Draft of ROW Management Guidelines (RMG) (2) Progress to develop ROW Management Map (RMM) and Database (RMD) (3) Result of Third Country Technical Exchange Program
04:00-04:10	Coffee Break
04:10-04:30	<b>4. Confirmation Items at JCC</b> (1) Draft of RMG, (2) Pilot Project Site for Illegal Encroachment Prevention (IEP), (3) Participation in IAIA
04:30-04:50	<b>5. Following Activities in 2019</b> Mr. Thou Samnang, Deputy Director General, General Department of Techniques, Ministry of Public Works and Transport
04:50-05:00	<b>Closing Remarks</b> <b>H.E. Tauch Chankosal</b> , Secretary of State, Ministry of Public Works and Transport

Note: MC: ICD, MPWT



THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



**Date:** 7<sup>th</sup> February 2019

**Time:** 2:30pm – 5:00pm

**Location:** at MPWT at A1 Meeting Room on 5<sup>th</sup> Floor

**Topic:** The 3<sup>rd</sup> Joint Coordinating Committee (JCC) Meeting

### Attendance List

No	Name	Position	Department/Ministry	Phone
1	H.E Tauch Chankosal	Secretary of State	MPWT	
2	Mr. Thou Samnang	Deputy Director General	General Directorate of Techniques, MPWT	
3	Mr. Chhim Phalla	Director	Road Infrastructure Department, MPWT	
4	Mrs. Pin Vuthea	Director	International Cooperation Department, MPWT	
5	Mr. Man Vutha	Officer	RID, MPWT	
6	Mr. Khai Saray	Deputy Chief of ROW Office	RID, MPWT	
7	Mr. Peang Samoeun	Chief of Office	ICD, MPWT	
8	Mr. Chea Samnang	Chief of ROW Office	RID, MPWT	
9	Mr. Bour Chhay Ya	Deputy Chief of E&S Office	DoP, MPWT	
10	Mr. An Menghour	Officer	ICD, MPWT	
11	Mr. Tan Thira	Director	Public Infrastructure Department, MPWT	
12	Mr. Tauch Sotharith	Deputy Director	RID, MPWT	
13	Mr. Chhap Aphivath	Officer	RID, MPWT	
14	Mr. Sek Sothirith	Director	Urban Planning Department, MLMUPC	
15	Mr. Yong Sy	Chief of Office	Department of Investment, MEF	
16	Mr. Vin Pros	Deputy Director	Department of Capital, and provincial Administration	
17	Ms. Eam Sokchea	Deputy Chief of Office	PID, MPWT	
18	Mr. Seng Sophearath	Deputy Director	Railway Department, MPWT	
19	Mr. Ouk Ourk	Director	Railway Department, MPWT	
20	Mr. Chak Borith	Chief of Office	RID, MPWT	





THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



21	Mrs. Sreng Sorphea	Officer	ICD, MPWT	
22	Mr. Tanaka Kotaro	Senior Representative	JICA Cambodia Office	
23	Mr. Kawasaki Toshiwasa	JICA Expert	JICA to MPWT	
24	Mr. Iwase Hideaki	Project Formulation Advisor	JICA Cambodia Office	
25	Mr. Ouk Reaksmeay	Senior Program Officer	JICA Cambodia Office	
26	Mr. Yamashita Akira	Deputy Team Leader	JICA Project Team	
27	Mr. Kumagai Takahiro	Project Coordinator	JICA Project Team	
28	Ms. Ches Sophy	Project Assistant	JICA Project Team	
29	Mr. Penh Socheat	Technical Assistant	JICA Project Team	
30	Mrs. Keo Sam An	Project Assistant	JICA Project Team	
31	Mr. Bun Sereyvuth	Project Assistant	JICA Project Team	
32	Mr. Mut Samon	Assistant	JICA Project Team	



## Project Progress

1

3<sup>rd</sup> JCC Meeting

By: Mr. KHAI Saray, Deputy Chief Officer of ROW, RID, MPWT

Phnom Penh,  
7<sup>th</sup> February, 2019

## 5 Project Progress: Taskforce Meeting

- EIA/EMP Taskforce Meeting
  - Conducted 29 times from April 2017 to December 2018
  - Discussed to develop and update REG
  - Considered approval process of REG for MPWT's Decision
- ROW Management Taskforce Meeting
  - Conducted 31 times from May 2017 to January 2019
  - Discussed to develop RMG, RMM and RMD
  - Considering Inter-Ministerial Committee for ROW Management to accelerate for Illegal Encroachment Prevention

Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, REG: Road Environment Guidebook, ROW: Right of Way, RMS: ROW Management System,

## 2 Contents of Presentation

- Project Progress
- Japan Training
- Third Country Technical Exchange
- Seminar
- Monitoring Sheet
- Pilot Project
- Items to be Discussed and Confirmed by 3<sup>rd</sup> JCC

## 6 Japan Training

- 1<sup>st</sup> Japan Training (EIA/EMP): June 13 - 22, 2017 **Completed**
- 2<sup>nd</sup> Japan Training (ROW Management): Feb 27 - Mar 8, 2018 **Completed**
- 3<sup>rd</sup> Japan Training (ROW Management): Feb 12 -22, 2019 - **Scheduled**



Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, ROW: Right of Way

## 3 Project Progress: Status

Overall Goal	ESC in road sector is implemented properly by MPWT.	
Project Purpose	Capacity of MPWT officials on ESC is enhanced through applying REG and RMS	
Output	Output 1	Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management. <b>[Status] Completed (100%)</b>
	Output 2	Implementation framework of EC related to EIA and EMP is strengthened. <b>[Status] Almost Completed (95%)</b>
	Output 3	Implementation framework of SC related to ROW management is strengthened by establishing RMS. <b>[Status] On going (80%)</b>
	Output 4	Capacity of SC required for ROW management is strengthened through OJT. <b>[Status] On going (50%)</b>

Note: REG: Road Environment Guidebook, RMS: ROW Management System, EIA: Environmental Impact Assessment, EMP: Environmental Management Plan



## 7 Third Country Technical Exchange

- 1<sup>st</sup> Third Country Technical Exchange (EIA/EMP): October 24 - 28, 2017 - **Completed**
- 2<sup>nd</sup> Third Country Technical Exchange (ROW Management): August to September 2018 - **Completed**
- 3<sup>rd</sup> Third Country Technical Exchange (IAIA): April 2019 - **Scheduled**



Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, ROW: Right of Way, IAIA: International Association for Impact Assessment

## 4 Project Progress Status: Specific Outcomes

- Output 2: Implementation Framework of Environmental Considerations is strengthened.
- Output 3: Implementation Framework of Social Considerations is strengthened
- Output 4: Capacity of Social Considerations is strengthened.

Road Environmental Guidebook (REG) has been finalized and will be authorized the decision of MPWT.

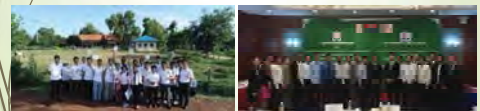


ROW Management System(RMS) is being developed through project activities.

\* RMS is consisted ROW Management Guidelines(RMG), ROW Management Map(RMM) and ROW Management Database(RMD).

## 8 Seminar

- 1<sup>st</sup> Seminar: May 4, 2017 - **Completed**
- 2<sup>nd</sup> Seminar: June 6, 2017 - **Completed**
- 3<sup>rd</sup> Seminar: February 6, 2018 - **Completed**
- 4<sup>th</sup> Seminar: September 27, 2018 - **Completed**
- 5<sup>th</sup> Seminar: November 13 2018 - **Completed**
- 6<sup>th</sup> Seminar: July 2019 - **Scheduled**



## 9 Monitoring Sheet

- Monitoring Sheet Ver. 1.0: April 6, 2017 - **Completed**
- Monitoring Sheet Ver. 2.0: July 7, 2017 - **Completed**
- Monitoring Sheet Ver. 3.0: December 6, 2017 - **Completed**
- Monitoring Sheet Ver. 4.0: June 2018 - **Completed**
- Monitoring Sheet Ver. 5.0: December 2018 - **Completed**
- Monitoring Sheet Ver. 6.0: June 2019 - **Scheduled**

## 13 Items to be confirmed by 3<sup>rd</sup> JCC

- Draft of Right of Way Management Guidelines (RMG)
- Pilot Project Site for Illegal Encroachment Prevention (IEP)
- Participation in International Association of Impact Assessment (IAIA)

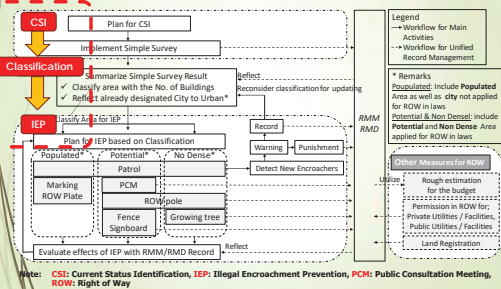
## 10 Pilot Project: Overall

<b>Purpose:</b>	Capacity of Social Considerations (SC) required for ROW management is strengthened as a component of CESCO <sup>2</sup> R Project, funded by JICA
<b>Activity:</b>	<b>Part 1: Current Status Identification (CSI)</b> -UAV Survey (taking aerial photos with UAV) -Office Work (Ortho Images and GIS processing) -Field Survey -Data finalization and Classification <b>Part 2: Illegal Encroachment Prevention (IEP)</b> -Plan for IEP Approaches(Soft and Hard) by Classification -Soft Approach (e.g. PCM and Patrol) -Hard Approach (e.g. ROW poles, Signboard, Fence and Growing tree)
<b>Term:</b>	May 2018 to Sep 2019
<b>Area:</b>	<b>Target Area along National Road No.5 in four Provinces:</b> 1) KAMPONG CHHNANG Province 2) PURSAT Province 3) BATTAMBANG Province 4) BANTEAY MEANCHEY Province

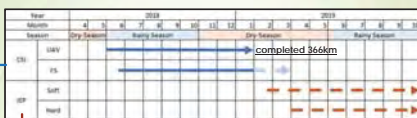
Thank You for Your Attention!

14

## 11 Pilot Project: Workflow Overall



## 12 Pilot Project :Progress and Area



**Pilot Project for CSI**  
 UAV Survey was completed taking aerial photo for NRS, 366km, from Kampong Chhnang to Banteay Meanchey.

Field Survey will be completed to collect existing encroachment information by April 2019.

**Pilot Project for IEP**  
 Soft and Hard Approaches will be stated from Feb 2019





THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCoR)



## Technical Item for EIA Task

3<sup>rd</sup> JCC Meeting  
Phnom Penh, 7<sup>th</sup> February, 2019

Presented by Mr. Bour Chhay Ya  
Deputy Chief Officer, DoP, MPWT

1

2

## Contents of Presentation

- Overview of Road Environmental Guidebook (REG)
- Authorization Process of REG



5

## Outline of REG (1)

### 4. Practical Involvement Methods by MPWT for EIA Process in Cambodia

- 4.1 EIA Report Preparing Phase
  - (1) EIA Report Contents
- 4.2 EIA Report Reviewing Phase
  - (1) Introduction of EIA Report Review
  - (2) Practical Methods for EIA Report Reviewing
- 4.3 Environmental Monitoring Phase
  - (1) Introduction of Environmental Monitoring
  - (2) Two categories of Environmental Monitoring
  - (3) Environmental Monitoring Plan (EMoP)
  - (4) Environmental Monitoring Report (EMoR)

6

## Outline of REG (2)

### Appendices:

- Appendix 1: Checklist for Reviewing EIA Report for Road Project
- Appendix 2: Checklist for Reviewing EMP for Road Project
- Appendix 3: Checklist for Reviewing EMoP for Road Project
- Appendix 4: Checklist for Reviewing EMoR for Road Project

3

## 1. Overview of Road Environmental Guidebook (REG)

- The objectives of development of REG is to assist MPWT's officials in charge of EIA/EMP to be more effective, in particular reviewing and giving comments on EIA Report and Environmental Management Plan (EMP), Environmental Monitoring Plan (EMoP) on Road Project in Cambodia.
- Scope of the REG
  - Assist MPWT officials, who are in charge of EIA, EMP, EMoP, to understand the main areas of concern and use that understanding to enhance the quality of the EIA, EMP, and EMoP.
  - The Appendices are prepared more practical for road project, and for effective/efficient reviewing of EIA Report, EMP, EMoP.

7

## Checklists



4

## Outline of REG

1. Introduction
  - 1.1 Backgrounds
  - 1.2 Objectives, Users and Scope of REG
  - 1.3 General Steps in Conducting EIA
  - 1.4 Project Cycle and EIA
2. Essential Laws/Prakas and Guidelines related to REG
3. Steps of EIA Process and Involvement Phases by MPWT in Cambodia
  - 3.1 Steps of EIA Process in Cambodia as Nationwide
    - 3.1.1 IEIA/EIA Report Preparing Phase
    - 3.1.2 IEIA/EIA Report Reviewing Phase
    - 3.1.3 Environmental Monitoring Phase
  - 3.2 Involvement Phases by MPWT for EIA Process in Cambodia
    - 3.2.1 EIA Report Preparing Phase
    - 3.2.2 EIA Report Reviewing Phase
    - 3.2.3 Environmental Monitoring Phase

8

## Summary of activities related to Development of REG

- Japan training on EIA and EMP in June 2017
- Technical Exchange Seminar on EIA in Road Sector between Cambodia and Myanmar in October 2017
- Applying REG at site in North Section of NR\_No. 5 in September, 2018
- Applying REG at the site in South Section of NR\_No. 5 in in December, 2018
- There are 29 EIA-TF meetings were held.

9

### Site Visit at NR 5 (North Section Battambang)



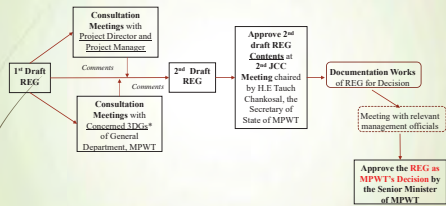
10

### Site Visit at NR 5 (South Section Kompong Chhnang)



11

## 2. Authorization Process of REG



\*: 3DGs are each Director General of 1) Administration & Finance (Management for ICD as well), 2) Planning & Policy (Management for DoP as well), and 3) Technique (Management for RID as well)

12

Thank you so much for attention



THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



## Technical Items for Right of Way (ROW) Management Task



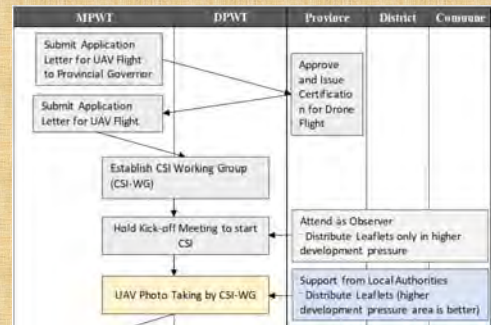
3<sup>rd</sup> JCC Meeting  
Phnom Penh, February 7, 2019

Presented by JICA Experts

### Contents of the Presentation

1. Draft of ROW Management Guidelines (RMG)
2. Progress to develop ROW Management Map (RMM) and Database (RMD)
3. Report from the third country technical visits to Thailand and LAO P.D.R

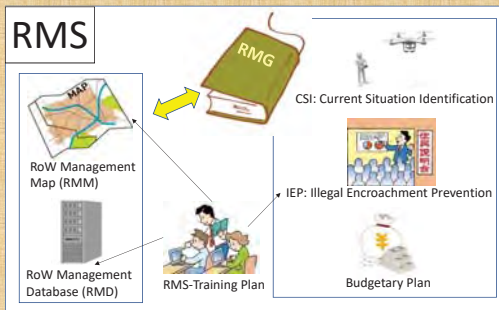
### 1. Draft of ROW Management Guidelines (RMG) - Example of the Contents (1/2)-



### 1. Draft of ROW Management Guidelines (RMG) - Example of the Contents (2/2) -

		Approaches for IEP
Activities for Existing project	Soft approaches	Raising local people's awareness on ROW
		Integrating ROW concept into school curriculum (high-school student or university student)
	Raising relevant governmental officials' awareness on ROW management	
	Monitoring and Control/ Intervention	Promoting regular patrol activities to prevent ROW encroachment (Monitoring)
Registration / Application for ROW Usage	Promoting collaborative works among local police, local authorities and DPWT (control or intervention)	
	Appealing to the court	
	Regarding application for construction permit should be done by public works office of DPWT and cadastral office of DLMUPC, not cadastral office alone.	
		Building construction permit
		Land filling permit
		ROW registration

### 1. Draft of ROW Management Guidelines (RMG) - Right of Way Management System (RMS) -



### 1. Draft of ROW Management Guidelines (RMG) - Schedule for Finalization -

- Finalize CSI (RMM and RDD): by June 2019
- Propose Budget Plan: by July 2019
- Finalize IEP: by September 2019
- Finalize RMG-TP: by October 2019
- Propose Draft RMS: by October 2019
- Final Seminar of RMS: November 2019



### 1. Draft of ROW Management Guidelines (RMG) - Table of Contents -

**CHAPTER 1: BASIC POLICY**

1.1 Background

1.2 Objectives

1.3 Scope

1.4 Definition of Terminology

1.5 Legal Basis

**CHAPTER 2: CURRENT STATUS IDENTIFICATION (CSI)**

2.1 General

2.2 ROW Management Map (RMM)

2.3 ROW Management Database (RMD)

**CHAPTER 3: ILLEGAL ENCROACHMENT PREVENTION (IEP)**

3.1 General

3.2 Monitoring and Intervention on illegal ROW encroachment

3.3 Raising Public Awareness

3.4 Boundary Management (Specification)

3.5 Proper Procedures of ROW Usage

**CHAPTER 4: OPTIONS FOR FUTURE ROAD DEVELOPMENT**

4.1 Digging Channel as ROW Boundary

4.2 Constructing road at the edge of ROW Boundary

4.3 Constructing sub-road/service-road at the edge of ROW Boundary

**CHAPTER 5: BUDGETARY PLAN**

5.1 Budget for implementing CSI

5.2 Budget for implementing IEP

5.3 Budget for Options for Future road Development

5.4 Source: MEF, Development Partners and other





THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA (CESCoR)



### Technical Item for Right of Way Management task

#### (2) Progress to Develop ROW Management Map (RMM) and ROW Management Database (RMD)

1

3<sup>rd</sup> JCC Meeting  
7<sup>th</sup> February, 2019  
Phnom Penh,

By JICA Project Team

5

### Part of Result of RMM and RMD

- RMM: To Identify Encroachment Into ROW on Map
- RMD: To show Detailed Information of Encroachment

To count Encroachments for Classification by GIS Application / Database Function

2

### Contents of Presentation

- Pilot Project Progress for ROW Management Map (RMM) and ROW Management Database (RMD) Development
- RMM and RMD for Classification for Illegal Encroachment Prevention (IEP) Approaches
- Pilot Project for IEP Approaches

6

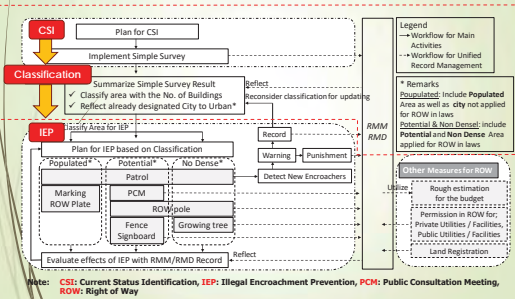
### RMM and RMD for Classification for IEP Approaches

- Set up three types of classification by condition of encroachment (1) Populated, (2) Potential and (3) Non Dense
- Classify areas for IEP plan based on the number of encroachments
- Classification by Block unit and/or Commune unit
- Consider Selection of IEP Approaches by classification

Classification	Abstraction
Populated (Dense)	So many buildings exist in the ROW area
Potential (Semi-Dense)	Many buildings exist in the ROW area, but the majority of them are illegal encroachments
Non Dense (Open, Few House)	Several buildings exist in the ROW area, but they are not close to each other

3

### Pilot Project: Workflow Overall



7

### Outline of IEP Approaches

The methods which are appropriate classification of the areas and selection of IEP approaches are to be considered through Pilot Project.

Activities for Future Project	Activities for Existing Project			
	Hard Approach	Soft Approach	Monitoring and Intervention	Raising awareness
New Road Design	Installing Facilities	Permission and Registration	Monitoring and Intervention	Raising awareness
Digging channels as ROW boundary	Posting signboard	ROW registration	Regular patrol activities	Local people
Utilize ROW boundary as ROW boundary and keep empty space in ROW boundary	Growing tree	ROW use permit	Cooperating with local authorities appealing to the court	High school and university students
Utilize ROW boundary as ROW boundary	ROW marking plate	Access road permit	Regular patrol activities	Local governmental official
Utilize ROW boundary as ROW boundary	Highlighting color on the signboard	ROW registration	Cooperating with local authorities appealing to the court	Local people

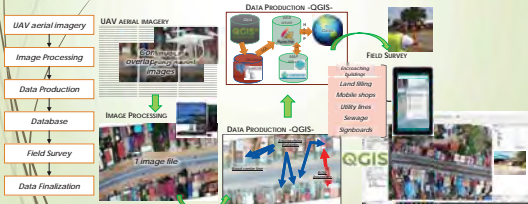
To implement the approaches for Populated and Potential Area

4

### Pilot Project Progress for RMM and RMD Development

#### Progress Chart

UAV Survey: 366km, Completed  
Field Survey: 308km, On Going  
Data Encoding: On Going (for RMM and RMD)



8

### Pilot Project for IEP Approaches

Through the pilot project for IEP, the Taskforce Member will consider how to:

- Set up Classification Rate
- Classify (1) Populated, (2) Potential and (3) Non Dense
- Select Priority Area for IEP Approaches
- Plan and Implement combination of soft and hard approaches
- Record and update IEP Approaches to RMD
- Consider and Develop the functions for RMD

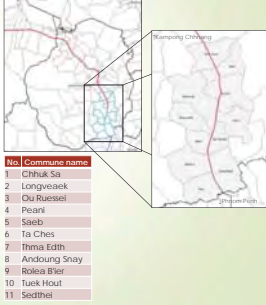
9

**(Proposal)**

Pilot Project Site for IEP Approaches:  
Area Classification and Soft/Hard Approaches Selection

**Reason of the Selection**

1. Pilot Project Site is from the border between Udong/Kandal Province and Kampong Chhnang Province to Kampong Chhnang City for 43 km along NR5
2. CSI Survey was clearly completed in the site in 2018.
3. Typical type for the classifications are included in the site such (1) **Non-Dense** (open area, few houses), (2) **Potential**(semi-dense) and (3) **Populated** (dense) which is suitable enough for IEP approach selection.



10

Thank you for you attention

## Results of Third Country Technical Exchange Program



PRESENTED BY: MR. TAUCH SOTHARITH, DEPUTY DIRECTOR OF RID, MPWT  
DATE: 7<sup>TH</sup> FEBRUARY, 2019  
PLACE: MPWT MEETING ROOM

### CONTENT:

- ❖ Third Country Exchange Program:
  - Discussion and Site Visit
- ❖ Results:
  - Comparison on Current Status
    - 1- Legal Concept
    - 2- ROW Management
    - 3- Counter Measure/IEP
  - Outputs/lesson-learn
  - Strategy Development



### RESULT: COMPARISON (1)

#### 1- Legal Concept:

Cambodia	Lao P.D.R	Thailand
1- Land Law: - ROW belongs to Public state land; 2- Road Law 3- Land Registration: MLMUPC issues private land titles excluded ROW. 66% of private land already registered (achievement of 2017) 4- Sub-decree No. 197 on ROW 5- MOU MPWT & Provincial Governors	- There is only Road Law - ROW width is different for mountainous areas - Road Law 1999: 25m - Road Law 2016 (amended version: 40-60 meters ( can be different for mountainous area)	- Highways Act (all the national road in Thailand are national high way) - There is Royal Decree for specific road. Royal decree will mention the width of ROW and design

#### ❖ Conclusion (Improvement for Cambodia):

- ❖ We have enough law documents; however, we have problems with law implementation. We also have law to punish illegal encroachers.

### RESULT: COMPARISON (2)

#### 2- ROW Management:

Cambodia	Lao P.D.R	Thailand
- Currently, there is some data on CSI for some National Roads. Now, CESCoR is conducting the CSI along National Road No.5. - Conducting census the data of ROW illegal encroachment (ROW Inventory; paper base). - MPWT has no data on Resettlement and Land Registration.	- Also conduct the CSI (aerial photo, and interview with structure owners) - MPWT keeps the resettlement Data	- Land Registration Map - DoH Keeps all the information on land

#### ❖ Conclusion (Improvement for Cambodia):

- ❖ To support ROW activities for mapping and patrolling after CESCoR project in year 2020.
- ❖ To assign the ROW Management Inspectors (by MPWT).
- ❖ To ask for the collaboration from MLMUPC for the updated data on Land Registration.
- ❖ To ask MEF to share the detailed resettlement information/data.

### DISCUSSION MEETING:

Lao P.D.R	Thailand
Date: 23 <sup>rd</sup> October, 2018	Date: 25 <sup>th</sup> October, 2018
Discussion Meeting at Laos MPWT	Discussion Meeting at DoH (Department of Highway)



Fig.1: Land Registration Document (in Thailand)

Fig.2: Land Registration Map (in Thailand)

### SITE VISIT:

Lao P.D.R	Thailand
Date: 23 <sup>rd</sup> October, 2018	Date: 25 <sup>th</sup> October, 2018
Location: National Road 13th North, 21km away from Vientiane Capital	Location: Nakhon Ratchasima Province (Nakhon Ratchasima Ring Road on Highway No. 290 Construction Project)



### RESULT: COMPARISON (3)

#### 3- Counter Measure/IEP:

Cambodia	Lao P.D.R	Thailand
- Patrol is the most effective way - 2 meters from the edge of ROW for utilities - ROW pole Installation (not all National road due to limited budget)	- By section of National Road 13 <sup>th</sup> North, to install ROW Poles - ROW pole Installation (not all National road due to limited budget)	- Patrol is the most effective way - 30cm to 2m from the edge of ROW for utilities - There is training center. - Frontage road & side station for business - ROW pole Installation ( one pole every 100m )

#### ❖ Conclusion (Improvement for Cambodia):

- ❖ Will provide more trainings and more benefits/incentives to local officials to prevent illegal encroachers.
- ❖ Combination between soft and hard measures is needed (for example education and installation of ROW poles).
- ❖ Frontage road & side station for local business.



## OUTPUTS/LESSON-LEARNT

### ❖ Outputs from the Discussion and Site Visit:

- 1- Knowledge transferred from MPWT to DPWT & district officers regarding the Law and Practice (to deal with illegal encroachers) like in Thailand by DoH Training Division.
- 2- Training center is needed.
- 3- Establish district working group work with legal representative (lawyer) to deal with illegal encroacher (like the case in Thailand);
- 4- Develop the frontage road for local business as in Thailand.
- 5- Should have ROW Map as in Laos and Thailand.
- 6- Punish the officials who neglect their duties based on Law.

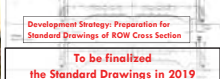
## RECOMMENDATION

### ■ CSI and IEP Approaches:

- 1- Better collaboration among MPWT, MLMUPC and Mol for clear boundaries for State land/private land and Urban area /Non-Urban areas;
- 2- Enforcement of Law on illegal ROW Encroachment to provide proper punishment such as illegal encroachers and some officers who neglected their duties; and
- 3- Combination between soft and hard measures is needed (for example education and installation of ROW poles).

### ■ Development Strategy:

- 1- Consideration on development of Roadside station to eliminate the mobile stores and to ensure the traffic safety;
- 2- Consideration on Frontage/service Road development to avoid the traffic accidents and congestion at/on high-speed roads; and
- 3- Development or construction of road from the ROW boundary and keep the middle space for future development in order to prevent the illegal encroachment.



**Thank You for Your  
Attention!!!**



### Confirmation Items at JCC

3<sup>rd</sup> JCC Meeting  
Phnom Penh, February 7, 2019

Presented by JICA Experts

### Confirmation Items

1. Right of Way (RoW) Management Guidelines
2. Pilot Project Site for Illegal Encroachment Prevention (IEP)
3. Participation in International Association for Impact Assessment (IAIA)
4. Road Environmental Guidebook (REG) as a Decision of MPWT
5. Necessary Budget for ROW Management in MPWT

### 3. Participation in International Association for Impact Assessment (IAIA)

It was confirmed at the JCC meeting that CESCoR will participate in the annual conference of International Association for Impact Assessment (IAIA) in April to exchange our experiences and report our achievement to relevant countries and institution widely. Necessary procedures for participating in IAIA: Obtaining VISA of Australia, Reviewing Papers, etc.



### 3. Participation in International Association for Impact Assessment (IAIA)

#### RIGHT OF WAY MANAGEMENT SYSTEM IN CAMBODIA

Mr. Samsang CHEA\*, Mr. Yiddhanut NOU\*\*, Dr. Takayuki TSUCHIDA\*\*, Mr. Akira YAMASHITA\*\*\*, Mr. Masaki OCHI\*\*, Mr. Takahiro KUMAGATA\*\*\*\*

#### Abstract

Ministry of Public Works and Transport of Cambodia (MPWT) supported by Japan International Cooperation Agency (JICA) has developed a right-of-way (ROW) management system by using Unmanned Aerial Vehicle (UAV) mapping and the GIS database to identify current situation of obstacles within ROW and to prevent new illegal encroachment along the national roads.

#### JICA'S RIGHT OF WAY MANAGEMENT PROJECT IN CAMBODIA

Dr. Takayuki TSUCHIDA\*, Mr. Chankosal TAUCH\*\*, Mr. Phalla CHHEM\*\*, Ms. Vutha PN\*\*, Mr. Navida POKK\*\*, Mr. Akira YAMASHITA\*\*\*

#### Abstract

Ministry of Public Works and Transport of Cambodia supported by JICA has developed right-of-way management system by using UAV mapping and database to identify current situation and prevent new encroachment along the national roads.

### 1. Right of Way (RoW) Management Guidelines

It was confirmed at the JCC meeting that progress and principal framework of draft ROW Management Guidelines (RMG) by all participants with remaining issues and coming schedule for finalization. Outstanding points confirmed are:

- Basic structure of ROW Management System (RMS) consists of RMG, ROW Management Map (RMM), ROW Management Database, and RMG Training Plan (RMG-TP),
- Basic concept/design of RMM and RMD,
- Proposed / Estimated schedule for final draft RMS.

### 4. Road Environmental Guidebook (REG) as a Decision of MPWT

It was reported and confirmed at the JCC meeting that drafted Road Environmental Guidebook (REG) will be authorized as a Decision of MPWT. MPWT side will support its authorization process for early officialization.

### 2. Pilot Project Site for Illegal Encroachment Prevention (IEP)

It was agreed at the JCC meeting that the location of Pilot Project Site for IEP approaches has been selected from the border between Kandal and Kampong Chhnang Province to Kampong Chhnang City for 43km along National Road No. 5. The reasons of the selection are;

- Current Status Identification (CSI) and Data Encoding of RMM and RMD have been completed at this area which consists 11 communes, Chhuk Sa, Longveack, Ou Russei Peani, Saeb, Ta Ches, Thma Edth, Andoung Snay, Rolea B'ier, Tuek Hout and Sedthei in 2018.
- Typical types of the classification are included in this area such as Non-Dense, Potential and Populated.

### 5. Necessary Budget for ROW Management in MPWT

It was confirmed at the JCC meeting that appropriate budget securing is required to continue relevant activities and develop further capacity enhancement for comprehensive ROW management. CESCoR project supports to make budgetary plan as a part of RMS and MPWT side make effort to allocate necessary budget to ROW management.



## Following Activities in 2019

7TH FEBRUARY, 2019

MR. THOU SAMNANG,

DEPUTY DIRECTOR GENERAL, GENERAL DIRECTORATE OF TECHNIQUES

PROJECT MANAGER, JICA CESCOR PROJECT

1

## Contents

- Outputs
- Following Activities
- Trainings
- Next Joint Coordinating Committee

2

## Trainings

February 2019: 3<sup>rd</sup> Training in Japan

April 2019: 3<sup>rd</sup> Third Country Exchange Program (Participate in IAIA)

July 2019: 6<sup>th</sup> Seminar

5

## Next Joint Coordinating Committee

The 4<sup>th</sup> Joint Coordinating Committee (JCC) Meeting will be organized in **October 2019** (Tentative) in order to confirm the output of the Project.

The result of Project Activity will be reported at next JCC Meeting.

6

## Outputs

JICA CESCOR Project has consisted 4 Outputs

Output 1: Implementation Framework of the Project

Output 2: Implementation Framework of Environmental Considerations related to EIA and EMP

Output 3: Implementation Framework of Social Considerations related to ROW Management

Output 4: Capacity of Social Consideration required for ROW Management

Conduct Activities in 2019

3

THANK YOU FOR YOUR  
ATTENTION!!

7

## Following Activities

In 2019, ROW Taskforce continues to conduct project activities in order to finalize ROW Management Guidelines (RMG).

RMG will be updated through the implementation of Pilot Project.

4





4-10. Minutes of the fourth JCC Meeting  
4-11. Materials for the fourth JCC Meeting





**Minutes of the Fourth Joint Coordinating Committee Meeting of  
The Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency  
in Road Sector in Cambodia**

The fourth Joint Coordinating Committee (JCC) meeting among the Ministry of Public Works and Transport (MPWT) of Cambodia, Japan International Cooperation Agency (JICA), and the other agencies concerned of the Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency in Road Sector in Cambodia (CESCoR) was held at the Conference Room of MPWT, Phnom Penh on 5th of November, 2019. Discussions and exchanges of opinion were made, which resulted in the mutual agreement on several items as described below.

1. Confirmation on Final Draft Project Completion Report

It was confirmed final draft project completion report by all participants at the JCC meeting. Outstanding points confirmed are:

- Results of the project: Basic information of the project; Results of the project; Achievement of the project; and History of PDM modification,
- Results of Joint Review: Results of review based on DAC evaluation criteria; For the achievement of overall goals after the project completion; and Recommendations for the Cambodian site.

2. Confirmation on Final Draft of ROW Management Guidelines (RMG)

It was confirmed at the JCC meeting that final draft of ROW Management Guideline (RMG) by all participants. Outstanding points confirmed are:

- Section 1: Basic Policy
- Section 2: Current Status Identification (CSI)
- Section 3: Illegal Encroachment Prevention (IEP)
- Section 4: Future Road Development Plan
- 13 Appendixes

3. Confirmation on level authorization of RMG

It was confirmed at the JCC meeting that Right of Way Management Guideline will be authorized as Decision of the Senior Minister of Ministry of Public Works and Transport. Follow-up authorization process of RMG will be done by ROW taskforce members when the project completes.

4. Confirmation on Schedule of Final Seminar

It was confirmed at the JCC meeting that final seminar will be held on December 6<sup>th</sup> 2019 in Phnom Penh city to disseminate results of the project.

5. Informing about Road Environmental Guidebook (REG)

It was reported at the JCC meeting that Road Environmental Guidebook (REG) was authorized as a Decision of MPWT on July 2019. And about 200 hard copies have been publishing and will distribute to MPWT.

6. Necessary Budget for ROW Management in MPWT

It was confirmed at the JCC meeting that appropriate budget securing is required to continue relevant activities and develop further capacity enhancement for comprehensive ROW management. CESCoR project supported to make budgetary plan as a part of RMS and MPWT side make effort to allocate necessary budget to ROW management.

The Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency  
in Road Sector in Cambodia (CESCoR)

---

7. Other issues

The meeting suggested that Environmental Management for Construction Specification to be attached with contract agreement for national budget project might be develop through collaboration with Ministry of Environment. Additionally, to achieve overall goal, JCC members committed to implement and expand the work to other provinces by applying REG and RMS after the project completes.

**CONFIRMED BY:**



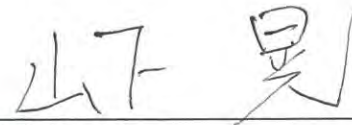
---

**H.E. TAUCH Chankosal**  
Secretary of State  
Ministry of Public Works and Transport



---

**OKUBO Kaori**  
Representative  
JICA Cambodia Office



*for* **TSUCHIDA Takayuki**  
Team Leader  
JICA Project Team



**THE 4<sup>TH</sup> JOINT COORDINATING  
COMMITTEE (JCC) MEETING**

**OF**

**THE PROJECT FOR CAPACITY  
ENHANCEMENT ON ENVIRONMENTAL  
AND SOCIAL CONSIDERATIONS IN  
IMPLEMENTING AGENCY IN ROAD  
SECTOR IN CAMBODIA  
(CESCOR)**

**5<sup>TH</sup> NOVEMBER, 2019**

**MPWT, PHNOM PENH**



FOR MORE INFORMATION CONTACT: OFFICE +855(0)61-960-213



AGENDA  
The 4th Joint Coordinating Committee (JCC)  
of  
The Project for Capacity Enhancement on Environmental and Social  
Considerations in Implementing Agency in Road Sector in Cambodia  
(CESCoR)

Meeting Room of MPWT, Phnom Penh, 5<sup>th</sup> November 2019

Time	Program
08:30-08:45	Registration
08:45-08:50	<b>Cambodian National Anthem</b>
08:50-09:05	<b>Opening Remarks</b> (1) <b>H.E. Tauch Chankosal</b> , Secretary of State, Ministry of Public Works and Transport (2) <b>Ms. OKUBO Kaori</b> , Representative, JICA Cambodia Office
09:05-09:10	<b>Introduction of JCC Member and Taskforce Member</b>
09:10-09:35	<b>1. Project Completion Report</b> by Dr. TSUCHIDA Takayuki, Team Leader, JICA Project Team (1) Results of the Project (2) Results of Joint Review
09:35-09:45	<b>2. Technical Item for EIA Task</b> by Mr. Bour Chhay Ya, Deputy Chief Officer, DoP, MPWT (1) Overview of Road Environmental Guidebook (REG)
09:45-10:15	<b>3. Technical Item for Right of Way (ROW) Management Task</b> by Mr. YAMASHITA Akira, Deputy Team Leader, JICA Project Team (1) Overview of ROW Management System (RMS) (2) RMS dissemination plan and authorization process
10:15-10:35	<b>4. Confirmation Items at JCC</b> by Dr. TSUCHIDA Takayuki, Team Leader, JICA Project Team (1) Final Draft Project Completion Report (2) Final Draft of ROW Management Guidelines (RMG) (3) Level of RMG authorization (4) Schedule of Final Seminar
10:35-10:45	<b>Closing Remarks</b> <b>H.E. Tauch Chankosal</b> , Secretary of State, Ministry of Public Works and Transport

Note: MC: ICD, MPWT

**The 4<sup>th</sup> JCC Meeting****Date: 5<sup>th</sup> November, 2019; Venue: MPWT Meeting Room****Attendant List of JCC Members**

No	Name	Position	Department/Ministry
1	H.E Tauch Chankosal	Secretary of State	MPWT
2	H.E. Nou Vaddhanak	Under Secretary of State	MPWT
3	Ms. Pin Vuthea	Director	ICD, MPWT
4	Mr. Chreang Phollak (Representative of DoP)	Deputy Director General	GDPP, MPWT
5	Mr. Khuon Kompheak (Representative of RID)	Deputy Director	RID, MPWT
6	Mr. Rou Vitha (Representative of Mr. Yong Sy)	Officer	MEF
7	Mr. Okubo Kaori	Representative	JICA
8	Dr. Tsuchida Takayuki	Team Leader	JICA Project Team
9	Mr. Yamashita Akira	Deputy Team leader	JICA Project Team
10	Mr. Nakamura Yukihiro	JICA Expert	JICA Project Team
11	Mr. Ochi Masaki	JICA Expert	JICA Project Team
12	Mr. Kumagai Takahiro	Project Coordinator	JICA Project Team
13	Mr. Ouk Ourk	Director	RID, MPWT
14	Mr. Chea Samnang	Chief of ROW Office	RID, MPWT
15	Mr. An Menghour	Officer	ICD, MPWT
16	Mr. Bou Pechponleu	Vice Chief Office	Mol
17	Mr. Seng Sophearath	Deputy Director	Railway Department, MPWT
18	Ms. Eam Sokchea	Vice Chief Office	PID, MPWT
19	Mr. Soa Vary	Director	Cadastral Conservation Department, MLMUPC
20	Mr. Seak Sothearith	Director	Urban Planning Department, MLMUPC
21	Mr. Kong Ureth	Chief Office	PID, MPWT
22	Mr. Oung Saran	Vice Chief Office	Ministry of Environment
23	Mr. Bou Chhaiya	Vice Chief Office	DoP, MPWT
24	Mr. Sok Chandy	Officer	RID, MPWT
25	Mr. Ear Bang Niheng	Chief Office	DoP, MPWT
26	Mr. Rou Vitha	Officer	MEF
27	Mr. Peang Samoeun	Vice Chief Office	ICD, MPWT
28	Mr. Manh Vutha	Vice Chief Office	RID, MPWT
29	Mr. Phy Ratha	Deputy Director	MPWT
30	Mr. Oum Sokvasey	Vice Chief Office	ICD/MPWT
31	Ms. Ches Sophy	Project Assistant	JICA Project Team
32	Mr. Penh Socheat	Technical Assistant	JICA Project Team
33	Mr. Bun Sereyvuth	Project Assistant	JICA Project Team
34	Mr. Mut Samon	Assistant	JICA Project Team



THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA (CESCoR)



## Project Completion Report

1. Results of the Project
2. Results of Joint Review

4<sup>th</sup> JCC Meeting  
Phnom Penh, 5<sup>th</sup> November, 2019

**Dr. TSUCHIDA Takayuki**  
Team Leader, JICA Project Team

## 2 Confirmation Items at JCC

- (1) Final Draft Project Completion Report
- (2) Final Draft of RMG
- (3) Level of RMG authorization
- (4) Schedule of Final Seminar

## 3 Contents of Presentation

1. Results of the Project
  - 1-1. Basic Information of the Project
  - 1-2. Results of the Project
  - 1-3. Achievements of the Project
  - 1-4. History of PDM Modification
2. Results of Joint Review
  - 2-1. Results of Review based on DAC Evaluation Criteria
  - 2-2. For the Achievement of Overall Goals after the Project Completion
  - 2-3. Recommendations for the Cambodian Side

## 1. Results of the Project 1-1. Basic Information of the Project

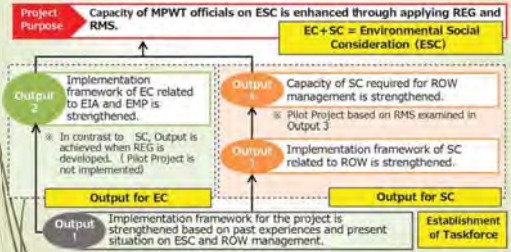
- (1) **Title of the Project:** The Project for Capacity Enhancement of Environment and Social Considerations in Implementing Agency in Road Sector
- (2) **Duration:** December 28, 2016 - December 27, 2019 (3 years)
- (3) **Overall Goal and Project Purpose:**

<b>Overall Goal</b>	ESC in road sector is implemented properly by MPWT.
<b>Project Purpose</b>	Capacity of MPWT officials on ESC is enhanced through applying REG and RMS.
<b>Output 1</b>	Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management.
<b>Output 2</b>	Implementation framework of EC related to EIA and EMP is strengthened.
<b>Output 3</b>	Implementation framework of SC related to ROW management is strengthened by establishing RMS.
<b>Output 4</b>	Capacity of SC required for ROW management is strengthened through OJT.

## 1. Results of the Project

### 1-1. Basic Information of the Project

#### (4) Schematic Design of the Project Outputs



## 1. Results of the Project

### 1-1. Basic Information of the Project

#### (5) JCC Summary

No.	Date	Agenda
1 <sup>st</sup>	4 May 2017	<ul style="list-style-type: none"> <li>Explanation of proposed Project Framework</li> <li>Concept of ROW Management for the Project</li> </ul>
2 <sup>nd</sup>	6 Feb. 2018	<ul style="list-style-type: none"> <li>Project Progress</li> <li>Technical Item for EIA Task and ROW Management Task</li> <li>Confirmation Items: Reformed JCC and TF Members, Draft REG, Authorization Process of REG, Draft Table of Contents of RMS, Selection of Pilot Project Site</li> </ul>
3 <sup>rd</sup>	7 Feb. 2019	<ul style="list-style-type: none"> <li>Project Progress</li> <li>Technical Item for EIA Task and ROW Management Task</li> <li>Confirmation items: Draft of RMG, Pilot Project Site for Illegal Encroachment Prevention (IEP), Participation in IAIA)</li> </ul>
4 <sup>th</sup>	5 Nov. 2019	<ul style="list-style-type: none"> <li>Explanation of completion of the Project and RMS</li> <li>Confirmation items: Project Completion Report, RMG, Level of RMS authorization, Schedule of Final Seminar</li> </ul>

## 1. Results of the Project

### 1-1. Basic Information of the Project

#### (6) JICA Amendment Agreement

No.	Amendment
1 <sup>st</sup> Amendment September 13, 2018	- Additional study on future development plan of road
2 <sup>nd</sup> Amendment February 8, 2019	- Additional IEP hard approach (Construction work) - Additional seminar on future development plan of road
3 <sup>rd</sup> Amendment September 5, 2019	- Addition/modified IEP hard approach (Construction work) - Additional construction supervision of IEP hard approach - Additional 3D drawing of ROW usage and stage construction - Additional IEP pilot project seminar
4 <sup>th</sup> Amendment October 4, 2019	- Additional development of RMM on NR4 Sihanoukville

## 1. Results of the Project

### 1-2. Results of the Project

#### (1) Input of Experts

- 1 Team Leader / Right of Way Management-1
- 2 Deputy Team Leader / Right of Way Management-2
- 3 ESC/EIA/EMP
- 4 Road Plan / Transportation Plan / Road Structure Plan
- 5 Land Management Framework-1
- 6 Land Management Framework-2 / Database Development
- 7 Land and House Investigation-1 / Road and Structural Design
- 8 Land and House Investigation-2
- 9 Training Plan and Implementation-1
- 10 Training Plan and Implementation-2
- 11 Training Plan and Implementation-3
- 12 Institutional Analysis / PCM
- 13 Project Coordinator / Database Management
- 14 Monitoring/Evaluation

(Planned Assignment: 111.00 M/M, Actual Assignment: 119.30 M/M)  
Accomplishment 113.20 M/M (95%) as of October 2019



1. Results of the Project

9 1-2. Results of the Project

(2) Training

1. Training in Japan
2. Technical exchange in third countries
3. Training and seminar in Cambodia
  - Seminar
  - Pilot Project Seminar
  - Training of Trainer (ToT) Workshop
  - Task Force Meeting

(3) Machinery and Equipment

Laptop PC, Desktop PC, Printer, Copy Machine, Projector, Drone and Total Station

10 Training in Japan

- 1st Japan Training (EIA/EMP): June 13-22, 2017, Tokyo and Osaka - **Completed**
- 2nd Japan Training (ROW Management): Feb 27- Mar 8, 2018 , Tokyo and Osaka - **Completed**
- 3rd Japan Training (ROW Management) : Feb 12-22, 2019 , Tokyo and Osaka - **Completed**



Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, ROW: Right of Way

13 Pilot Project Seminar

- 1st Seminar: October 2, 2019, Phnom Penh - **Completed**
- 2nd Seminar: October 15, 2019, Chrey Bak Commune, Kampong Chhnang Province - **Completed**



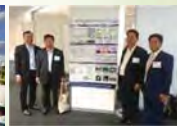
14 Training of Trainer (ToT) Workshop

- 1st ToT Workshop: June 31, 2019, Phnom Penh - **Completed**  
Target DPWTs: 5 provinces (Kandal, Kampong Chhnang, Pursat, Battambang, and Banteay Meanchey)
- 2nd ToT Workshop: August 29, 2019 Phnom Penh - **Completed**  
Target DPWTs: 4 provinces (Kampong Cham, Kampong Thom, Siem Reap, and Oddor Meanchey)
- 3rd ToT Workshop: August 30, 2019, Phnom Penh - **Completed**  
Target DPWTs: 6 provinces (Kampong Speu, Takeo, Kep, Koh Kong, Kampot and Preah Vihear)



11 Technical exchange in third countries

- 1st Third Country Technical Exchange (EIA/EMP): October 24-28, 2017, Myanmar - **Completed**
- 2nd Third Country Technical Exchange (ROW Management): September 26-28, 2018, Phnom Penh - **Completed**  
October 22-26, 2018, Laos and Thai Land - **Completed**
- 3rd Third Country Technical Exchange (IAIA): April 29-May 2, 2019, Australia - **Completed**



Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, ROW: Right of Way, IAIA: International Association for Impact Assessment

15 Task Force Meeting

EIA/EMP Taskforce Meeting

- Conducted **29 times** from April 2017 to December 2018
- Discussed to develop and update REG
- Considered approval process of REG for MPWT's Decision

ROW Management Taskforce Meeting

- Conducted **56 times** from May 2017 as of now
- Discussed to develop RMS including RMG, RMM and RMD
- Considered approval process of RMG for MPWT's Decision



Note: EIA: Environmental Impact Assessment, EMP: Environmental Management Plan, RMS: ROW management System, REG: Road Environment Guidebook, ROW: Right of Way, RMM: ROW Management Map, RMD: ROW Management Database

12 Seminar

- 1st Seminar: May 4, 2017 , Phnom Penh - **Completed**
- 2nd Seminar: June 6, 2017, Phnom Penh - **Completed**
- 3rd Seminar: February 6, 2018, Phnom Penh - **Completed**
- 4th Seminar: September 27, 2018, Phnom Penh - **Completed**
- 5th Seminar: November 13, 2018, Phnom Penh - **Completed**
- 6th Seminar: March 15, 2019, Phnom Penh - **Completed**
- 7th Seminar (Final): December 6, 2019, Phnom Penh - **Scheduled**

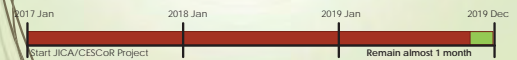


1. Results of the Project  
1-3. Achievements of the Project

Status of Project

Overall Goal	ESC in road sector is implemented properly by MPWT.	
Project Purpose	Capacity of MPWT officials on ESC is enhanced through applying REG and RMS	
Indicator	Output 1	Implementation framework for the project is strengthened based on past experiences and management. <b>[Status] Completed (100%)</b>
	Output 2	Implementation framework of EC related to EIA and EMP is strengthened. <b>[Status] Almost Completed (95%)</b>
	Output 3	Implementation framework of SC related to ROW management is strengthened by establishing RMS. <b>[Status] Almost Completed (95%)</b>
	Output 4	Capacity of SC required for ROW management is strengthened through OJT. <b>[Status] Almost Completed (95%)</b>

Note: REG: Road Environment Guidebook, RMS: ROW Management System, EIA: Environmental Impact Assessment, EMP: Environmental Management Plan



1. Results of the Project  
1-3. Achievements of the Project

Remaining Activities

<b>Output 2</b> Implementation framework of EC related to EIA and EMP is strengthened.	[Status] Almost Completed (95%)	- Environmental Monitoring by using REG on NR5 Improvement Project
<b>Output 3</b> Implementation framework of SC related to ROW management is strengthened by establishing RMS.	[Status] Almost Completed (95%)	- Finalization of RMS - Final Seminar
<b>Output 4</b> Capacity of SC required for ROW management is strengthened through OJT.	[Status] Almost Completed (95%)	- Development of RMM of NR4 in Sihanoukville

1. Results of the Project  
1-3. Achievements of the Project  
Future Development Plan with 3D Drawing

**Step 1: Existing Condition**  
(2-lane without ROW management)

**Step 2: Development Plan of Pilot Project**  
(2-lane with ROW management)

**Step 3: Future Development Plan**  
(4-lane)

**Step 4: Future Development Plan**  
(6-lane)

1. Results of the Project  
1-3. Achievements of the Project

Major Specific Outcomes

- Output 2: Implementation Framework of Environmental Considerations is strengthened.
  - Output 3: Implementation Framework of Social Considerations is strengthened.
  - Output 4: Capacity of Social Considerations is strengthened.
- Road Environmental Guidebook (REG)** has been finalized and will be authorized the decision of MPWT.
- ROW Management System (RMS)** has been developed through project activities.
- \* RMS is consisted ROW Management Guidelines (RMG), ROW Management Map (RMM) and ROW Management Database (RMD).



1. Results of the Project  
1-3. Achievements of the Project  
Public Relations Activities

Hand Fan: 2,000 units      Eco Bag: 1,000 units      Shirts: 350 units

Monthly Report: every month      JICA Web site: every month

1. Results of the Project  
1-3. Achievements of the Project

Pilot Project

<b>Purpose:</b>	Capacity of Social Considerations (SC) required for ROW management is strengthened as a component of CESCO Project, funded by JICA
<b>Activity:</b>	<p><b>Part 1: Current Status Identification (CSI) – NR5 336km</b></p> <ul style="list-style-type: none"> <li>-UAV Survey (Taking aerial photos with UAV)</li> <li>-Office Work (Ortho Images and GIS processing)</li> <li>-Field Survey</li> <li>-Data finalization and Classification</li> </ul> <p><b>Part 2: Illegal Encroachment Prevention (IEP) - Chrey Bak commune, Kampong Chhnang province – NR5 3km</b></p> <ul style="list-style-type: none"> <li>-Plan for IEP Approaches(Soft and Hard) by Classification</li> <li>-Soft Approach (e.g. PCM and Patrol)</li> <li>-Hard Approach (e.g. ROW poles, Signboard, Fence and Growing tree)</li> </ul>
<b>Term:</b>	May 2018 to Oct 2019
<b>Area:</b>	<p><b>Target Area along National Road No.5 in four Provinces:</b></p> <ol style="list-style-type: none"> <li>1) KAMPONG CHHNANG Province</li> <li>2) PURSAT Province</li> <li>3) BATTAMBANG Province</li> <li>4) BANTEAY MEANCHEY Province</li> </ol>

1. Results of the Project  
1-3. Achievements of the Project  
Budget Plan for ROW Management

- Purpose of Budget plan for the ROW management:
- To classify the cost of appropriate ROW management
  - To contribute the budget requirement for ROW management
  - To secure the future budget for ROW management
- Budget Plan** for the future ROW management, which is set as CSI and IEP will be used on the all 1-digit and 2-digit national road which total length is 7,260 km.
- 3 phases** (3 years/phase) in total 9 years budgetary plan was provided and necessary budget was estimated for each phase.
- First phase** (3 years) target will be set as follows,
- CSI for half of all 1-digit & 2-digit
  - PCM for 50 places
  - Patrol on all 1-digit & 2-digit national road
  - New ROW Pole installation for 150 km

1. Results of the Project  
1-3. Achievements of the Project

Pilot Project: IEP heard approach



Hard Approach (e.g. ROW poles, Signboard, Fence and Growing tree, Road Improvement)

1. Results of the Project  
1-3. Achievements of the Project

Monitoring Sheet

- Monitoring Sheet Ver. 1.0: April 6, 2017 - **Completed**
- Monitoring Sheet Ver. 2.0: July 7, 2017 - **Completed**
- Monitoring Sheet Ver. 3.0: December 6, 2017 - **Completed**
- Monitoring Sheet Ver. 4.0: June, 2018 - **Completed**
- Monitoring Sheet Ver. 5.0: December, 2018 - **Completed**
- Monitoring Sheet Ver. 6.0: June, 2019 - **Completed**



1. Results of the Project  
1-4. History of PDM Modification

PDM Modification

Date	PDM version
October 2015	Ver. 0.0
February 2018	Ver. 1.0

2. Results of Joint Review  
2-1. Results of Review based on DAC Evaluation Criteria

Major Result for the Project Purpose

Indicators	Major Results
(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials - Satisfied	- TF members were officially selected at the 1st JCC held on 4th May 2017. - Each TF members conduct the appropriate activities through the TF meeting and present the output at the seminar etc.
(2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations (EC) through continuous participation to the REG preparation process - Satisfied	- TF meetings were held once or twice per month and total 7 TF members had participated in the meeting and discussed some challenges - Total 6 TF members had participated training in Japan and third country and learnt the good practices for EC - Total 7 TF members had participated at the seminars and presented their activities. - TF members had monitored the environmental countermeasure at NRS with using draft REG. - Output of activities will be presented by TF members at final seminar.

2. Results of Joint Review  
2-1. Results of Review based on DAC Evaluation Criteria

- Evaluation Criteria**
- DAC (Development Assistance Committee, Organization for Economic Co-operation and Development; OECD)
  - A Joint review was conducted by questionnaire and discussion. Each criterion is assessed as follows,
    - 1) Relevance
    - 2) Effectiveness
    - 3) Efficiency
    - 4) Impact
    - 5) Sustainability
- Five evaluative scale**
- Extremely satisfactory
  - Very satisfactory
  - Moderately satisfactory
  - Slightly satisfactory
  - Not at all satisfactory

2. Results of Joint Review  
2-1. Results of Review based on DAC Evaluation Criteria

Major Result for the Project Purpose

Indicators	Major Results
(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process - Satisfied	- TF meetings were held once or twice per month and total 19 TF members had participated in the meeting and discussed some challenges. - Total 8 TF members had participated training in Japan and third country and learnt the good practices for SC. - Total 18 TF members had participated at the seminars and presented their activities. - Output of activities will be presented by TF members at final seminar.
(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials - Satisfied	- PTF members were selected at the ROW TF meeting. - Total 22 from MPWT and 10 from DPWT TF members had participated their meeting and seminars. - Training to MPWT and to DPWT were conducted through the dissemination seminar by TF members.

2. Results of Joint Review  
2-1. Results of Review based on DAC Evaluation Criteria

- Evaluation Criteria**
- 1) Relevance**  
The extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor.
  - 2) Effectiveness**  
A measure of the extent to which an aid activity attains its objectives.
  - 3) Efficiency**  
Efficiency measures the outputs - qualitative and quantitative - in relation to the inputs. It is an economic term which signifies that the aid uses the least costly resources possible in order to achieve the desired results.
  - 4) Impact**  
The positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from the activity on the local social, economic, environmental and other development indicators.
  - 5) Sustainability**  
Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn. Projects need to be environmentally as well as financially sustainable.

2. Results of Joint Review  
2-2. For the Achievement of Overall Goals after the Project Completion

<b>Overall Goal</b>	ESC in road sector is implemented properly by MPWT.
<b>Project Purpose</b>	Capacity of MPWT officials on ESC is enhanced through applying REG and RMS

For the achievement of Overall Goals

- 1) EIA/EMP**  
Environmental consideration procedures shall be implemented in line with Road Environmental Guidebook (REG).
- 2) ROW Management**  
ROW management shall be operated by using ROW Management System (RMS).
- 3) ROW Management Budget**  
ROW management budget shall be secured based on budgetary plan.

2. Results of Joint Review  
2-1. Results of Review based on DAC Evaluation Criteria

Result of Evaluation

	Extremely satisfactory	Very satisfactory	Moderately satisfactory	Slightly satisfactory	Not at all satisfactory
<b>Overall</b>		X			
1) Relevance		X			
2) Effectiveness		X			
3) Efficiency			X		
4) Impact			X		
5) Sustainability			X		

2. Results of Joint Review  
2-3. Recommendations for the Cambodian Side

- (1) Implementation of Hard Approaches for IEP**  
ROW management concept shall be considered in the road designs on new road construction and road rehabilitation projects. Standard drawings prepared by this project contributes to this recommendation.
- (2) Advertisement Income System**  
To secure the budget for ROW management, advertisement income shall be introduced with the cooperation between MPWT and provincial government. Advertisement income such as advertisement board shall be included in MPWT's budget directly for the ROW management activities.
- (3) Communication with other countries**  
Good practices from other countries would be good lessons in practice. MPWT has exchanged technical knowledge with Japan, Myanmar, Laos, Thailand and Australia. This communication shall be continued and expanded to share and solve the ROW issues.





THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCoR)



**Thank You for Your Attention**

33

**Dr. TSUCHIDA Takayuki**  
tsuchida@ctii.co.jp



Site Visit at NR 5 (North Section Battambang)

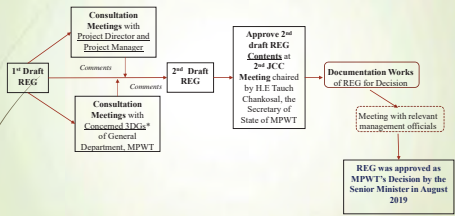


Thank you so much for attention

Site Visit at NR 5 (South Section Kompong Chhnang)



2. Authorization Process of REG



\*: 3DGs are each Director General of 1) Administration & Finance (Management for ICD as well), 2) Planning & Policy (Management for DoP as well), and 3) Technique (Management for RID as well)

3. Dissemination Plan of REG

- 200 copies of REG were published and will be distributed to MPWT.
- Introduce REG for other departments at Dissemination Seminar in December 2019.
- Applying REG at the site of National Road No. 5 for Environmental Monitoring in December 2019.
- Apply REG to other Road Improvement Projects, which are either national budget and/or funded by donor, based on institutional framework of MPWT.
- Update REG according to present condition and introduce proper procedures of EIA, EMP and EMoP from DoP to other Departments of MPWT.





The Project for Capacity Enhancement on Environmental and Social Considerations in Implementing Agency in Road Sector In the Kingdom of Cambodia (CESCoR)



## Overview of Right-of-Way Management System (RMS)



4<sup>th</sup> JCC Meeting  
Phnom Penh, November 5, 2019

## Contents of the Presentation

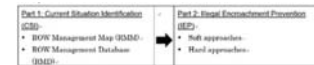
1. Right of Way Management Guidelines (RMS)
2. ROW Management Guidelines (RMG)
3. RMS Dissemination Plan
4. Budgetary Plan
5. RMS Authorization Process
6. Major Items Confirmed



## 2. Right of Way Management Guidelines (RMG)

### SECTION 1: Basic Policy

- 1.1 Background
- 1.2 Objectives
- 1.3 Scope
- 1.4 Concept of ROW Management (Including Legal Framework)
- 1.5 Definition of Terminology



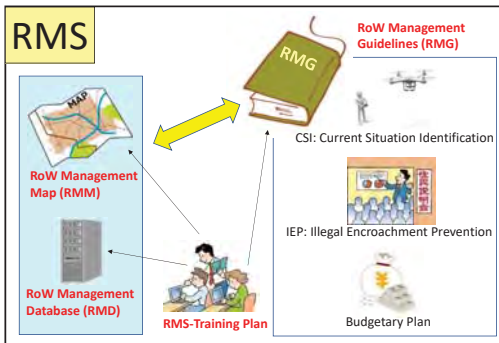
## 2. Right of Way Management Guidelines (RMG)

### SECTION 2: Current Status Identification (CSI)

- 2.1 General
- 2.2 Purpose
- 2.3 Structure/outline
- 2.4 Target Area
- 2.5 Organization
- 2.6 Methods and Work Steps
- 2.7 Development of RMD

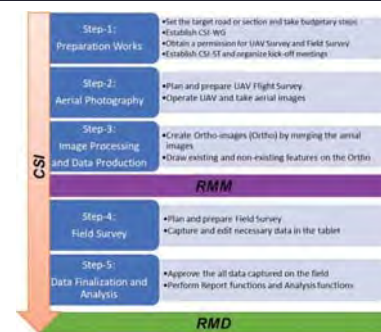


## 1. Right of Way Management System (RMS)



## 2. Right of Way Management Guidelines (RMG)

### SECTION 2: Current Status Identification (CSI)



## 2. Right of Way Management Guidelines (RMG)



**RMG Main Text**  
SECTION 1: Basic Policy  
SECTION 2: Current Status Identification (CSI)  
SECTION 3: Illegal Encroachment Prevention (IEP)  
SECTION 4: Future Road Development Plan

### Thirteen(13) Appendices

- Appendix 1: Aerial Photography Manual
- Appendix 2: Ground Control Point Survey Manual
- Appendix 3: Work Management Manual for CSI
- Appendix 4: Image Processing Manual
- Appendix 5: Data Production Manual
- Appendix 6: TabletApp User Manual
- Appendix 7: Web GIS Manual
- Appendix 8: Database Operation Manual
- Appendix 9: Database Development Manual
- Appendix 10: Documents and PR Goods for IEP
- Appendix 11: Construction Management Manual for IEP
- Appendix 12: Typical Cross Section for Future Development Plan
- Appendix 13: RMS-Training Plan (RMS-TP)



## 2. Right of Way Management Guidelines (RMG)

### SECTION 3: Illegal Encroachment Prevention (IEP)

- 3.1 General
- 3.2 Purpose
- 3.3 Structure/outline
- 3.4 Target Area
- 3.5 Organization
- 3.6 IEP Approaches



## 2. Right of Way Management Guidelines (RMG)

### SECTION 3: Illegal Encroachment Prevention (IEP)

Recommended IEP Approaches based on Classification of target areas on ROW Management Map.

IEP Approaches	Classified Area		
	Populated	Potential	Non-dense
<b>Soft Approaches</b>			
1) Raising awareness			
IEP for Public Consultation Meetings (PCM)	✓	✓	✓
IEP campaign for schools	✓	✓	✓
Brochure Distribution	✓	✓	✓
IEP training for local governmental officials	✓	✓	✓
2) Monitoring and Warning			
Patrol for Monitoring	✓	✓	✓
Advice and Warning	✓	✓	✓
<b>Hard Approaches</b>			
1) Installing Facilities			
ROW Pole	✓	✓	✓
ROW Fence	✓	✓	✓
Growing Tree	✓	✓	✓
ROW Signboard	✓	✓	✓
ROW Marking Plate	✓	✓	✓
Highlight color on the brick	✓	✓	✓
2) Road Environment Improving			
Sidewalk, Pedestrian Fence, Frontage Road, etc...	✓	✓	✓

## 2. Right of Way Management Guidelines (RMG)

### SECTION 4: Future Road Development Plan

- 4.1 General
- 4.2 Purpose
- 4.3 Target Area
- 4.4 Standard Cross Section
- 4.5 Stage Construction
- 4.6 Three Methods to Construct Road

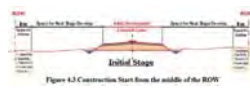


Figure 4.3 Construction Start from the middle of the ROW



## 5. RMG Authorization Process

Target Level of Document: **Decision**

[Year 2019]

**13 November:** All Appendixes are submitted for reviewing

**20 November:** Deadline of final comments for RMG

**By November:** RMG Khmer version will be prepared

**By Year-End:** RMG Khmer version will be confirmed

[Year 2020]

RMG Khmer will be circulated within MPWT for approval and will be authorized in early 2020.



## Major Items Confirmed on RMS

Items below are principally agreed at the 4<sup>th</sup> JCC.

- Structure and Contents of RMS are agreed
- Target approval level are agreed as "Decision"
- Necessity of budget preparation for ROW Management was confirmed
- Schedule for RMS finalization process



## 3. RMS Dissemination Plan

RMS shall be disseminated to relevant MPWT and DPWT officers for future RMS implementation by using prepared RMS-TP. Recommended outlines are described as below:

- (1) Target Period: 5 Years
- (2) Target: Major MPWT Department and all DPWT
- (3) Frequency: Several Times in a year
- (4) Lecturer: CESCOTF Member
- (5) Venue: MPWT

\* Training curriculum should be flexible to fit with priorities



TOPIC	TYPE	REMARKS	TARGET GROUP (DPWT)
RMS Introduction	Lecture	1	✓
CSO activity & CSR Implementation	Lecture	2	✓
Case study 1: Urban Experience	Case study	3	✓
Case study 2: Rural Experience	Case study	4	✓
Q&A	Lecture	5	✓
Case study 3: Urban Experience	Case study	6	✓
Case study 4: Rural Experience	Case study	7	✓
Case study 5: Dissemination Plan	Lecture	8	✓

## 4. Budgetary Plan

It is necessary to **secure budget for future ROW Management** by MPWT. In the proposed budgetary plan, cost for each activity is estimated with prioritized activities. MPWT shall make effort to secure budget for implementation of RMS.

CSI on the all 1digit & 2digit NR: <b>USD 917,000</b>
IEP: Priority area for ROW management: <b>USD 100,000,000</b>
↓
<b>Priority Activities:</b>
➢ CSI on the all 1digit & 2digit NR: <b>USD 917,000</b>
➢ PCM for 50 places: <b>USD 100,000 for every year</b>
➢ Patrol on all 1 digit & 2 digit NR: <b>USD 73,000 for every year</b>
➢ New ROW Pole on 1 digit & 2 digit NR (for 2,675km): <b>USD 3,530,000</b>
➢ Other hard approaches is implemented in the national/international road project.



THE PROJECT FOR CAPACITY ENHANCEMENT  
ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR  
IN THE KINGDOM OF CAMBODIA (CESCOR)



## Confirmation Items at JCC

1

4<sup>th</sup> JCC Meeting  
Phnom Penh, 5<sup>th</sup> November, 2019

**Dr. TSUCHIDA Takayuki**  
Team Leader, JICA Project Team

2

## Confirmation Items at JCC

### **(1) Final Draft Project Completion Report**

Comments from the JCC members will be accepted by "November 20, 2019" to finalize the report.

### **(2) Final Draft of RMG**

Comments from the JCC members will be accepted by "November 20, 2019" to finalize the RMG.

### **(3) Level of RMG authorization**

Project Team Recommendation: "MPWT's Decision"

### **(4) Schedule of Final Seminar**

Proposed schedule: "December 6, 2019 at Phnom Penh"





## Annex 5: Monitoring Sheet

5-1. Monitoring Sheet Ver. 1.0

5-2. Monitoring Sheet Ver. 2.0

5-3. Monitoring Sheet Ver. 3.0

5-4. Monitoring Sheet Ver. 4.0

5-5. Monitoring Sheet Ver. 5.0

5-6. Monitoring Sheet Ver. 6.0





5-1. Monitoring Sheet Ver. 1.0



**TO CR of JICA CAMBODIA OFFICE**

**PROJECT MONITORING SHEET**

**Project Title : Capacity Enhancement of Environment and Social Considerations in  
Implementing Agency in Road Sector**

**Version of the Sheet: Ver.1 (March 2017)**

**Name: Takayuki Tsuchida**

**Title: Team Leader**

**Submission Date: 6 April 2017**

**I. Summary**

**1 Progress**

**1-1 Progress of Inputs**

- R/D and PDM related to Input are amended and will be authorized on 5<sup>th</sup> May 2017 as ver.1

Inputs	Plan as January 2017	Actual as of March 2017
Experts	1. Expert 1.1 Leader / Right of Way Management 1.2 Sub Leader / ESC 1.3 Environmental Impact Assessment / Environmental Management Plan 1.4 Land Management Framework 1.5 Land and House Investigation 1.6 Training Plan and Implementation 1.7 Institutional Analysis / PCM 1.8 Project Coordinator / Database Management  R/D and PDM are being amended below. <u>Total: 103.5M/M</u> 12 Short Term Experts 1.1 Leader / Right of Way Management-1 1.2 Sub Leader / Right of Way Management-2 1.3 Environmental and Social Considerations (Environmental Impact Assessment / Environmental Management Plan) 1.5 Land Management Framework -1 1.6 Land Management Framework -2 / Database Development 1.7 Land and House Investigation -1	<u>&lt;Achievement&gt;</u> <u>Progress: 11.93 M/M (11.53%)</u> Between January-March 2017, the following experts were dispatched.  1. Experts 1.1 Leader / Right of Way Management-1 1.2 Sub Leader / Right of Way Management-2 1.3 Environmental and Social Considerations (Environmental Impact Assessment / Environmental Management Plan) 1.5 Land Management Framework -1



PM Form 3-1 Monitoring Sheet Summary

	<p>1.8 Land and House Investigation -2  1.9 Training Plan and Implementation -1  1.10 Training Plan and Implementation -2  1.11 Institutional Analysis / PCM  1.12 Project Coordinator / Database Management  1.13 Monitoring</p> <p>4. Local Contract  4.1 Local lecture from private sector  4.2 Database (RMM and RMD)  4.3 Local Consultant (Land Survey, Mapping)  4.4 Local Consultant (Public Awareness Activities)  4.5 Secretary  4.6 Interpreter / Translator  4.7 Driver with car (rent -a-car)</p> <p>R/D and PDM are being amended below.  4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)  4.2 Administrative Assistant (Secretary, Interpreter, Translator)  4.3 Driver with car (rent-a-car)</p>	<p>1.6 Land Management Framework -2 / Database Development  1.9 Training Plan and Implementation -1  1.10 Training Plan and Implementation -2  1.11 Institutional Analysis / PCM  1.12 Project Coordinator / Database Management  1.13 Monitoring</p> <p>&lt;Achievement&gt;  4. Local Contract  4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)  4.2 Administrative Assistant (Secretary, Interpreter, Translator)  4.3 Driver with car (rent-a-car)</p>
Training in Japan	3 times	0 / 3 times
Third country technical exchange	3 times	0 / 3 times
Training in Cambodia	Seminar 5 times Daily training	Seminar: 0 / 5 times
Equipment	PC, Printer, Copy machine, Video Camera, Projector and Screen, Total Station and other related equipment	PC, Printer, Copy machine are procured.
Cambodian Side Personnel	<p>1. Personnel (MPWT)  1.1 Project Director  1.2 Project Manager  1.3 Deputy Manager  1.4 Fulltime Staffs</p> <p>R/D and PDM are being amended below.  1.1 Project Director  1.2 Project Manager  1.3 Deputy Manager  1.4 Taskforce Members</p>	<p>&lt;Achievement&gt;  1. Personnel (MPWT)  1.1 Project Director  1.2 Project Manager  1.3 Deputy Manager</p>

	1.5 Pilot Project Taskforce Members (to be decided)	1.4 Taskforce Members
	<p>2. JCC Member</p> <p>2.1 Ministry of Environment (MOE)</p> <p>2.2 Ministry of Land Management, Urban Planning, Construction (MLMUPC)</p> <p>R/D and PDM are being amended below.</p> <p>2. JCC Organization</p> <p>2.1 JCC Members</p> <p>a. Ministry of Public Works and Transport (MPWT)</p> <p>b. Ministry of Economy and Finance (MEF)</p> <p>2.2 JCC Advisors</p> <p>a. Ministry of Environment (MOE)</p> <p>b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)</p>	<p>2. JCC Organization</p> <p>The 1<sup>st</sup> JCC will be convened on 5<sup>th</sup> May 2017 and all the members will attend as agreed. The following organizations will attend the 1<sup>st</sup> JCC.</p> <p>2.1 JCC Members</p> <p>a. Ministry of Public Works and Transport (MPWT)</p> <p>b. Ministry of Economy and Finance (MEF)</p> <p>2.2 JCC Advisors</p> <p>a. Ministry of Environment (MOE)</p> <p>b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)</p>
Operational Expenses	<p>3. Land, building and facilities</p> <p>3.1 Office space for JICA Experts</p> <p>3.2 Office space for equipment</p> <p>3.3 Office Infrastructures</p> <p>a. Electricity</p> <p>b. Internet</p> <p>c. Desks, Shelf and others</p> <p>d. Other necessary items</p>	<p>3. Land, building and facilities</p> <p>3.1 Office space for JICA Experts</p> <p>3.2 Office space for equipment</p> <p>3.3 Office Infrastructures</p> <p>a. Electricity</p> <p>b. Internet</p> <p>c. Desks, Shelf and others</p> <p>d. Other necessary items</p>
	<p>4. Pilot Project</p> <p>Preparation and implementation of the pilot project</p>	To be decided

### 1-2 Progress of Activities

- Progress of activities is indicated in Monitoring Sheet Form 3-2 (PDM) and 3-3 (PO).

### 1-3 Achievement of Output

The deliverables achieved by the Project as per the TOR are given in the table below:

- R/D and PDM related to Output are amended and will be authorized on 5<sup>th</sup> May 2017 as ver.1

\*Completed, Activities to be conducted, Scheduled for later.

PM Form 3-1 Monitoring Sheet Summary

Output/Indicators (Based on R/D)	Major Results Achievement till March 2017	Status*
Output1: Implementation Framework for the project is strengthened based on the past experiences and present situation on ESC and EOW management		
1-1. Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed	a. JICA expert analyzed ROW definition in Cambodia based on Law and Guideline related to MOE and MPWT learned in terms of ESC (progress 80%) b. JICA expert analyze EIA through the case related to ADB, WB and another donor in terms of ESC (progress 80%)	Activities to be conducted
1-2. Based on the land management framework in Cambodia, lessons learned from past experiences on ROW management are organized and current issues are analyzed.	a. JICA expert collect and analyze information on land management framework based on Law in Cambodia (progress 70%) b. JICA expert collect and analyze information on land management framework in other country (Japan) (progress 70%)	Activities to be conducted
1-3. Institutional framework and responsibilities in MPWT are examined	a. JICA expert interview to ICD, RID and DOP b. JICA expert collect Legal documents on institutional framework (progress 80%) c. JICA expert analyzed Institutional framework and responsibilities related to EIA/EMP in MPWT (progress 80%)	Activities to be conducted
1.4 Capacity enhancement plan is developed through training needs analysis of target group	a. JICA expert assessment training needs of ICD, RID and DOP through hearing and Kickoff meeting held in 17 <sup>th</sup> March b. JICA expert prepare Capacity Enhancement Plan c. JICA expert prepare training summary in Japan (the First - the Third) and draft the first training plan d. JICA expert prepare training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan e. JICA expert prepare procurement plan	Activities to be conducted
1.5 As an implementation structure of the project, TF is established	a. JICA expert propose ideal TF structure - EIA/EMP Team: DOP and ICD - ROW Management Team: RID and ICD b. TF members were unofficially selected at Kickoff meeting held in 17 <sup>th</sup> March The 1 <sup>st</sup> JCC will be convened on 5 <sup>th</sup> May 2017 and TF will be approved.	Activities to be conducted
Output2: Implementation Framework of EC related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened		



PM Form 3-1 Monitoring Sheet Summary

2.1 Concept of EC and its implementation process are understood	-	Scheduled for later
2.2 Authorizing level of REG as an official document is confirmed	-	Scheduled for later
2.3 REG is authorized	-	Scheduled for later
2.4 Lessons learned on EC in other countries are reflected to RMS management	a. JICA expert prepare training summary in Japan (the First - the Third) and draft the first training plan b. JICA expert prepare training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan	Activities to be conducted
Output3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened		
3.1 Current situation of existing ROW management is confirmed and RMS Development Plan is prepared	-	Scheduled for later
3.2 Authorization level of ROW Management Guidelines (RMG) as an official document is confirmed	-	Scheduled for later
3.3 Draft RMG is prepared	-	Scheduled for later
3.4 Draft RMG Training Plan (RMS-TP) is prepared	-	Scheduled for later
3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared	-	Scheduled for later
3.6 Lessons learned on SC in other countries are reflected to RMS discussion.	-	Scheduled for later
Output4: Capacity of SC required for ROW management is strengthened		
4.1 Pilot Project Implementation Plan is established.	-	Scheduled for later
4.2 PTF which involves DPWT is established	-	Scheduled for later
4.3 Pilot projects of Current Status Identification (CSI) is implemented.	-	Scheduled for later
4.4 Pilot project of Illegal Encroachment Prevention (IEP) is implemented.	-	Scheduled for later
4.5 At least 10 qualified trainers are trained.	-	Scheduled for later
4.6 RMS is authorized.	-	Scheduled for later

### 1-4 Achievement of the Project Purpose

The deliverables achieved by the Project as per the TOR are given in the table below:

\*Completed, Activities to be conducted, Scheduled for later

Project Purpose: Capacity of MPWT officials on ESC is enhanced through applying REG and RMS		
Indicators	Major Results	Status*
(1) Implementation framework of the project is established by Task Force (TF) consists of ICD, RID and DOP officials	- TF members were unofficially selected at Kickoff meeting held in 17th March	Activities to be conducted
(2) 80% of TF member record their capacity enhancement on Environmental Considerations (EC)	-	Scheduled for later
(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process	-	Scheduled for later
(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials	-	Scheduled for later

### 1-5 Changes of Risks and Actions for Mitigation

- N/A

### 1-6 Progress of Actions undertaken by JICA

- JICA Project Team conducted activities related to Output 1. The progress is monitored as stated in 1-3 Achievement of Output.

### 1-7 Progress of Actions undertaken by Gov. of Cambodia

Plan as January 2017	Actual as of March 2017	Status
1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Fulltime Staffs	All members are selected 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members	Selected and ready for a JCC approval
2. JCC Member 2.1 Ministry of Environment (MOE) 2.2 Ministry of Land Management, Urban Planning, Construction (MLMUPC)	The 1 <sup>st</sup> JCC is to be convened on 5 <sup>th</sup> May 2017 and all the members attended as agreed.	Selected and ready for a JCC approval
3. Land, building and facilities	Preparation of the following items are	Completed,

<p>3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items</p>	<p>prepared: 3. Land building and facilities 3.1 Office space for JICA Expert 3.2 Office space for equipment 3. Office Infrastructure a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items</p>	<p>ready for JICA consultants to move into the office.</p>
<p>4. Pilot Project Preparation and implementation of the pilot project</p>	<p>-</p>	

**1-8 Progress of Environmental and Social Considerations (if applicable)**

- N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

- N/A

**1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

- N/A

**2 Delay of Work Schedule and/or Issues (Problems) (if any)**

**2-1 Detail**

**A) Request from MPWT on Kickoff Meeting held on 17<sup>th</sup> March 2017.**

Some requests shown below were mentioned by MPWT on Kickoff meeting. Refer the detailed requests and Responses on attachment, which is "*Major Discussion Point and Request*".

- ① Cooperate with Public Infrastructure Department
- ② ROW Management might be included a part of Resettlement issues / Capacity Building for related for Resettlement Action Plan (RAP)
- ③ Public Relation (School Curriculum, Videos spot and TV Show...)
- ④ Enhancement of EIA Process Management

**B) Date of 1st JCC Meeting**



**1st JCC Meeting is still to be arranged but tentative schedule is set for the first week of May (May 5<sup>th</sup>).**

**2-2 Cause**

**B) Some JCC member will be abroad until end of April.**

**2-3 Action to be taken**

**A) Responses against requests from MPWT are below.**

**Refer the detailed requests and Responses on attachment, which is “*Major Discussion Point and Request*”.**

**① Invited Both Taskforces Activities as observer**

**② Out of scope**

**③ To be discussed on the project activity in detail**

**④ To be clarified with DOP**

**B) 1st JCC Meeting will be held on 5<sup>th</sup> May and Mr. Phalla and other directors of DOP and RID have been confirmed their participation in JCC meeting**

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Cambodia)**

**A) JICA Project Team and MPWT (Taskforce members)**

**B) JICA Project Team and MPWT (JCC members)**

**3 Modification of the Project Implementation Plan**

**3-1 PO**

**- PO (ver.1) is being prepared. (See the attached Monitoring Sheet Form 3-3.)**

**3-2 Other modifications on detailed implementation plan (Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)**

**- R/D and PDM are amended and will be authorized on 5<sup>th</sup> May 2017 as ver.1. This monitoring sheet uses the ver.1 of PO and PDM as a baseline to commence monitoring.**

<p><b>4 Preparation of Gov. of Cambodia toward after completion of the Project</b></p> <ul style="list-style-type: none"><li>- N/A</li></ul>
--

II. Project Monitoring Sheet I & II as Attached

**Project Monitoring Sheet I (Revision of Project Design Matrix)**

**Version 1.0**  
**Dated 06, April, 2017**

**Project Title:** Capacity Enhancement of Environmental and Social Considerations in Implementing Agency in Road Sector  
**Implementing Agency:** Ministry of Public Works and Transport (MPWT), Cambodia

**Target Group:** International Cooperation Department (ICD), Road Infrastructure Department (RID), and Department of Planning (DOP) in Ministry of Public Works and Transport (MPWT) and Department of Public Works and Transport (DPWT) in charge of selected areas for pilot project


**Period of Project:** Jan. 2017 - Dec. 2019 (3 years)

**Project Site:** Phnom Penh

**Pilot Project Site: To be Decided**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<p><b>Overall Goal</b> Environmental and Social Considerations (ESC) in road sector is implemented properly by MPWT</p> <p><b>Project Purpose</b> Capacity of MPWT officials on ESC is enhanced through applying REG and RMS</p>	<p><b>Objectively Verifiable Indicators</b></p> <p>(1) Environmental procedures are implemented in line with Road Environmental Guidelines (REG)</p> <p>(2) Right of Way (ROW) management is operated by using ROW Management System (RMS)</p> <p>(1) Implementation framework of the project is established by Task Force (TF) consists of ICD, RID and DOP officials</p> <p>(2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations (EC) through continuous participation to the REG preparation process</p> <p>(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process</p> <p>(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials.</p>	<p>(1) REG implementation record</p> <p>(2) RMS implementation record</p> <p>(1) Relevant documents of institutional arrangement</p> <p>(2) Result of the Capacity Assessment check list (comprehension check test)</p> <p>(3) Result of the Capacity Assessment check list (comprehension check test)</p> <p>(4) Records of dissemination seminars and final seminar</p>	<p>MPWT takes initiative to enforce REG and RMS in road sector</p>	<p>(1) TF member were unofficially selected at Kickoff meeting held on 17th March</p>	
<p><b>Outputs</b></p> <p>1. Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management</p>	<p>1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-G), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed.</p> <p>1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed</p> <p>1.3 Institutional framework and responsibilities in MPWT are examined</p> <p>1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment of target group</p> <p>1.5 As an implementation structure of the project, TF is established</p>	<p>1.1.1 JICA Expert Report (Environmental Social consideration analysis)</p> <p>1.1.2 Relevant materials of TF members in charge</p> <p>1.2.1 JICA Expert Report (ROW management analysis)</p> <p>1.2.2 Relevant materials of TF members in charge</p> <p>1.3.1 JICA Expert Report (institutional analysis)</p> <p>1.3.2 Relevant materials of TF members in charge</p> <p>1.4.1 JICA Expert Report</p> <p>1.4.2 Capacity enhancement plan</p> <p>1.4.3 Procurement plan</p> <p>1.5.1 TF organizing meeting record</p> <p>1.5.2 Documents related to TF establishment</p>	<p>Policy on ESC and legislation on ROW management system in Cambodia government are not drastically changed.</p> <p>Institutional organizations and JCC members related the project are not drastically changed.</p>	<p>a. JICA expert analyze ROW definition in Cambodia based on Low and Guideline related to MOE and MPWT learned in terms of ESC (progress 80%)</p> <p>b. JICA expert analyze EIA through the case related to ADB, WB and another donor in terms of ESC (progress 80%)</p> <p>a. JICA expert collect and analyze information on land management framework based on Low in Cambodia (progress 70%)</p> <p>b. JICA expert collect and analyze information on land management framework in other country (Japan) (progress 70%)</p> <p>a. JICA expert interview to ICD, RID and DOP</p> <p>b. JICA expert collect Legal documents on institutional framework (progress 80%)</p> <p>c. JICA expert analyzed Institutional framework and responsibilities related to EIA/EMP in MPWT (progress 80%)</p> <p>a. JICA expert assessment training needs of ICD, RID and DOP through hearing and Kickoff meeting held in 17th March</p> <p>b. JICA expert prepare Capacity Enhancement Plan</p> <p>c. JICA expert prepare training summary in Japan (the First - the Third) and draft the first training plan</p> <p>d. JICA expert prepare training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan</p> <p>e. JICA expert prepare training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan</p> <p>a. JICA expert propose ideal TF structure</p> <p>- EIA/EMP Team: DOP and ICD</p> <p>- ROW Management Team: RID and ICD</p> <p>b. TF member were unofficially selected at Kickoff meeting held in 17th March</p> <p>The 1st JCC will be convened on 5th May 2017 and TF will be approved</p>	
<p>2. Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened</p>	<p>2.1 Concept of EC and its implementation process are understood</p> <p>2.2 Authorizing level of REG as an official document is confirmed</p> <p>2.3 Lessons learned on EC in other countries are reflected to REG development</p> <p>2.4 REG is developed and authorized</p>	<p>2.1.1 Training records</p> <p>2.1.2 Capacity Assessment check list</p> <p>2.2.1 Minutes of JCC</p> <p>2.2.2 Meeting record of REG authorization process</p> <p>2.3.1 Relevant materials of training courses in Japan</p> <p>2.3.2 Relevant materials of third country technical exchanges</p> <p>2.3.3 Records of Training and seminar in Cambodia</p> <p>2.4.1 REG Development Plan</p> <p>2.4.2 Meeting record of REG development</p> <p>2.4.3 Drafted REG</p> <p>2.4.4 Authorized REG</p>	<p>a. JICA expert prepare training summary in Japan (the First - the Third) and draft the first training plan</p> <p>b. JICA expert prepare training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan</p>		
<p>3. Implementation framework of Social Considerations (SC) related to ROW management is strengthened</p>	<p>3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared</p> <p>3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed</p> <p>3.3 Draft RMG is prepared</p> <p>3.4 Draft RMS Training Plan (RMS-TP) is prepared</p> <p>3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared</p> <p>3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion</p> <p>3.7 RMS is authorized</p>	<p>3.1.1 Development Plan of draft RMS</p> <p>3.1.2 Meeting record of draft RMS development</p> <p>3.1.3 Capacity Assessment Checksheet</p> <p>3.2.1 Minutes of JCC</p> <p>3.2.2 Meeting record of RMG authorization process</p> <p>3.3.1 Meeting record of draft RMG preparation</p> <p>3.3.2 Draft RMG</p> <p>3.4.1 Meeting Record of draft RMS-TP preparation</p> <p>3.4.2 Draft RMS-TP</p> <p>3.5.1 Meeting Record of tentative RMM preparation</p> <p>3.5.2 Meeting Record of tentative RMD preparation</p> <p>3.5.3 Tentative RMM and RMD</p> <p>3.6.1 Relevant materials of training courses in Japan</p> <p>3.6.2 Relevant materials of third country technical exchanges</p> <p>3.6.3 Records of Training and seminar in Cambodia</p> <p>3.7.1 Finalized RMG, RMS-TP, RMM and RMD</p> <p>3.7.2 Minutes of JCC</p> <p>3.7.3 Record of RMS final seminar</p>	<p>4.1.1 Meeting record of establishment of pilot project implementation plan</p> <p>4.1.2 Pilot project implementation plan</p> <p>4.2.1 PTF organizing meeting record</p> <p>4.2.2 Documents related to PTF establishment</p> <p>4.3.1 PTF activity record</p> <p>4.3.2 Progress on RMM and RMD preparation</p> <p>4.3.3 Training records</p> <p>4.4.1 PTF activity record</p> <p>4.4.2 Progress on RMM and RMD updating</p> <p>4.4.3 Training records</p> <p>4.5.1 TOT implementation record</p> <p>4.5.2 Record of the dissemination seminar</p> <p>4.5.3 Observation and interview by JICA Experts</p>		
<p>4. Capacity of SC required for ROW management is strengthened</p>	<p>4.1 Pilot Project Implementation Plan is established</p> <p>4.2 PTF is established</p> <p>4.3 Pilot project of Current Status Identification (CSI) is completed</p> <p>4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed</p> <p>4.5 At least 10 qualified trainers are trained</p>	<p>4.1.1 Meeting record of establishment of pilot project implementation plan</p> <p>4.1.2 Pilot project implementation plan</p> <p>4.2.1 PTF organizing meeting record</p> <p>4.2.2 Documents related to PTF establishment</p> <p>4.3.1 PTF activity record</p> <p>4.3.2 Progress on RMM and RMD preparation</p> <p>4.3.3 Training records</p> <p>4.4.1 PTF activity record</p> <p>4.4.2 Progress on RMM and RMD updating</p> <p>4.4.3 Training records</p> <p>4.5.1 TOT implementation record</p> <p>4.5.2 Record of the dissemination seminar</p> <p>4.5.3 Observation and interview by JICA Experts</p>			



Activities	Inputs	Pre-Conditions
<b>Activities for Output 1</b> 1.1 Analyze past projects current tackling issues on ROW management in terms of ESC-GL 1.2 Collect and analyze information on land management framework of land management system in Cambodia 1.3 Conduct institutional framework analysis for MPWT 1.4 Conduct a needs assessment for training and develop capacity enhancement plan and procurement plan 1.5 Discuss the TF framework <b>Activities for Output 2</b> 2.1 Conduct training on ESC of development partners (DPs) 2.2 Discuss documentation level of REG (EIA and EMP) and confirm process of authorization 2.3 Plan and conduct training in Japan and third countries 2.4 Develop REG <b>Activities for Output 3</b> 3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD) 3.2 Discuss documentation level of RMG and process of authorization 3.3 Prepare draft RMG: Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP) 3.4 Prepare draft RMS-TP 3.5 Prepare tentative RMM and tentative RMD 3.6 Plan and conduct training in Japan and third countries 3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS <b>Activities for Output 4</b> 4.1 Discuss the implementation plan of the pilot project by using draft RMS 4.2 Discuss the framework of the Pilot Project Task Force (PTF) 4.3 Implement the Pilot Project of CSI 4.4 Implement the Pilot Project of IEP 4.5 Conduct TOT based on draft RMS-TP	<b>The Japanese Side</b> 1. Experts 1.1 Leader / Right of Way Management-1 1.2 Sub Leader / Right of Way Management-2 1.3 ESC/EI/EMP 1.4 Land Management Framework -1 1.5 Land Management Framework -2/ Database Development 1.6 Land and House Investigation -1 1.7 Land and House Investigation -2 1.8 Training Plan and Implementation -1 1.9 Training Plan and Implementation -2 1.10 Institutional Analysis / FCM 1.11 Project Coordinator / Database Management 1.12 Monitoring 2. Training 2.1 Training in Japan 2.2 Technical exchange in third countries 2.3 Training and seminar in Cambodia 3. Machinery and Equipment 3.1. Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment 4. Local Contract 4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping) 4.2 Administrative Assistant (Secretary, Interpreter, Translator) 4.3 Driver with car (rent-a-car)	<b>The Cambodian Side</b> 1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.4 Fulltime Staffs 2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) 2.2 JCC Advisors a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC) 3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items 4. Pilot Project site Preparation and implementation of the pilot project
		Target group members assigned for the project are able to spend sufficient time to participate in activities  Critical obstructions due to failure of coordination between other authorities relevant to the project do not occur   <b>&lt;Issues and countermeasures&gt;</b>



Output 3: 3. Implementation framework of Social Considerations (SC) related to ROW management is strengthened									
Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD)									
3.2 Discuss documentation level of RMG and process of authorization									
3.3 Prepare draft RMG; Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP)									
3.4 Prepare draft RMS-TP									
3.5 Prepare tentative RMM and tentative RMD									
3.6 Plan and conduct training in Japan and third countries									
3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS									
Output 4: 4. Capacity of SC required for ROW management is strengthened									
4.1 Discuss the implementation plan of the pilot project by using draft RMS									
4.2 Discuss the framework of the Pilot Project Task Force (PTF)									
4.3 Implement the Pilot Project of CSI									
4.4 Implement the Pilot Project of IEP									
4.5 Conduct TOT based on draft RMS-TP									
Duration / Phasing									
Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
2017		2018		2019		2020			
I	II	I	II	I	II	I	II	I	II
III	IV	III	IV	III	IV	III	IV	III	IV
Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
Joint Coordination Committee									
Set-up the Detailed Plan of Operation									
Submission of Monitoring Sheet									
Monitoring Mission from Japan									
Joint Monitoring									
Post Monitoring									
Reports/Documents									
Inception Report									
Report of Past Experiences on ESC and ROW									
Progress Report									
Project Completion Report									
Public Relations									
Establishment and Operation of web Site									
Seminar, Academic Conference									
Remarks	1st JCC will be held on 5th May 2017								
Issue	Solution								





**Major Discussion Point and Request**

**From Management Level**

No.	Request	Project Output/Activity	Remarks/Response
1	Cooperate with Public Infrastructure Department	N/A	Invited Both Taskforces Activities as observer (to be appointed 2 officials as chief level)
2	ROW Management might be included a part of Resettlement issues	N/A	Out of scope, To be clarified
3	Conduct capacity enhancement activities for the local level (DPWT, Local Authority)	Related to Output 4, Implement Pilot Project of CSI and IEP	To be discussed on the project activity in detail
4	Standard for the drawings for utilities in ROW	Related to Output 3, Discuss draft ROW Management System (RMS) Develop ROW Management Guideline (RMG).	To be discussed on the project activity in detail
5	Develop the mapping system for managing road, utilities and encroached facilities	Related to Output 3, Discuss draft ROW Management System (RMS) Develop ROW Management Map (RMM) and ROW Management Database (RMD)	To be discussed on the project activity in detail



THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA (CESCOR)



Attachment

**ROW Management Office, RID**

No.	Requests	Project Output/Activity	Remarks/Response
1	Develop Guideline (1) ROW Management Guideline: (2) Accessibility and management method, (3) Cooperation among MPWT, MLMUPC and Local Authorities, (4) Dealing to problems for appropriate solution,	Related to Output 3, Develop ROW Management Guideline (RMG).	To be discussed on the project activity in detail.
2	Public Relation: (1) School Curriculum, (2) Videos spot and TV Show (3) All legal documents will be dealt to the road user.	Related to Output 3, Discuss ROW Management System (RMS) Develop ROW Management Guideline (RMG).	
3	Database management in Map	Related to Output 3, Develop ROW Management Map (RMM) and ROW Management Database (RMD)	
4	Conduct Pilot project in 2018 for ROW Management System: Suggest NR 1-3 or 4	Related to Output 4, Implement Pilot Project of CSI and IEP.	



THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA (CESCOR)



Attachment

**Environmental Social Office, DoP**

No.	Request	Project Output/Activity	Remarks/Response
1	<p>Improve Review and Comments,</p> <p>(1) Review on EIA/IEE report.</p> <p>(2) Perform monitoring and inspecting the implementation of EMP</p> <p>(3) Provide comments on EIA/IEE report for both private and public investment project</p>	<p>Related to Output 2,</p> <p>Discuss ROW Environmental Guideline (REG)</p>	<p>To be discussed on the project activity in detail</p>
2	<p>Improvement for documentation skills such preparing and drafting related EIA Report,</p> <p>(1) Prepare monitoring and inspecting report for MPWT management level</p> <p>(2) Design and prepare template for monitoring and inspecting report of EMP implementation Guideline for ROW Management,</p>	<p>Related to Output 2,</p> <p>Discuss ROW Environmental Guideline (REG)</p>	
3	<p>Enhancement of EIA Process Management,</p> <p>(1) Development of EIA/IEE report.</p> <p>(2) Preparing of Environmental and Social Screening Checklist and how to identify the issues</p> <p>(3) Preparing of Comprehensive EMP</p> <p>(4) Preparing Key tools and/or methods for EIA/IEE.</p> <p>(5) Management skill of EIA/IEE work flow and procedure for EIA/IEE approval.</p> <p>(6) Implement EIA/IEE review</p> <p>(7) Conduct EMP implementation and prepare monitoring and inspecting report</p>	<p>N/A or</p> <p>Related to Output 2,</p> <p>Discuss ROW Environmental Guideline (REG)?</p>	<p>To be clarified with DoP</p>
4	<p>Engagement of resettlement of socio-economic impact result from MPWT's project activities</p>	N/A	<p>Out of scope,</p> <p>To be clarified with DoP</p>
5	<p>Additional Request for training after the kick off</p>	To be updated	To be clarified with DoP





THE PROJECT FOR CAPACITY ENHANCEMENT ON ENVIRONMENTAL AND SOCIAL CONSIDERATIONS  
IN IMPLEMENTING AGENCY IN ROAD SECTOR IN THE KINGDOM OF CAMBODIA (CESCOR)



Attachment

**Project Management Unit NRS, ICD**

No.	Request	Project Output/Activity	Remarks/Response
1	Capacity Enhancement for EIA: (1) Develop EIA guideline for road sector (2) Preparing the proposal for EIA (3) Receiving more knowledge & experience in EIA & ROW implementation	Related to Output 2, Discuss ROW Environmental Guideline (REG)	To be discussed on the project activity in detail
2	Pilot Project: Select National Road No 1, especially zone after Monivong Bridge	Related to Output 4, Implement Pilot Project of CSI and IEP	To be discussed on the project activity in detail
3	Provide Training for Basic knowledge of environmental procedures for the road sector	Related to Output 2, Discuss ROW Environmental Guideline (REG) Related to Output 3, Discuss draft RMS Development Plan Plan and conduct Training in Japan and third countries	To be discussed on the project activity in detail
4	Capacity Building for related for Resettlement Action Plan (RAP): (1) Developing the checklist or template of RAP preparation and RAP updated. (2) Capacity Building to provincial working group on RAP.	N/A	Out of scope, To be clarified with ICD



## 5-2. Monitoring Sheet Ver. 2.0





**TO CR of JICA CAMBODIA OFFICE**

**PROJECT MONITORING SHEET**

**Project Title : Capacity Enhancement of Environment and Social Considerations in  
Implementing Agency in Road Sector**

**Version of the Sheet: Ver.2 June 2017**

**Name: Takayuki Tsuchida**

**Title: Team Leader**

**Submission Date: 7 July 2017**

**I. Summary**

**1 Progress**

**1-1 Progress of Inputs**

- PDM related to Input were authorized on 4<sup>th</sup> May 2017 as a ver. 1

Inputs	PDM ver.1 approved on May 2017	Actual as of June 2017
Experts	<p><u>Total: 103.5M/M</u></p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>	<p><u>Progress: 20.23 M/M (19.55%)</u></p> <p>Between January and June 2017, the following experts were dispatched.</p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>
	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator)</p> <p>4.3 Driver with car (rent-a-car)</p>	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping): 1 staff</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator): 2 staffs</p> <p>4.3 Driver with car (rent-a-car)</p>
Training in Japan	3 times	1 / 3 times

		1st training in Japan was held on 13 <sup>th</sup> – 22 <sup>nd</sup> June, 2017.
Third country technical exchange	3 times	0 / 3 times 1st training in third country will be held on October, 2017.
Training in Cambodia	Seminar 5 times Daily training	Seminar: 1 / 5 times 1st seminar was held on 4th May, 2017 and 2 <sup>nd</sup> Seminar will be held on 6 <sup>th</sup> July, 2017.
Equipment	PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment	PC, Printer, Copy machine and Projector were procured. Drone and Total Station will be procured on July, 2017.
Cambodian Side Personnel	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)
	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) MLMUPC joined as an observer.
Operational Expenses	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items
	4. Pilot Project site Preparation and implementation of the pilot project	To be decided

## 1-2 Progress of Activities

- Progress of activities is indicated in Monitoring Sheet Form 3-2 (PDM) and 3-3 (PO).
- Principally it has not observed any crucial bottleneck in the progress.

**1-3 Achievement of Output**

The deliverables achieved by the Project as per the TOR are given in the table below:

- PDM related to Output were authorized on 4<sup>th</sup> May 2017 as a ver.1

\*Completed, Activities to be conducted, Scheduled for later.

Output/Indicators (Based on PDM ver.1)	Major Results Achievement till June 2017	Status*
Output1: Implementation Framework for the project is strengthened based on the past experiences and present situation on ESC and EOW management		
1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed	(EIA/EMP: progress 90%) a. EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC b Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions on the 3rd TF meeting with EIA/EMP team c. EIA process and past implementation issues by WB, ADB and China and Korean fund Projects in Cambodia were analyzed and reported and will be shared in TF meetings (ROW: progress 80%) d. ROW definition in Cambodia was analyzed based on Low and Guideline related to MOE and MPWT learned in terms of ESC e. Case examples of ROW management in ASEAN countries are being analyzed.	Activities to be conducted
1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed	(progress 90%) a. Information and case examples on land management framework was collected and analyzed based on Low in Cambodia b. Information and case examples on land management framework in Japan and other countries was collected and analyzed c. Additional information will be collected and analyzed as needed d. Above contents will be reported and shared in TF meetings	Activities to be conducted
1.3 Institutional framework and responsibilities in MPWT are examined	(progress 100%) a. Legal documents on institutional framework were collected b. Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed	Completed

	c. Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed	
1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group	(progress 80%) a. Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March b. Capacity Enhancement Plan was prepared c. Training summary in Japan (the First - the Third) was prepared d. Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared e. Some procurement plans were prepared and plans for total station, drone and database server will be prepared on July, 2017 f. Above contents will be reported and shared in TF meetings	Activities to be conducted
1.5 As an implementation structure of the project, TF is established	(progress 100%) a. Ideal TF structure was proposed like below - EIA/EMP Team: DOP and ICD - ROW Management Team: RID and ICD b. TF members were officially selected at the 1st JCC held on 4th May	Completed
Output2: Implementation Framework of EC related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened		
2.1 Concept of EC and its implementation process are understood	(progress 90%) a. Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members b. Implementation issues of EIA/EMP were addressed by EIA/EMP TF members c. Key concepts of EC by DPs were shared between JICA experts and TF members at the 2nd TF meetings held on 6th April, 2017 d. The following presentations were made on the 1st Seminar held on 4th May 1) EIA General Process and the implementation issues in Cambodia 2) Tasks and the implementation issues of MPWT for EIA process in road sector e. Training will be conducted through the TF meeting.	Completed
2.2 Authorizing level of REG as an official document is confirmed	(progress 30%) a. Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was	Activities to be conducted



	<p>confirmed</p> <p>b. Documentation level of REG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)</p> <p>c. Authorization procedure will be prepared and fixed as needed</p>	
2.3 Lessons learned on EC in other countries are reflected to REG development	<p>(progress 20%)</p> <p>a. Training summary in Japan (the First - the Third) was prepared</p> <p>b. The 1st training in Japan was held on 13th - 22nd June, 2017</p> <p>c. Training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan were prepared</p>	Activities to be conducted
2.4 REG is developed and authorized	<p>(progress 30%)</p> <p>a. REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings</p> <p>b. Team leader and JICA Experts asked for cooperation to MoE as a technical observer on CESCOR Project, and conducted hearing to Deputy Director of EIA Department, MOE, on 24th April, 2017 to clarify the purposes and process of the REG</p> <p>c. Technical Official of EIA Department, MOE participated at 4th TF meeting of EIA/EMP as a technical observer, and provided the suggestions for developing REG</p>	Activities to be conducted
2.5 REG is monitored based on EIA/EMP related activities.	-	Scheduled for later
Output3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened		
3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	<p>(progress 60%)</p> <p>a. Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017</p> <p>b. Draft contents and draft development plan of RMS were prepared and will be confirmed on July, 2017</p> <p>c. RMM materials are being prepared</p>	Activities to be conducted
3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed	<p>(progress 30%)</p> <p>a. Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)</p> <p>b. Authorization procedure will be prepared and fixed as needed</p>	Activities to be conducted
3.3 Draft RMG is prepared	-	Scheduled for later

3.4 Draft RMS Training Plan (RMS-TP) is prepared	-	Scheduled for later
3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared	-	Scheduled for later
3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion	(progress 20%) a. Training summary in Japan (the First - the Third) was prepared b. The 1st training in Japan was held on 13th - 22nd June, 2017 c. Training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan were prepared d. Case examples of ROW management in ASEAN countries are being collected and analyzed to plan 3rd Country Technical Exchange	Activities to be conducted
3.7 RMS is authorized		
Output4: Capacity of SC required for ROW management is strengthened		
4.1 Pilot Project Implementation Plan is established	-	Scheduled for later
4.2 PTF is established	-	Scheduled for later
4.3 Pilot project of Current Status Identification (CSI) is completed	-	Scheduled for later
4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed	-	Scheduled for later
4.5 At least 10 qualified trainers are trained	-	Scheduled for later

#### 1-4 Achievement of the Project Purpose

The deliverables achieved by the Project as per the TOR are given in the table below:

\*Completed, Activities to be conducted, Scheduled for later

Project Purpose: Capacity of MPWT officials on ESC is enhanced through applying REG and RMS		
Indicators	Major Results	Status*
(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials	- TF members were officially selected at the 1st JCC held on 4th May	Activities to be conducted
(2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(EC) through continuous participation to the REG preparation process	-	Scheduled for later
(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process	-	Scheduled for later

(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials	-	Scheduled for later
---	---	---------------------

### 1-5 Changes of Risks and Actions for Mitigation

- N/A

### 1-6 Progress of Actions undertaken by JICA

- JICA Project Team conducted activities related to Output 1. The progress is monitored as stated in 1-3 Achievement of Output.

### 1-7 Progress of Actions undertaken by Gov. of Cambodia

PDM ver.1 approved on May 2017	Actual as of June 2017	Status
1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	Completed
2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	JCC members attended as agreed at 1 <sup>st</sup> JCC held on 4 <sup>th</sup> May, 2017.	Completed
3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	Office space for JICA consultants is being arranged.
4. Pilot Project Preparation and implementation of the pilot project	-	

### 1-8 Progress of Environmental and Social Considerations (if applicable)

- N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

- N/A

**1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

- Director of DOP, the Deputy Manager of EIA/EMP TF, changed from Mr. Chreang Phollack to Mr. Pork Novida
- Director of RID, the Deputy Manager of ROW Management TF, will change from Mr. Heng Rathpiseth to Mr. Chhim Phalla, present Director of ICD and Director of ICD, the Deputy Manager of this project, will change from Mr. Mr. Chhim Phalla to Ms. Pin Vuthea, present Deputy Director of ICD
- Above personnel changes have not observed any crucial bottleneck in the progress of this project

**2 Delay of Work Schedule and/or Issues (Problems) (if any)**

Principally it has not observed any crucial bottleneck in the progress of this project.

**2-1 Detail**

- A) For the implementation framework of ROW management, roles and responsibility of relevant authorities, such as Ministry of Land Management, Urban Planning, Construction (MLMUPC) in terms of land management, Ministry of Interior (MOI) as supervising authority of local government, and etc. shall be considered in the process of discussion for establishing ROW Management System (RMS).
- B) Documentation level of REG and RMG were set as Prakas at the 1st JCC held on 4<sup>th</sup> May, 2017. Approval process of Prakas will be confirmed through out the TF activities in following stage.
- C) RID required that roles, function and responsibility of relative authorities would be specified on the Guideline and be made clear.
- D) RID required that a simple database to access regal documents would be prepared.
- E) RID concerned that the Site of Pilot Project was not decided.
- F) Reports of some activities were not prepared and shared with TF members and JICA experts
- G) Establishment of web site for public relations is delay



**2-2 Cause**

- A) Relevant Authorities on ROW management were not made clear on the Detailed Planning Survey of this project.

**2-3 Action to be taken**

- A) Presentations from MLMUPC regarding Land Registration were conducted at the TF meeting and hearing from MOI regarding roles of local government will be conducted.
- B) Confirmation of the authorization procedure to relative authorities will be advanced quickly on the first of July, 2017
- C) Roles, function and responsibility of relative authorities will be specified on each guideline such as REG and RMG.
- D) A simple database and/or the database server to access regal documents will be prepared
- E) The site and the outline of Pilot Project will be selected and approved at the 2<sup>nd</sup> JCC held on January, 2018
- F) Reports of some activities will be prepared and shared in TF meeting
- G) Web site contents were prepared and web site will be established on July, 2017

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Cambodia)**

- A) JICA Project Team and MPWT
- B) JICA Project Team and MPWT
- C) JICA Project Team and MPWT
- D) JICA Project Team
- E) JICA Project Team and MPWT
- F) JICA Project Team
- G) JICA Project Team

**3 Modification of the Project Implementation Plan**

**3-1 PO**

- PO (ver.2) is being prepared. (See the attached Monitoring Sheet Form 3-3.)

**3-2 Other modifications on detailed implementation plan (Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)**

- This monitoring sheet uses PDM and PO ver.1 approved at 1<sup>st</sup> JCC as a baseline to

commence monitoring.

- The amendment R/D and PDM will be authorized by JICA HDQs on July, 2017.

**4 Preparation of Gov. of Cambodia toward after completion of the Project**

- N/A

II. Project Monitoring Sheet I & II as Attached

**Project Monitoring Sheet I (Revision of Project Design Matrix)**

Project Title: Capacity Enhancement of Environmental and Social Considerations in Implementing Agency in Road Sector  
 Implementing Agency: Ministry of Public Works and Transport (MPWT), Cambodia

Version 2  
 Dated 07, July, 2017

Target Group: International Cooperation Department (ICD), Road Infrastructure Department (RID), and Department of Planning (DOP) in Ministry of Public Works and Transport (MPWT) and Department of Public Works and Transport (DPWT) in charge of selected areas for pilot project

Period of Project: Jan. 2017 - Dec. 2019 (3 years)

Pilot Project Site: To be Decided		Important Assumption	Achievement	Remarks
Narrative Summary	Objectively Verifiable Indicators	Means of Verification		
<p><b>Overall Goal</b>                      Environmental and Social Considerations (ESC) in road sector is implemented properly by MPWT</p> <p><b>Project Purpose</b>                      Capacity of MPWT officials on ESC is enhanced through applying REG and RMS</p>	<p>(1) Environmental procedures are implemented in line with Road Environmental Guidelines (REG)                      (2) Right of Way (ROW) management is operated by using ROW Management System (RMS)</p> <p>(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials                      (2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(ESC) through continuous participation to the REG preparation process                      (3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process                      (4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials.</p>	<p>(1) REG implementation record                      (2) RMS implementation record</p> <p>(1) Relevant documents of institutional arrangement                      (2) Result of the Capacity Assessment check list (comprehension check test)                      (3) Observation and interview by JICA Experts                      (4) Records of dissemination seminars and final seminar</p>	<p>(1) TF members were officially selected at the 1st JCC held on 4th May</p>	
<p><b>Outputs</b>                      1. Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management</p>	<p>1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed</p> <p>1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed</p> <p>1.3 Institutional framework and responsibilities in MPWT are examined</p> <p>1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group</p> <p>1.5 As an implementation structure of the project, TF is established</p>	<p>1.1.1 JICA Expert Report (Environmental Social considerations analysis)                      1.1.2 Relevant materials of TF members in charge</p> <p>1.2.1 JICA Expert Report (ROW management analysis)                      1.2.2 Relevant materials of TF members in charge</p> <p>1.3.1 JICA Expert Report (Institutional analysis)                      1.3.2 Relevant materials of TF members in charge</p> <p>1.4.1 JICA Expert Report (Needs analysis)                      1.4.2 Capacity enhancement plan                      1.4.3 Procurement plan</p> <p>1.5.1 TF organizing meeting record                      1.5.2 Documents related to TF establishment</p>	<p>(EIA/EMP: progress 90%)                      a. EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC                      b. Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions on the 3rd TF meeting with EIA/EMP team                      c. EIA process and past implementation issues by WB, ADB and China and Korean fund Projects in Cambodia were analyzed and reported and will be shared in TF meetings                      d. ROW definition in Cambodia was analyzed based on Low and Guideline related to MOE and MPWT learned in terms of ESC                      e. Case examples of ROW management in ASEAN countries are being analyzed.</p> <p>(progress 90%)                      a. Information and case examples on land management framework was collected and analyzed based on Low in Cambodia                      b. Information and case examples on land management framework in Japan and other countries was collected and analyzed                      c. Additional information will be collected and analyzed as needed                      d. Above contents will be reported and shared in TF meetings</p> <p>(progress 100%)                      a. Legal documents on institutional framework were collected                      b. Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed                      c. Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed</p> <p>(progress 80%)                      a. Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March                      b. Capacity Enhancement Plan was prepared                      c. Training summary in Japan (the First - the Third) was prepared                      d. Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared                      e. Some procurement plans were prepared and plans for total station, drone and database server will be prepared on July, 2017                      f. Above contents will be reported</p> <p>(progress 100%)                      a. Ideal TF structure was proposed like below                      - EIA/EMP Team: DOP and ICD                      - ROW Management Team: RID and ICD                      b. TF members were officially selected at the 1st JCC held on 4th May</p> <p>(progress 90%)                      a. Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members                      b. Implementation issues of EIA/EMP were addressed by EIA/EMP TF members                      c. Key concepts of EC by DPs were shared between JICA experts and TF members at the 2nd TF meetings held on 6th April, 2017                      d. The following presentations were made on the 1st Seminar held on 4th May                      1) EIA General Process and the implementation issues in Cambodia                      2) Tasks and the implementation issues of MPWT for EIA process in road sector                      e. Training will be conducted through the TF meeting.</p> <p>(progress 30%)                      a. Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed                      b. Documentation level of REG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)                      c. Authorization procedure will be prepared and fixed as needed</p> <p>(progress 20%)                      a. Training summary in Japan (the First - the Third) was prepared                      b. The 1st training in Japan was held on 13th - 22nd June, 2017                      c. Training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan were prepared</p> <p>(progress 30%)                      a. REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings                      b. Team leader and JICA Experts asked for cooperation to MoE as a technical observer on CESCOR Project, and conducted hearing to Deputy Director of EIA Department, MOE, on 24th April, 2017 to clarify the purposes and process of the REG                      c. Technical Official of EIA Department, MOE participated at 4th TF meeting of EIA/EMP as a technical observer, and provided the suggestions for developing REG</p>	
<p>2. Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened</p>	<p>2.1 Concept of EC and its implementation process are understood</p> <p>2.2 Authorizing level of REG as an official document is confirmed</p> <p>2.3 Lessons learned on EC in other countries are reflected to REG development</p> <p>2.4 REG is developed and authorized</p> <p>2.5 REG is monitored based on EIA/EMP related activities.</p>	<p>2.1.1 Training records                      2.1.2 Capacity Assessment check list</p> <p>2.2.1 Minutes of JCC                      2.2.2 Meeting record of REG authorization process</p> <p>2.3.1 Relevant materials of training courses in Japan                      2.3.2 Relevant materials of third country technical exchanges                      2.3.3 Records of Training and seminar in Cambodia                      2.4.1 REG Development Plan                      2.4.2 Meeting record of REG development                      2.4.3 Drafted REG                      2.4.4 Authorized REG</p> <p>2.5.1 JICA Expert Report (REG Monitoring Report)</p>		

(progress 60%) a. Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017 b. Draft contents and draft development plan of RMS were prepared and will be confirmed on July, 2017 c. RMM materials are being prepared	3.1.1 Development Plan of draft RMS 3.1.2 Meeting record of draft RMS development	3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	3.1.1 Development Plan of draft RMS 3.1.2 Meeting record of draft RMS development
(progress 30%) a. Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance) b. Authorization procedure will be prepared and fixed as needed	3.2.1 Minutes of JCC 3.2.2 Meeting record of RMG authorization process 3.3.1 Meeting Record of draft RMG preparation 3.3.2 Draft RMG 3.4.1 Meeting Record of draft RMS-TP preparation 3.4.2 Draft RMS-TP	3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed 3.3 Draft RMG is prepared 3.4 Draft RMS Training Plan (RMS-TP) is prepared 3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared 3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion 3.6.3 Records of Training and seminar in Cambodia	3.2.1 Minutes of JCC 3.2.2 Meeting record of RMG authorization process 3.3.1 Meeting Record of draft RMG preparation 3.3.2 Draft RMG 3.4.1 Meeting Record of draft RMS-TP preparation 3.4.2 Draft RMS-TP
(progress 20%) a. Training summary in Japan (the First - the Third) was prepared b. The 1st training in Japan was held on 13th - 22nd June, 2017 c. Training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan were prepared d. Case examples of ROW management in ASEAN countries are being collected and analyzed to plan 3rd Country Technical Exchange	3.7.1 Finalized RMG, RMS-TP, RMM and RMD 3.7.2 Minutes of JCC 3.7.3 Record of RMS final seminar 4.1.1 Meeting record of establishment of pilot project implementation plan 4.1.2 Pilot project implementation plan 4.2.1 PTF organizing meeting record 4.2.2 Documents related to PTF establishment 4.3.1 PTF activity record 4.3.2 Progress on RMM and RMD preparation 4.3.3 Training records 4.4.1 PTF activity record 4.4.2 Progress on RMM and RMD updating 4.4.3 Training records 4.5.1 TOT implementation record 4.5.2 Record of the dissemination seminar 4.5.3 Observation and interview by JICA Experts	3.7 RMS is authorized 4.1 Pilot Project Implementation Plan is established 4.2 PTF is established 4.3 Pilot project of Current Status Identification (CSI) is completed 4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed 4.5 At least 10 qualified trainers are trained	3.7.1 Finalized RMG, RMS-TP, RMM and RMD 3.7.2 Minutes of JCC 3.7.3 Record of RMS final seminar 4.1.1 Meeting record of establishment of pilot project implementation plan 4.1.2 Pilot project implementation plan 4.2.1 PTF organizing meeting record 4.2.2 Documents related to PTF establishment 4.3.1 PTF activity record 4.3.2 Progress on RMM and RMD preparation 4.3.3 Training records 4.4.1 PTF activity record 4.4.2 Progress on RMM and RMD updating 4.4.3 Training records 4.5.1 TOT implementation record 4.5.2 Record of the dissemination seminar 4.5.3 Observation and interview by JICA Experts

3. Implementation framework of Social Considerations (SC) related to ROW management is strengthened	3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared 3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed 3.3 Draft RMG is prepared 3.4 Draft RMS Training Plan (RMS-TP) is prepared 3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared 3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion 3.6.3 Records of Training and seminar in Cambodia	3.1.1 Development Plan of draft RMS 3.1.2 Meeting record of draft RMS development 3.2.1 Minutes of JCC 3.2.2 Meeting record of RMG authorization process 3.3.1 Meeting Record of draft RMG preparation 3.3.2 Draft RMG 3.4.1 Meeting Record of draft RMS-TP preparation 3.4.2 Draft RMS-TP 3.5.1 Meeting Record of tentative RMM preparation 3.5.2 Meeting Record of tentative RMD preparation 3.5.3 Tentative RMM and RMD 3.6.1 Relevant materials of training courses in Japan 3.6.2 Relevant materials of third country technical exchanges 3.6.3 Records of Training and seminar in Cambodia	(progress 60%) a. Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017 b. Draft contents and draft development plan of RMS were prepared and will be confirmed on July, 2017 c. RMM materials are being prepared (progress 30%) a. Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance) b. Authorization procedure will be prepared and fixed as needed (progress 20%) a. Training summary in Japan (the First - the Third) was prepared b. The 1st training in Japan was held on 13th - 22nd June, 2017 c. Training summary in 3rd Country Technical Exchange (the First - the Third) and draft the first training plan were prepared d. Case examples of ROW management in ASEAN countries are being collected and analyzed to plan 3rd Country Technical Exchange
4. Capacity of SC required for ROW management is strengthened	4.1 Pilot Project Implementation Plan is established 4.2 PTF is established 4.3 Pilot project of Current Status Identification (CSI) is completed 4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed 4.5 At least 10 qualified trainers are trained	4.1.1 Meeting record of establishment of pilot project implementation plan 4.1.2 Pilot project implementation plan 4.2.1 PTF organizing meeting record 4.2.2 Documents related to PTF establishment 4.3.1 PTF activity record 4.3.2 Progress on RMM and RMD preparation 4.3.3 Training records 4.4.1 PTF activity record 4.4.2 Progress on RMM and RMD updating 4.4.3 Training records 4.5.1 TOT implementation record 4.5.2 Record of the dissemination seminar 4.5.3 Observation and interview by JICA Experts	

<b>Activities for Output 1</b> 1.1 Analyze past projects, current lacking issues on EIA/EMP and ROW management in terms of ESC-GL 1.2 Collect and analyze information on land management framework of land management system in Cambodia 1.3 Conduct institutional framework analysis for MPWT 1.4 Conduct a needs assessment for training and develop capacity enhancement plan and procurement plan 1.5 Discuss the TF framework <b>Activities for Output 2</b> 2.1 Conduct training on ESC of development partners (DPs) 2.2 Discuss documentation level of REG (EIA and EMP) and confirm process of authorization 2.3 Plan and conduct training in Japan and third countries 2.4 Develop REG 2.5 Monitor EIA/EMP related activities based on REG <b>Activities for Output 3</b> 3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD) 3.2 Discuss documentation level of RMG and process of authorization 3.3 Prepare draft RMG; Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP) 3.4 Prepare draft RMS-TP 3.5 Prepare tentative RMM and tentative RMD 3.6 Plan and conduct training in Japan and third countries 3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS <b>Activities for Output 4</b> 4.1 Discuss the implementation plan of the pilot project by using draft RMS 4.2 Discuss the framework of the Pilot Project Task Force (PTF) 4.3 Implement the Pilot Project of CSI 4.4 Implement the Pilot Project of IEP 4.5 Conduct TOT based on draft RMS-TP	<b>Inputs</b> <b>The Japanese Side</b> 1. Experts 1.1 Team Leader / Right of Way Management-1 1.2 Deputy Team Leader / Right of Way Management-2 1.3 ESC/EIA/EMP 1.4 Land Management Framework -1 1.5 Land Management Framework -2 / Database Development 1.6 Land and House Investigation -1 1.7 Land and House Investigation -2 1.8 Training Plan and Implementation -1 1.9 Training Plan and Implementation -2 1.10 Institutional Analysis / PCM 1.11 Project Coordinator / Database Management 1.12 Monitoring/Evaluation 2. Training 2.1 Training in Japan 2.2 Technical exchange in third countries 2.3 Training and seminar in Cambodia 3. Machinery and Equipment PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment 4. Local Contract 4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping) 4.2 Administrative Assistant (Secretary, Interpreter, Translator) 4.3 Driver with car (rent-a-car)	<b>The Cambodian Side</b> 1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisers for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC) 2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) 3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items 4. Pilot Project site Preparation and implementation of the pilot project	<b>Pre-Conditions</b> Target group members assigned for the project are able to spend sufficient time to participate in activities Critical obstructions due to failure of coordination between other authorities relevant to the project do not occur <b>&lt;Issues and countermeasures&gt;</b>
--	--	--	---







### 5-3. Monitoring Sheet Ver. 3.0





**TO CR of JICA CAMBODIA OFFICE**

**PROJECT MONITORING SHEET**

**Project Title : Capacity Enhancement of Environment and Social Considerations in  
Implementing Agency in Road Sector**

**Version of the Sheet: Ver.3 (November 2017)**

**Name: Takayuki Tsuchida**

**Title: Team Leader**

**Submission Date: 6 December 2017**

**I. Summary**

**1 Progress**

**1-1 Progress of Inputs**

- PDM related to Input were authorized on May 4<sup>th</sup>, 2017 as a ver.1

Inputs	PDM ver.1 approved on May 2017	Actual as of November 2017
Experts	<p><u>Total: 103.5M/M</u></p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>	<p><u>Progress: 38.37 M/M (37.07%)</u></p> <p>Between January and November 2017, the following experts were dispatched.</p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>
	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator)</p> <p>4.3 Driver with car (rent-a-car)</p>	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping): 1 staff</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator): 2 staffs</p> <p>4.3 Driver with car (rent-a-car)</p>

Training in Japan	3 times	1 / 3 times 1st training in Japan was held on June 13 <sup>th</sup> – 22 <sup>nd</sup> , 2017 and 2nd training will be held on February 2018.
Third country technical exchange	3 times	1 / 3 times 1st training in third country (Myanmar) was held on October 24 <sup>th</sup> -28 <sup>th</sup> , 2017.
Training in Cambodia	Seminar 5 times Daily training	Seminar: 2 / 5 times 1st seminar was held on May 4 <sup>th</sup> , 2017 and 2 <sup>nd</sup> Seminar was held on July 6 <sup>th</sup> , 2017.
Equipment	PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment	PC, Printer, Copy machine and Projector were procured. Drone, Total Station and Desktop PC were procured by August 2017.
Cambodian Side Personnel	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)
	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) MLMUPC and MOE joined as an observer.
Operational Expenses	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items
	4. Pilot Project site Preparation and implementation of the pilot project	National Road No. 5 (Priority wise: Battambang, Banteay Meanchey and Pursat Provinces) from 1digit National Roads is considered as a candidate of the pilot project.

## 1-2 Progress of Activities

- Progress of activities is indicated in Monitoring Sheet Form 3-2 (PDM) and 3-3 (PO).

- Principally it has not observed any crucial bottleneck in the progress.

### 1-3 Achievement of Output

The deliverables achieved by the Project as per the TOR are given in the table below:

- PDM related to Output were authorized on May 4<sup>th</sup>, 2017 as a ver.1

\*Completed, Activities to be conducted, Scheduled for later.

Output/Indicators (Based on PDM ver.1)	Major Results Achievement till November 2017	Status*
Output1: Implementation Framework for the project is strengthened based on the past experiences and present situation on ESC and ROW management		
1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed	<p>&lt;EIA/EMP: progress 90%&gt;</p> <ol style="list-style-type: none"> <li>1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC</li> <li>2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting</li> <li>3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed.</li> <li>4) Additional study of the past experiences is being conducted and will be reported.</li> </ol> <p>&lt;ROW: progress 90%&gt;</p> <ol style="list-style-type: none"> <li>5) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC</li> <li>6) Past experiences on ROW management were analyzed and reported and will be shared in TF meetings.</li> </ol>	Activities to be conducted
1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed	<p>&lt;progress 90%&gt;</p> <ol style="list-style-type: none"> <li>1) Information and case examples on land management framework were collected and analyzed based on Law in Cambodia</li> <li>2) Information and case examples on land management framework in Japan and other countries were collected and analyzed</li> <li>3) Suggestion on the management of ROW and consideration between road width and resident environment were reported</li> <li>4) Above contents were reported and will be shared in TF meetings</li> </ol>	Activities to be conducted
1.3 Institutional framework and responsibilities in MPWT are examined	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Legal documents on institutional framework were collected</li> <li>2) Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed</li> <li>3) Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed</li> </ol>	Completed
1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment	<p>&lt;progress 90%&gt;</p> <ol style="list-style-type: none"> <li>1) Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March</li> <li>2) Capacity Enhancement Plan was prepared</li> </ol>	Activities to be conducted

(analysis) of target group	<p>3) Training summary in Japan (the First - the Third) was prepared</p> <p>4) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>5) Procurement plans were prepared.</p> <p>6) Above contents will be reported.</p>	
1.5 As an implementation structure of the project, TF is established	<p>&lt;progress 100%&gt;</p> <p>1) Ideal TF structure was proposed like below - EIA/EMP Team: DOP and ICD - ROW Management Team: RID and ICD</p> <p>2) TF members were officially selected at the 1st JCC held on 4th May</p>	Completed
Output2: Implementation Framework of EC related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened		
2.1 Concept of EC and its implementation process are understood	<p>&lt;progress 100%&gt;</p> <p>1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members</p> <p>2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members</p> <p>3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings</p> <p>4) The following contents were shared on the 1st Seminar held on 4th May</p> <p>a) EIA General Process and the implementation issues in Cambodia</p> <p>b) Tasks and the implementation issues of MPWT for EIA process in road sector</p>	Completed
2.2 Authorizing level of REG as an official document is confirmed	<p>&lt;progress 70%&gt;</p> <p>1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed</p> <p>2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance)</p> <p>3) Documentation procedures are being confirmed.</p>	Activities to be conducted
2.3 Lessons learned on EC in other countries are reflected to REG development	<p>&lt;progress 100%&gt;</p> <p>1) Training summary in Japan (the First - the Third) was prepared</p> <p>2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2<sup>nd</sup> Seminar.</p> <p>3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in 10<sup>th</sup> EIA/EMP TF meeting.</p> <p>5) Training in Japan and third country related to EC was done.</p>	Completed
2.4 REG is developed and authorized	<p>&lt;progress 70%&gt;</p> <p>1) REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings</p> <p>2) Technical Official of EIA Department, MOE participated at 4th TF meeting of EIA/EMP as a technical observer, and provided the suggestions for developing REG</p>	Activities to be conducted



	3) Draft REG is being prepared and will be shared in 2 <sup>nd</sup> JCC held on February 2018. 4) Documentation level and authorization process of REG will be confirmed.	
2.5 REG is monitored based on EIA/EMP related activities.	-	Scheduled for later
Output3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened		
3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	<progress 100%> 1) Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017 2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department of Public Works and Transport (DPWT) was analyzed. 3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS 4) Development Plan of draft RMS was prepared	Completed
3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed	<progress 70%> 1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance) 2) Documentation procedures are being confirmed.	Activities to be conducted
3.3 Draft RMG is prepared	<progress 20%> 1) Table of contents was prepared and will be shared in 2nd JCC held on the end of January 2018.	Activities to be conducted
3.4 Draft RMS Training Plan (RMS-TP) is prepared	-	Scheduled for later
3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared	<progress 50%> 1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing. 2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government. 3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported.	Activities to be conducted
3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion	<progress 30%> 1) Training summary in Japan (the First - the Third) was prepared 2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar. 3) Training plan of the 2nd training in Japan was updated based on the condition. 4) The 2nd training in Japan will be held on February 2018 to learn the SC framework on ROW management 5) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared.	Activities to be conducted

	6) ROW condition of other counties is being researched for next 3rd Country Technical Exchange.	
3.7 RMS is authorized	-	Scheduled for later
Output4: Capacity of SC required for ROW management is strengthened		
4.1 Pilot Project Implementation Plan is established	<progress 10%> National Road No. 5 (Priority wise: Battambang, Banteay Meanchey and Pursat Provinces) from 1digit National Roads is considered as a candidate of the pilot project.	Activities to be conducted
4.2 PTF is established	-	Scheduled for later
4.3 Pilot project of Current Status Identification (CSI) is completed	-	Scheduled for later
4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed	-	Scheduled for later
4.5 At least 10 qualified trainers are trained	-	Scheduled for later

#### 1-4 Achievement of the Project Purpose

The deliverables achieved by the Project as per the TOR are given in the table below:

\*Completed, Activities to be conducted, Scheduled for later

Project Purpose: Capacity of MPWT officials on ESC is enhanced through applying REG and RMS		
Indicators	Major Results	Status*
(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials	- TF members were officially selected at the 1st JCC held on 4th May	Activities to be conducted
(2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(EC) through continuous participation to the REG preparation process	-	Scheduled for later
(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process	-	Scheduled for later
(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials	-	Scheduled for later

#### 1-5 Changes of Risks and Actions for Mitigation

- N/A

**1-6 Progress of Actions undertaken by JICA**

- JICA Project Team conducted activities related to Output 1, 2, 3 and 4. The progress is monitored as stated in 1-3 Achievement of Output.

**1-7 Progress of Actions undertaken by Gov. of Cambodia**

PDM ver.1 approved on May 2017	Actual as of November 2017	Status
1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	Completed
2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	JCC members attended as agreed at 1 <sup>st</sup> JCC held on 4 <sup>th</sup> May, 2017.	Completed
3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	Completed
4. Pilot Project Preparation and implementation of the pilot project	National Road No. 5 (Priority wise: Battambang, Banteay Meanchey and Pursat Provinces) from 1digit National Roads is considered as a candidate of the pilot project.	

**1-8 Progress of Environmental and Social Considerations (if applicable)**

- N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

- N/A

**1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors,**

**NGOs etc.)**

- 1) JCC members were changed in accordance to the restructure of the organization (changes of the director of RID and ICD)
- 2) Additional TF members are considered in accordance with the request of MPWT
- 3) Above changes have not observed any crucial bottleneck in the progress of this project

**2 Delay of Work Schedule and/or Issues (Problems) (if any)**

Principally it has not observed any crucial bottleneck in the progress of this project.

**2-1 Detail**

- A) Adjustment is needed between Draft RMG and “Decision on the Establishment of Commission of ROW Management” with preparing draft RMG
- B) It was difficult to collect the case example of the ROW management in another country through literature searching.
- C) In the preparation of REG, it is required to clear the role of the EIA procedures between DoP and ICD.
- D) Reports of some activities were not prepared and shared with TF members and JICA experts

**2-2 Cause**

- A) Draft Decision was published on September 2017 on the establishment of Commission of ROW management of national road, provincial roads and railways, so the role of MPWT will be considered in this commission.
- B) There is few case of the ROW management in another county.
- C) Prakas shows that DoP should be related to EIA procedures while ICD played a role of EIA procedures in the past JICA project as a Project Management Unit (PMU) without a legal basis

**2-3 Action to be taken**

- A) Contents of the discussion in the commission are shared with JICA Project Team and TF members and will be reflected to the draft RMG.
- B) Project members will visit another country such as Laos, Thailand and Vietnam and collect information from relevant authorities directly, and the third-country training will be planned after visiting.
- C) Each director and Project members will discuss the role of EIA procedures
- D) Reports of some activities will be prepared and shared in TF meeting

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Cambodia)**

- A) JICA Project Team and MPWT



- B) JICA Project Team and MPWT
- C) JICA Project Team and MPWT
- D) JICA Project Team

### **3 Modification of the Project Implementation Plan**

#### **3-1 PO**

- 1) PO ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.

#### **3-2 Other modifications on detailed implementation plan (Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)**

- 1) PDM ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.
- 2) The amendment R/D and PDM will be authorized by JICA HDQs.
- 3) Monthly activity report of this project was prepared and shared with MPWT and project members.

### **4 Preparation of Gov. of Cambodia toward after completion of the Project**

- N/A

## II. Project Monitoring Sheet I & II as Attached

Project Monitoring Sheet 1 (Revision of Project Design Matrix)

Project Title: Capacity Enhancement of Environmental and Social Considerations in Implementing Agency in Road Sector  
 Implementing Agency: Ministry of Public Works and Transport (MPWT), Cambodia

Version 3  
 Dated 6 December 2017

Target Group: International Cooperation Department (ICD), Road Infrastructure Department (RID), and Department of Planning (DOP) in Ministry of Public Works and Transport (MPWT) and Department of Public Works and Transport (DPWT) in charge of selected areas for pilot project.

Period of Project: Jan. 2017 - Dec. 2019 (3 years)

Project Site: Phnom Penh

Pilot Project Site: To be Decided

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<p><b>Overall Goal</b>                      Environmental and Social Considerations (ESC) in road sector is implemented properly by MPWT</p> <p><b>Project Purpose</b>                      Capacity of MPWT officials on ESC is enhanced through applying REG and RMS</p>	<p>(1) Environmental procedures are implemented in line with Road Environmental Guidelines (REG)                      (2) Right of Way (ROW) management is operated by using ROW Management System (RMS)</p> <p>(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials                      (2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(EC) through continuous participation to the REG preparation process                      (3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process                      (4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials.</p>	<p>(1) REG implementation record                      (2) RMS implementation record</p> <p>(1) Relevant documents of institutional arrangement                      (2) Result of the Capacity Assessment check list (comprehension check test)                      (3) Observation and interview by JICA Experts                      (4) Records of dissemination seminars and final seminar</p>	<p>MPWT takes initiative to enforce REG and RMS in road sector</p>	<p>(1) TF members were officially selected at the 1st JCC held on 4th May</p>	
<p><b>Outputs</b>                      1. Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management</p>	<p>1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-G/L), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed</p> <p>1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed</p> <p>1.3 Institutional framework and responsibilities in MPWT are examined</p> <p>1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group</p> <p>1.5 As an implementation structure of the project, TF is established</p>	<p>1.1.1 JICA Expert Report (Environmental and Social considerations analysis)                      1.1.2 Relevant materials of TF members in charge</p> <p>1.2.1 JICA Expert Report (ROW management analysis)                      1.2.2 Relevant materials of TF members in charge</p> <p>1.3.1 JICA Expert Report (Institutional analysis)                      1.3.2 Relevant materials of TF members in charge</p> <p>1.4.1 JICA Expert Report (Needs analysis)                      1.4.2 Capacity enhancement plan                      1.4.3 Procurement plan</p> <p>1.5.1 TF organizing meeting record                      1.5.2 Documents related to TF establishment</p>	<p>Policy on ESC and legislation on ROW management system in Cambodia government are not drastically changed.                      Institutional organizations and JCC members related the project are not drastically changed.</p>	<p>&lt;EIAEMP, progress 90%&gt;                      1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC                      2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting                      3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed.                      4) Additional study of the past experiences is being concluded and will be reported.                      &lt;ROW, progress 90%&gt;                      5) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC                      6) Past experiences on ROW management were analyzed and reported and will be shared in TF meetings.</p>	
<p>2. Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened</p>	<p>2.1 Concept of EC and its implementation process are understood                      2.2 Authorizing level of REG as an official document is confirmed</p> <p>2.3 Lessons learned on EC in other countries are reflected to REG development                      2.3.1 Relevant materials of training courses in Japan exchanges                      2.3.2 Relevant materials of third country technical seminar                      2.3.3 Records of Training and seminar in Cambodia</p> <p>2.4 REG is developed and authorized                      2.4.1 REG Development Plan                      2.4.2 Meeting record of REG development                      2.4.3 Drafted REG                      2.4.4 Authorized REG</p> <p>2.5 REG is monitored based on EIA/EMP related activities.</p>	<p>2.1.1 Training records                      2.1.2 Capacity Assessment check list</p> <p>2.2.1 Minutes of JCC                      2.2.2 Meeting record of REG authorization process</p> <p>2.3.1 Relevant materials of training courses in Japan exchanges                      2.3.2 Relevant materials of third country technical seminar                      2.3.3 Records of Training and seminar in Cambodia</p> <p>2.4.1 REG Development Plan                      2.4.2 Meeting record of REG development                      2.4.3 Drafted REG                      2.4.4 Authorized REG</p> <p>2.5.1 JICA Expert Report (REG Monitoring Report)</p>	<p>1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members                      2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members                      3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings                      4) The following contents were shared on the 1st Seminar held on 4th May                      a) EIA General Process and the implementation issues in Cambodia                      b) Tasks and the implementation issues of MPWT for EIA process in road sector                      &lt;progress 70%&gt;                      1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed                      2) Documentation level of REG was approved at 1st JCC held on May 2017 as a PRAKAS (ministerial ordinance)                      3) Documentation procedures are being confirmed.                      &lt;progress 100%&gt;                      1) Training summary in Japan (the First - the Third) was prepared                      2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2nd Seminar.                      3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared                      4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in 10th EIA/EMP TF meeting.                      5) Training in Japan and third country related to EC was done.                      &lt;progress 70%&gt;                      1) REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings                      2) Technical Official of EIA Department, MOE participated at 4th TF meeting of EIA/EMP as a technical observer, and provided the suggestions for developing REG                      3) Draft REG is being prepared and will be shared in 2nd JCC held on February 2018.                      4) Documentation level and authorization process of REG will be confirmed.</p>		

<progress 100%>	1) Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017 2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department of Public Works and Transport (DPWT) was analyzed. 3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS 4) Development Plan of draft RMS was prepared
<progress 70%>	1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance) 2) Documentation procedures are being confirmed.
<progress 20%>	1) Table of contents was prepared and will be shared in 2nd JCC held on the end of January 2018.
<progress 50%>	1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing. 2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government. 3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported.
<progress 30%>	1) Training summary in Japan (the First - the Third) was prepared 2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar. 3) Training plan of the 2nd training in Japan was updated based on the condition. 4) The 2nd training in Japan will be held on February 2018 to learn the SC framework on ROW management 5) Training summary in 3rd Country, Technical Exchange (the First - the Third) was prepared 6) ROW condition of other countries is being researched for next 3rd Country Technical Exchange.
<progress 10%>	National Road No. 5 (Priority wise: Battambang, Banteay Meanchey and Pursat Provinces) from 1digit National Roads is considered as a candidate of the pilot project.

3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	3.1.1 Development Plan of draft RMS 3.1.2 Meeting record of draft RMS development
3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed	3.2.1 Minutes of JCC 3.2.2 Meeting record of RMG authorization process
3.3 Draft RMG is prepared	3.3.1 Meeting Record of draft RMG preparation 3.3.2 Draft RMG
3.4 Draft RMS Training Plan (RMS-TP) is prepared	3.4.1 Meeting Record of draft RMS-TP preparation 3.4.2 Draft RMS-TP
3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared	3.5.1 Meeting Record of tentative RMM preparation 3.5.2 Meeting Record of tentative RMD preparation 3.5.3 Tentative RMM and RMD
3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion	3.6.1 Relevant materials of training courses in Japan exchanges 3.6.2 Relevant materials of third country technical exchanges 3.6.3 Records of Training and seminar in Cambodia
3.7 RMS is authorized	3.7.1 Finalized RMG, RMS-TP, RMM and RMD 3.7.2 Minutes of JCC 3.7.3 Record of RMS final seminar 3.7.4 Budget plan for RMS implementation
4.1 Pilot Project Implementation Plan is established	4.1.1 Meeting record of establishment of pilot project implementation plan 4.1.2 Pilot project implementation plan
4.2 PTF is established	4.2.1 PTF organizing meeting record 4.2.2 Documents related to PTF establishment
4.3 Pilot project of Current Status Identification (CSI) is completed	4.3.1 PTF activity record 4.3.2 Progress on RMM and RMD preparation 4.3.3 Training records
4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed	4.4.1 PTF activity record 4.4.2 Progress on RMM and RMD updating 4.4.3 Training records
4.5 At least 10 qualified trainers are trained	4.5.1 TOT implementation record 4.5.2 Record of the dissemination seminar 4.5.3 Observation and interview by JICA Experts

Activities	Inputs	Pre-Conditions
<b>Activities for Output 1</b> 1.1 Analyze past projects, current tackling issues on EIA/EMP and ROW management in terms of ESC-GL 1.2 Collect and analyze information on land management framework of land management system in Cambodia and other countries 1.3 Conduct institutional framework analysis for MPWT 1.4 Conduct a needs assessment for training and develop capacity enhancement plan and procurement plan 1.5 Discuss the TF framework <b>Activities for Output 2</b> 2.1 Conduct training on ESC of development partners (DPS) process of authorization 2.2 Discuss documentation level of REG (EIA and EMP) and confirm 2.3 Plan and conduct training in Japan and third countries 2.4 Develop REG 2.5 Monitor EIA/EMP related activities based on REG <b>Activities for Output 3</b> 3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD) 3.2 Discuss documentation level of RMG and process of authorization 3.3 Prepare draft RMG: Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP) 3.4 Prepare draft RMS-TP 3.5 Prepare tentative RMM and tentative RMD 3.6 Plan and conduct training in Japan and third countries 3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS <b>Activities for Output 4</b> 4.1 Discuss the implementation plan of the pilot project by using draft RMS 4.2 Discuss the framework of the Pilot Project Task Force (PTF) 4.3 Implement the Pilot Project of CSI 4.4 Implement the Pilot Project of IEP 4.5 Conduct TOT based on draft RMS-TP	<b>The Japanese Side</b> 1. Expens 1.1 Team Leader / Right of Way Management-1 1.2 Deputy Team Leader / Right of Way Management-2 1.3 ESC/EIA/EMP 1.4 Land Management Framework -1 1.5 Land Management Framework -2 / Database Development 1.6 Land and House Investigation -1 1.7 Land and House Investigation -2 1.8 Training Plan and Implementation -1 1.9 Training Plan and Implementation -2 1.10 Institutional Analysis / PCM 1.11 Project Coordinator / Database Management 1.12 Monitoring/Evaluation 2. Training 2.1 Training in Japan 2.2 Technical exchange in third countries 2.3 Training and seminar in Cambodia 3. Machinery and Equipment PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment 4. Local Contract 4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping) 4.2 Administrative Assistant (Secretary, Interpreter, Translator) 4.3 Driver with car (rent-a-car)	<b>The Cambodian Side</b> 1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC) 2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) 3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items 4. Pilot Project site Preparation and implementation of the pilot project
		<b>Pre-Conditions</b> Target group members assigned for the project are able to spend sufficient time to participate in activities  Critical obstructions due to failure of coordination between other authorities relevant to the project do not occur  <b>&lt;Issues and countermeasures&gt;</b>





Output 3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened												
Activity	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Progress (%)	Remarks	Issue	Solution
Output 4: Capacity of SC required for ROW management is strengthened												
Activity	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Progress (%)	Remarks	Issue	Solution
3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD)									100%			
3.2 Discuss documentation level of RMG and process of authorization									70%			
3.3 Prepare draft RMG: Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP)									20%			Adjustment is needed between Draft RMG and "Decision on the Establishment of Commission of ROW Management" so contents of the discussion in the commission will be reflected to the draft RMG
3.4 Prepare draft RMS-TP									-			
3.5 Prepare tentative RMM and tentative RMD									50%			
3.6 Plan and conduct training in Japan and third countries									30%			
3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS									-			
Output 4: Capacity of SC required for ROW management is strengthened												
4.1 Discuss the implementation plan of the pilot project by using draft RMS									10%			
4.2 Discuss the framework of the Pilot Project Task Force (PIF)									-			
4.3 Implement the Pilot Project of CSI									-			
4.4 Implement the Pilot Project of IEP									-			
4.5 Conduct TOT based on draft RMS-TP									-			
Duration / Phasing												
Monitoring Plan												
Monitoring												
Joint Coordination Committee												
Set-up the Detailed Plan of Operation												
Submission of Monitoring Sheet												
Monitoring Mission from Japan												
Joint Monitoring												
Post Monitoring												
Reports/Documents												
Inception Report												
Report of Past Experiences on ESC and ROW												
Progress Report												
Project Completion Report												
Public Relations												
Establishment and Operation of web Site												
Seminar, Academic Conference												



## 5-4. Monitoring Sheet Ver. 4.0





**TO CR of JICA CAMBODIA OFFICE**

**PROJECT MONITORING SHEET**

**Project Title: Capacity Enhancement of Environment and Social Considerations in  
Implementing Agency in Road Sector**

**Version of the Sheet: Ver.4.0 (May 2018)**

**Name: Takayuki Tsuchida**

**Title: Team Leader**

**Submission Date: 11 June 2018**

**I. Summary**

**1 Progress**

**1-1 Progress of Inputs**

- PDM related to Input were authorized on May 4<sup>th</sup>, 2017 as a ver.1

Inputs	PDM ver.1 approved on May 2017	Actual as of May 2018
Experts	<p><u>Total: 103.5M/M</u></p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>	<p><u>Progress: 54.10 M/M (52.27%)</u></p> <p>Between January 2017 and May 2018, the following experts were dispatched.</p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>
	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator)</p> <p>4.3 Driver with car (rent-a-car)</p>	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping): 1 staff</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator): 2 staffs</p> <p>4.3 Driver with car (rent-a-car)</p>

Training in Japan	3 times	2 / 3 times 1st training: 13–22 June 2017 2nd training: 27 February – 9 March 2018.
Third country technical exchange	3 times	1 / 3 times 1st training in Myanmar: 24-28 Oct. 2017 2nd training: October 2018 (plan)
Training in Cambodia	Seminar 5 times Daily training	Seminar: 3 / 5 times 1st seminar May 4th, 2017 2nd Seminar: July 6th, 2017 3rd Seminar: February 6th, 2018
Equipment	PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment	PC, Printer, Copy machine and Projector, Drone, Total Station, Desktop PC, CAD Application and Server PC. Additional equipment (Drone, PC and Auto CAD) will be procured.
Cambodian Side Personnel	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)
	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) MLMUPC and MOE joined as an observer.
Operational Expenses	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items
	4. Pilot Project site Preparation and implementation of the pilot project	National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site and Pilot Project Implementation Plan was prepared. Pilot Project in Kampong Chhnang started from end of May 2018.

**1-2 Progress of Activities**

- Progress of activities is indicated in Monitoring Sheet Form 3-2 (PDM) and 3-3 (PO).
- Principally it has not observed any crucial bottleneck in the progress.

**1-3 Achievement of Output**

The deliverables achieved by the Project as per the TOR are given in the table below:

- PDM related to Output were authorized on May 4<sup>th</sup>, 2017 as a ver.1

\*Completed, Activities to be conducted, Scheduled for later.

Output/Indicators (Based on PDM ver.1)	Major Results Achievement from January 2017 to May 2018	Status*
Output1: Implementation Framework for the project is strengthened based on the past experiences and present situation on ESC and ROW management		
1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC</li> <li>2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting</li> <li>3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed.</li> <li>4) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC</li> <li>5) Past experiences on ROW management were analyzed and reported.</li> <li>6) Additional study of the past experiences will be conducted if needed.</li> </ol>	Completed
1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Information and case examples on land management framework were collected and analyzed based on Law in Cambodia</li> <li>2) Information and case examples on land management framework in Japan and other countries were collected and analyzed</li> <li>3) Suggestion on the management of ROW and consideration between road width and resident environment were reported</li> <li>4) Above contents were reported and additional study will be conducted if needed.</li> </ol>	Completed
1.3 Institutional framework and responsibilities in MPWT are examined	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Legal documents on institutional framework were collected</li> <li>2) Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed</li> <li>3) Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed</li> </ol>	Completed
1.4 Capacity enhancement plan and procurement plan	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Training needs of ICD, RID and DOP were assessed through hearing</li> </ol>	Completed

are developed through training needs assessment (analysis) of target group	<p>and Kickoff meeting held on 17th March</p> <p>2) Capacity Enhancement Plan was prepared</p> <p>3) Training summary in Japan (the First - the Third) was prepared</p> <p>4) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>5) Procurement plans were prepared.</p> <p>6) Above contents were reported.</p>	
1.5 As an implementation structure of the project, TF is established	<p>&lt;progress 100%&gt;</p> <p>1) Ideal TF structure was proposed like below</p> <ul style="list-style-type: none"> <li>- EIA/EMP Team: DOP and ICD</li> <li>- ROW Management Team: RID and ICD</li> </ul> <p>2) TF members were officially selected at the 1st JCC held on 4th May</p>	Completed
Output2: Implementation Framework of EC related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened		
2.1 Concept of EC and its implementation process are understood	<p>&lt;progress 100%&gt;</p> <p>1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members</p> <p>2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members</p> <p>3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings</p> <p>4) The following contents were shared on the 1st Seminar held on 4th May</p> <ul style="list-style-type: none"> <li>a) EIA General Process and the implementation issues in Cambodia</li> <li>b) Tasks and the implementation issues of MPWT for EIA process in road sector</li> </ul>	Completed
2.2 Authorizing level of REG as an official document is confirmed	<p>&lt;progress 100%&gt;</p> <p>1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed</p> <p>2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance)</p> <p>3) Documentation procedures were confirmed.</p>	Completed
2.3 Lessons learned on EC in other countries are reflected to REG development	<p>&lt;progress 100%&gt;</p> <p>1) Training summary in Japan (the First - the Third) was prepared</p> <p>2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2<sup>nd</sup> Seminar.</p> <p>3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in 10<sup>th</sup> EIA/EMP TF meeting.</p> <p>5) Training in Japan and third country related to EC was done.</p>	Completed
2.4 REG is developed and authorized	<p>&lt;progress 90%&gt;</p> <p>1) REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings</p> <p>2) Technical Official of EIA Department, MOE participated at EIA/EMP</p>	Activities to be conducted



	<p>TF meeting of as a technical observer, and provided the suggestions for developing REG</p> <p>3) Draft REG was finalized through the modification reflected some comments of EIA/EMP TF members and Project Manager (H.E. Mr. Vaddhanak).</p> <p>4) REG title was changed as "Road Environmental Guidebook for MPWT" as a result of meeting with MoE.</p> <p>5) Final Draft REG was shared and approved in 2<sup>nd</sup> JCC held on February 2018.</p> <p>6) Draft REG translated in Khmer was prepared.</p> <p>7) Approval and issue procedure of Official Document for REG are being proceeded by MPWT.</p>	
2.5 REG is monitored based on EIA/EMP related activities.	<p>&lt;progress 5%&gt;</p> <p>1) Candidate projects for REG monitoring are being considered in the EIA/EMP TF.</p>	Activities to be conducted
Output3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened		
3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	<p>&lt;progress 100%&gt;</p> <p>1) Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017</p> <p>2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department of Public Works and Transport (DPWT) was analyzed.</p> <p>3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS</p> <p>4) Development Plan of draft RMS was prepared</p>	Completed
3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed	<p>&lt;progress 100%&gt;</p> <p>1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)</p> <p>2) Documentation procedures were confirmed.</p>	Completed
3.3 Draft RMG is prepared	<p>&lt;progress 50%&gt;</p> <p>1) Table of contents was prepared and shared in 2nd JCC held on February 2018.</p> <p>2) Contents of Current Status Identification (CSI) and Illegal Encroachment Prevention (IEP) were discussed in ROW TF meeting and these contents will be reflected in the draft RMM and RMD.</p> <p>3) CSI is being prepared with the result of the Pilot Project started on May 2018.</p> <p>4) Public Consultation Meeting (PCM) related for IEP for National Road No.1 was held by MPWT on the following schedule and JICA Team sported operation.</p> <ul style="list-style-type: none"> <li>- 27<sup>th</sup> March: Kickoff Meeting for PCM</li> <li>- 27<sup>th</sup> April: PCM at Niroth Pagoda</li> <li>- 28<sup>th</sup> April: PCM at Khan Chbar Ampov.</li> </ul> <p>5) Through the PCM, institutional analysis between MPWT and Local Authorities could be conducted in addition and IEP procedure for the</p>	Activities to be conducted

	cooperation got clear.	
3.4 Draft RMS Training Plan (RMS-TP) is prepared	<progress 0%> PMS-TP will be prepared after preparation of draft RMG.	Scheduled for later
3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared	<progress 60%> 1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing. 2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government. 3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported. 4) Tentative RMM was prepared for the Pilot Project. 5) Basic design of RMD was prepared and RMD is being prepared with the result of Pilot Project.	Activities to be conducted
3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion	<progress 50%> 1) Training summary in Japan (the First - the Third) was prepared 2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar. 3) The 2nd training in Japan was held on from 27th February to 9th March 2018 to learn the SC framework on ROW management 4) On the 2nd training in Japan, Lecture and Site Visit on ROW management, legal framework and institution were conducted and Information management of road space was discussed. 6) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared. 7) ROW condition of other counties is being researched for next 3rd Country Technical Exchange. 8) 3rd Country Technical Exchange and Seminar relating to ROW management are to be scheduled as follows; - Seminar invited to relevant authorities in Thailand and Laos: September 2018 - 3 <sup>rd</sup> Country Technical Exchange in Thailand and Laos: October 2018 - 3 <sup>rd</sup> Country Technical Exchange at the International Association for Impact Assessment (IAIA) in Australis: 29 <sup>th</sup> April – 2 <sup>nd</sup> May 2019	Activities to be conducted
3.7 RMS is authorized	-	Scheduled for later
Output4: Capacity of SC required for ROW management is strengthened		
4.1 Pilot Project Implementation Plan is established	<progress 100%> 1) National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site 2) Pilot Project Implementation Plan was prepared trough ROW TF meeting.	Completed
4.2 PTF is established	<progress 100%> 1) PTF was established including 2~3 members from each DPWT in 4 provinces.	Completed

	2) Kickoff Meeting will be held on June in Kampong Chhnang province and explanation and discussion with relevant authorities will be conducted	
4.3 Pilot project of Current Status Identification (CSI) is completed	<progress 10%> 1) Condition of ROW management and IEP in NR5 from Udon province to Kampong Chhnang was surveyed for Pilot Project 2) Pilot Project of CSI in Kampong Chhnang started from end of May 2018.	Activities to be conducted
4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed	-	Scheduled for later
4.5 At least 10 qualified trainers are trained	-	Scheduled for later

#### 1-4 Achievement of the Project Purpose

The deliverables achieved by the Project as per the TOR are given in the table below:

\*Completed, Activities to be conducted, Scheduled for later

Project Purpose: Capacity of MPWT officials on ESC is enhanced through applying REG and RMS		
Indicators	Major Results	Status*
(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials	- TF members were officially selected at the 1st JCC held on 4th May	Activities to be conducted
(2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(EC) through continuous participation to the REG preparation process	- TF meetings were held once or twice per month	Activities to be conducted
(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process	- TF meetings were held once or twice per month	Activities to be conducted
(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials	- PTF members were selected at the ROW TF meeting	Activities to be conducted

#### 1-5 Changes of Risks and Actions for Mitigation

- N/A

#### 1-6 Progress of Actions undertaken by JICA

- JICA Project Team conducted activities related to Output 1, 2, 3 and 4. The progress is monitored as stated in 1-3 Achievement of Output.

#### 1-7 Progress of Actions undertaken by Gov. of Cambodia

PDM ver.1 approved on May 2017	Actual as of May 2018	Status
1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	Completed
2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	JCC members attended as agreed at 1 <sup>st</sup> JCC held on 4 <sup>th</sup> May, 2017.	Completed
3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	Completed
4. Pilot Project Preparation and implementation of the pilot project	National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site. and Pilot Project Implementation Plan was prepared. Pilot Project in Kampong Chhnang started from end of May 2018.	

**1-8 Progress of Environmental and Social Considerations (if applicable)**

- N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

- N/A

**1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

- N/A



**2 Delay of Work Schedule and/or Issues (Problems) (if any)**

Principally it has not observed any crucial bottleneck in the progress of this project.

**2-1 Detail**

- A) Approval and issue procedure of REG are behind schedule under the proceeding in MPWT.
- B) Adjustment is needed between Draft RMG and “Decision on the Establishment of Commission of ROW Management” with preparing draft RMG
- C) Preparation of draft RMG (CSI and IEP) is behind schedule.
- D) Preparation of draft RMS-TP is behind schedule.
- E) Preparation of tentative RMD is behind schedule.

**2-2 Cause**

- A) Approval level is being discussed in MPWT and adjustment is needed.
- B) Draft Decision was published on September 2017 on the establishment of Commission of ROW management of national road, provincial roads and railways, so the role of MPWT will be considered in this commission
- C) Reflection of the result of Pilot Project to CSI is needed and adjustment of PCM for IEP was conducted as priority
- D) RMS-TP is prepared according to the draft RMG
- E) Reflection of the result of Pilot Project to tentative RMD is needed

**2-3 Action to be taken**

- A) JICA Project Team support the adjustment
- B) Contents of the discussion in the commission are shared with JICA Project Team and TF members and will be reflected to the draft RMG
- C) CSI is being prepared with the result of the Pilot Project and IEP procedure for the cooperation made clear through the PCM
- D) Same as above
- E) Tentative RMD is being prepared with the result of the Pilot Project

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Cambodia)**

- A) MPWT
- B) JICA Project Team and MPWT
- C) JICA Project Team and MPWT
- D) JICA Project Team and MPWT
- E) JICA Project Team and MPWT

### **3 Modification of the Project Implementation Plan**

#### **3-1 PO**

1) PO ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.

#### **3-2 Other modifications on detailed implementation plan (Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)**

1) PDM ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.

2) The amendment R/D and PDM was authorized by JICA HDQs.

3) Monthly activity report of this project was prepared and shared with MPWT and project members.

### **4 Preparation of Gov. of Cambodia toward after completion of the Project**

- N/A

## II. Project Monitoring Sheet I & II as Attached

Pilot Project Site: To be Decided		Means of Verification		Important Assumptior		Achievement		Remarks	
Objectively Verifiable Indicators									
<b>Overall Goal</b> Environmental and Social Considerations (ESC) in road sector is implemented properly by MPWT	(1) Environmental procedures are implemented in line with Road Environmental Guidelines (REG) (2) Right of Way (ROW) management is operated by using ROW Management System (RMS)	(1) REG implementation record (2) RMS implementation record							
<b>Project Purpose</b> Capacity of MPWT officials on ESC is enhanced through applying REG and RMS	(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials (2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(ES) through continuous participation to the REG preparation process. (3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process. (4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials.	(1) Relevant documents of institutional arrangement (2) Result of the Capacity Assessment check list (comprehension check test) (3) Observation and interview by JICA Experts (4) Records of dissemination seminars and final seminar		MPWT takes initiative to enforce REG and RMS in road sector		(1) TF members were officially selected at the 1st JCC held on 4th May (2) TF meetings were held once or twice per month (3) TF meetings were held once or twice per month (4) PTF members were selected at the ROW TF meeting			
<b>Outputs</b> 1. Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management	1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GI), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed  1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed  1.3 Institutional framework and responsibilities in MPWT are examined  1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group  1.5 As an implementation structure of the project, TF is established	1.1.1 JICA Expert Report (Environmental Social considerations analysis) 1.1.2 Relevant materials of TF members in charge  1.2.1 JICA Expert Report (ROW management analysis) 1.2.2 Relevant materials of TF members in charge  1.3.1 JICA Expert Report (Institutional analysis) 1.3.2 Relevant materials of TF members in charge  1.4.1 JICA Expert Report (Needs analysis) 1.4.2 Capacity enhancement plan 1.4.3 Procurement plan  1.5.1 TF organizing meeting record 1.5.2 Documents related to TF establishment		Policy on ESC and legislation on ROW management system in Cambodia government are not drastically changed.  Institutional organizations and JCC members related the project are not drastically changed.		<progress 100%> 1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC 2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting 3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed. 4) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC 5) Past experiences on ROW management were analyzed and reported. 6) Additional study of the past experiences will be conducted if needed.  <progress 100%> 1) Information and case examples on land management framework were collected and analyzed based on Law in Cambodia 2) Information and case examples on land management framework in Japan and other countries were collected and analyzed 3) Suggestion on the management of ROW and consideration between road width and resident environment were reported 4) Above contents were reported and additional study will be conducted if needed.  <progress 100%> 1) Legal documents on institutional framework were collected 2) Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed 3) Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed  <progress 100%> 1) Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March 2) Capacity Enhancement Plan was prepared 3) Training summary in Japan (the First - the Third) was prepared 4) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared 5) Procurement plans were prepared. 6) Above contents were reported.  <progress 100%> 1) Ideal TF structure was proposed like below - EIA/EMP Team: DOP and ICD - ROW Management Team: RID and ICD 2) TF members were officially selected at the 1st JCC held on 4th May			
2. Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened	2.1 Concept of EC and its implementation process are understood  2.2 Authorizing level of REG as an official document is confirmed  2.3 Lessons learned on EC in other countries are reflected to REG development	2.1.1 Training records 2.1.2 Capacity Assessment check list  2.2.1 Minutes of JCC 2.2.2 Meeting record of REG authorization process  2.3.1 Relevant materials of training courses in Japan exchanges 2.3.2 Relevant materials of third country technical 2.3.3 Records of Training and seminar in Cambodia				<progress 100%> 1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members 2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members 3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings 4) The following contents were shared on the 1st Seminar held on 4th May a) EIA General Process and the implementation issues in Cambodia b) Tasks and the implementation issues of MPWT for EIA process in road sector  <progress 100%> 1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed 2) Documentation level of REG was approved at 1st JCC held on May, 2017 as a PRAKAS (ministerial ordinance) 3) Documentation procedures were confirmed.  <progress 100%> 1) Training summary in Japan (the First - the Third) was prepared 2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2nd Seminar. 3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared 4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in 10th EIA/EMP TF meeting. 5) Training in Japan and third country related to EC was done.			

<p>2.4 REG is developed and authorized</p> <p>2.4.1 REG Development Plan</p> <p>2.4.2 Meeting record of REG development</p> <p>2.4.3 Drafted REG</p> <p>2.4.4 Authorized REG</p>	<p>2.4.1 REG Development Plan</p> <p>2.4.2 Meeting record of REG development</p> <p>2.4.3 Drafted REG</p> <p>2.4.4 Authorized REG</p>	<p>2.4.1 REG Development Plan</p> <p>2.4.2 Meeting record of REG development</p> <p>2.4.3 Drafted REG</p> <p>2.4.4 Authorized REG</p>	<p>&lt;progress 90%&gt;</p> <p>1) REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings</p> <p>2) Technical Official of EIA Department, MOE participated at EIA/EMP TF meeting of as a technical observer, and provided the suggestions for developing REG</p> <p>3) Draft REG was finalized through the modification reflected some comments of EIA/EMP TF members and Project Manager (H.E. Mr. Vaddhanak).</p> <p>4) REG title was changed as "Road Environmental Guidebook for MPWT" as a result of meeting with MoE.</p> <p>5) Final Draft REG was shared and approved in 2nd JCC held on February 2018.</p> <p>6) Draft REG translated in Khmer was prepared.</p> <p>7) Approval and issue procedure of Official Document for REG are being proceeded by MPWT.</p>
<p>2.5 REG is monitored based on EIA/EMP related activities.</p> <p>2.5.1 JICA Expert Report (REG Monitoring Report)</p>	<p>2.5.1 JICA Expert Report (REG Monitoring Report)</p>	<p>2.5.1 JICA Expert Report (REG Monitoring Report)</p>	<p>&lt;progress 5%&gt;</p> <p>1) Candidate projects for REG monitoring are being considered in the EIA/EMP TF.</p>
<p>3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared</p> <p>3.1.1 Development Plan of draft RMS</p> <p>3.1.2 Meeting record of draft RMS development</p>	<p>3.1.1 Development Plan of draft RMS</p> <p>3.1.2 Meeting record of draft RMS development</p>	<p>3.1.1 Development Plan of draft RMS</p> <p>3.1.2 Meeting record of draft RMS development</p>	<p>&lt;progress 100%&gt;</p> <p>1) Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017</p> <p>2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department of Public Works and Transport (DPWT) was analyzed.</p> <p>3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS</p> <p>4) Development Plan of draft RMS was prepared</p>
<p>3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed</p> <p>3.2.1 Minutes of JCC</p> <p>3.2.2 Meeting record of RMG authorization process</p>	<p>3.2.1 Minutes of JCC</p> <p>3.2.2 Meeting record of RMG authorization process</p>	<p>3.2.1 Minutes of JCC</p> <p>3.2.2 Meeting record of RMG authorization process</p>	<p>&lt;progress 100%&gt;</p> <p>1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)</p> <p>2) Documentation procedures were confirmed.</p>
<p>3.3 Draft RMG is prepared</p> <p>3.3.1 Meeting Record of draft RMG preparation</p> <p>3.3.2 Draft RMG</p>	<p>3.3.1 Meeting Record of draft RMG preparation</p> <p>3.3.2 Draft RMG</p>	<p>3.3.1 Meeting Record of draft RMG preparation</p> <p>3.3.2 Draft RMG</p>	<p>&lt;progress 50%&gt;</p> <p>1) Table of contents was prepared and shared in 2nd JCC held on February 2018.</p> <p>2) Contents of CSI and illegal Encroachment Prevention (IEP) were discussed in ROW TF meeting and these contents will be reflected in the draft RMM and RMD.</p> <p>3) CSI is being prepared with the result of the Pilot Project started on May 2018.</p> <p>4) Public Consultation Meeting (PCM) related for illegal Encroachment Prevention (IEP) for National Road No. 1 was held by MPWT on the following schedule and JICA Team spotted operation.</p> <p>- 27th March: Kickoff Meeting for PCM</p> <p>- 28th April: PCM at Niroth Pagoda</p> <p>- 28th April: PCM at Khan Chbar Ampov.</p> <p>5) Through the PCM, institutional analysis between MPWT and Local Authorities could be conducted in addition and IEP procedure for the cooperation got clear.</p>
<p>3.4 Draft RMS Training Plan (RMS-TP) is prepared</p> <p>3.4.1 Meeting Record of draft RMS-TP preparation</p> <p>3.4.2 Draft RMS-TP</p>	<p>3.4.1 Meeting Record of draft RMS-TP preparation</p> <p>3.4.2 Draft RMS-TP</p>	<p>3.4.1 Meeting Record of draft RMS-TP preparation</p> <p>3.4.2 Draft RMS-TP</p>	<p>&lt;progress 0%&gt;</p> <p>RMS-TP will be prepared after preparation of draft RMG.</p>
<p>3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared</p> <p>3.5.1 Meeting Record of tentative RMM preparation</p> <p>3.5.2 Meeting Record of tentative RMD preparation</p> <p>3.5.3 Tentative RMM and RMD</p>	<p>3.5.1 Meeting Record of tentative RMM preparation</p> <p>3.5.2 Meeting Record of tentative RMD preparation</p> <p>3.5.3 Tentative RMM and RMD</p>	<p>3.5.1 Meeting Record of tentative RMM preparation</p> <p>3.5.2 Meeting Record of tentative RMD preparation</p> <p>3.5.3 Tentative RMM and RMD</p>	<p>&lt;progress 60%&gt;</p> <p>1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing.</p> <p>2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government.</p> <p>3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported.</p> <p>4) Tentative RMM was prepared for the Pilot Project.</p> <p>5) Basic design of RMD was prepared and RMD is being prepared with the result of Pilot Project.</p>
<p>3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion</p> <p>3.6.1 Relevant materials of training courses in Japan exchanges</p> <p>3.6.2 Relevant materials of third country technical exchanges</p> <p>3.6.3 Records of Training and seminar in Cambodia</p>	<p>3.6.1 Relevant materials of training courses in Japan exchanges</p> <p>3.6.2 Relevant materials of third country technical exchanges</p> <p>3.6.3 Records of Training and seminar in Cambodia</p>	<p>3.6.1 Relevant materials of training courses in Japan exchanges</p> <p>3.6.2 Relevant materials of third country technical exchanges</p> <p>3.6.3 Records of Training and seminar in Cambodia</p>	<p>&lt;progress 50%&gt;</p> <p>1) Training summary in Japan (the First - the Third) was prepared</p> <p>2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar</p> <p>3) The 2nd training in Japan was held on from 27th February to 9th March 2018 to learn the SC framework on ROW management</p> <p>4) On the 2nd training in Japan, Lecture and Site Visit on ROW management, legal framework and institution were conducted and information management of road space was discussed.</p> <p>5) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>6) ROW condition of other countries is being researched for next 3rd Country Technical Exchange.</p> <p>7) 3rd Country Technical Exchange and Seminar relating to ROW management are to be scheduled as follows:</p> <p>- Seminar invited to relevant authorities in Thailand and Laos: September 2018</p> <p>- 3rd Country Technical Exchange in Thailand and Laos: October 2018</p> <p>- 3rd Country Technical Exchange at the International Association for Impact Assessment (IAIA) in Australia: 29th April - 2nd May 2019</p>
<p>3.7 RMS is authorized</p> <p>3.7.1 Finalized RMG, RMS-TP, RMM and RMD</p> <p>3.7.2 Minutes of JCC</p> <p>3.7.3 Record of RMS final seminar</p> <p>3.7.4 Budget plan for RMS implementation</p>	<p>3.7.1 Finalized RMG, RMS-TP, RMM and RMD</p> <p>3.7.2 Minutes of JCC</p> <p>3.7.3 Record of RMS final seminar</p> <p>3.7.4 Budget plan for RMS implementation</p>	<p>3.7.1 Finalized RMG, RMS-TP, RMM and RMD</p> <p>3.7.2 Minutes of JCC</p> <p>3.7.3 Record of RMS final seminar</p> <p>3.7.4 Budget plan for RMS implementation</p>	<p>&lt;progress 100%&gt;</p> <p>1) National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site</p> <p>2) Pilot Project Implementation Plan was prepared through ROW TF meeting.</p>
<p>4.1 Pilot Project Implementation Plan is established</p> <p>4.1.1 Meeting record of establishment of pilot project implementation plan</p> <p>4.1.2 Pilot project implementation plan</p>	<p>4.1.1 Meeting record of establishment of pilot project implementation plan</p> <p>4.1.2 Pilot project implementation plan</p>	<p>4.1.1 Meeting record of establishment of pilot project implementation plan</p> <p>4.1.2 Pilot project implementation plan</p>	<p>&lt;progress 100%&gt;</p> <p>1) PTF was established including 2-3 members from each DPWT in 4 provinces.</p> <p>2) Kickoff Meeting will be held on June in Kampong Chhnang province and explanation and discussion with relevant authorities will be conducted</p>
<p>4.2 PTF is established</p> <p>4.2.1 PTF organizing meeting record</p> <p>4.2.2 Documents related to PTF establishment</p>	<p>4.2.1 PTF organizing meeting record</p> <p>4.2.2 Documents related to PTF establishment</p>	<p>4.2.1 PTF organizing meeting record</p> <p>4.2.2 Documents related to PTF establishment</p>	<p>&lt;progress 100%&gt;</p> <p>1) Condition of ROW management and IEP in NR5 from Udol province to Kampong Chhnang was surveyed for Pilot Project</p> <p>2) Pilot Project of CSI in Kampong Chhnang started from end of May 2018.</p>
<p>4.3 Pilot project of Current Status Identification (CSI) is completed</p> <p>4.3.1 PTF activity record</p> <p>4.3.2 Progress on RMM and RMD preparation</p> <p>4.3.3 Training records</p>	<p>4.3.1 PTF activity record</p> <p>4.3.2 Progress on RMM and RMD preparation</p> <p>4.3.3 Training records</p>	<p>4.3.1 PTF activity record</p> <p>4.3.2 Progress on RMM and RMD preparation</p> <p>4.3.3 Training records</p>	<p>&lt;progress 100%&gt;</p> <p>1) Condition of ROW management and IEP in NR5 from Udol province to Kampong Chhnang was surveyed for Pilot Project</p> <p>2) Pilot Project of CSI in Kampong Chhnang started from end of May 2018.</p>
<p>4.4 Pilot project of illegal Encroachment Prevention (IEP) is completed</p> <p>4.4.1 PTF activity record</p> <p>4.4.2 Progress on RMM and RMD updating</p> <p>4.4.3 Training records</p>	<p>4.4.1 PTF activity record</p> <p>4.4.2 Progress on RMM and RMD updating</p> <p>4.4.3 Training records</p>	<p>4.4.1 PTF activity record</p> <p>4.4.2 Progress on RMM and RMD updating</p> <p>4.4.3 Training records</p>	<p>&lt;progress 100%&gt;</p> <p>1) Condition of ROW management and IEP in NR5 from Udol province to Kampong Chhnang was surveyed for Pilot Project</p> <p>2) Pilot Project of CSI in Kampong Chhnang started from end of May 2018.</p>
<p>4.5 At least 10 qualified trainers are trained</p> <p>4.5.1 TOT implementation record</p> <p>4.5.2 Record of the dissemination seminar</p> <p>4.5.3 Observation and interview by JICA Experts</p>	<p>4.5.1 TOT implementation record</p> <p>4.5.2 Record of the dissemination seminar</p> <p>4.5.3 Observation and interview by JICA Experts</p>	<p>4.5.1 TOT implementation record</p> <p>4.5.2 Record of the dissemination seminar</p> <p>4.5.3 Observation and interview by JICA Experts</p>	<p>&lt;progress 100%&gt;</p> <p>1) Condition of ROW management and IEP in NR5 from Udol province to Kampong Chhnang was surveyed for Pilot Project</p> <p>2) Pilot Project of CSI in Kampong Chhnang started from end of May 2018.</p>



Activities	The Japanese Side	The Cambodian Side	Pre-Conditions
<b>Activities for Output 1</b>			
1.1 Analyze past projects, current lacking issues on EIAEMP and ROW management in terms of ESC-GL	1. Experts	1. Personnel (MPWT)	Target group members assigned for the project are able to spend sufficient time to participate in activities
1.2 Collect and analyze information on land management framework of land management system in Cambodia and other countries	1.1 Team Leader / Right of Way Management-1 1.2 Deputy Team Leader / Right of Way Management-2 1.3 ESC/EIAEMP	1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager	
1.3 Conduct institutional framework analysis for MPWT	1.4 Land Management Framework -1 1.5 Land Management Framework -2 / Database Development	1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity	Critical obstructions due to failure of coordination between other authorities relevant to the project do not occur.
1.4 Conduct a needs assessment for training and develop capacity enhancement plan and procurement plan	1.6 Land and House Investigation -1 1.7 Land and House Investigation -2 1.8 Training Plan and Implementation -1 1.9 Training Plan and Implementation -2 1.10 Institutional Analysis / PCM 1.11 Project Coordinator / Database Management 1.12 Monitoring/Evaluation	a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	
1.5 Discuss the TF framework	2. Training	2. JCC Organization	
<b>Activities for Output 2</b>			
2.1 Conduct training on ESC of development partners (DPs)	2.1 Training in Japan	2.1 JCC Members	
2.2 Discuss documentation level of REG (EA and EMP) and confirm process of authorizer	2.2 Technical exchange in third countries	a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	
2.3 Plan and conduct training in Japan and third countries	2.3 Training and seminar in Cambodia	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office infrastructures	
2.4 Develop REG	3. Machinery and Equipment	a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	
2.5 Monitor EIAEMP related activities based on REG	3.5 Prepare tentative RMM and tentative RMD 3.6 Plan and conduct training in Japan and third countries 3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS	4. Local Contract 4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping) 4.2 Administrative Assistant (Secretary, Interpreter,	
<b>Activities for Output 3</b>			
3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD)	4.1 Discuss the implementation plan of the pilot project by using draft RMS	4. Pilot Project site	Preparation and implementation of the pilot project
3.2 Discuss documentation level of RMG and process of authorization	4.2 Discuss the framework of the Pilot Project Task Force (PTF)		
3.3 Prepare draft RMG, Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP)	4.3 Implement the Pilot Project of CSI		
3.4 Prepare draft RMS-TP	4.4 Implement the Pilot Project of IEP		
3.5 Prepare tentative RMM and tentative RMD	4.5 Conduct TOT based on draft RMS-TP		
3.6 Plan and conduct training in Japan and third countries			
3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS			
<b>Activities for Output 4</b>			
4.1 Discuss the implementation plan of the pilot project by using draft RMS			
4.2 Discuss the framework of the Pilot Project Task Force (PTF)			
4.3 Implement the Pilot Project of CSI			
4.4 Implement the Pilot Project of IEP			
4.5 Conduct TOT based on draft RMS-TP			



**Output 3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened**

Activity	2017		2018		2019		2020		Remarks	Issue	Solution
	I	II	III	IV	I	II	III	IV			
3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD)	Plan	Actual								100%	
3.2 Discuss documentation level of RMG and process of authorization	Plan	Actual								100%	
3.3 Prepare draft RMG; Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP)	Plan	Actual								50%	Through the Public Consultation Meeting, institutional analysis between MPWT and Local Authorities could be conducted in addition and IEP procedure for the cooperation made clear.
3.4 Prepare draft RMS-TP	Plan	Actual								0%	
3.5 Prepare tentative RMM and tentative RMD	Plan	Actual								60%	
3.6 Plan and conduct training in Japan and third countries	Plan	Actual								50%	
3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS	Plan	Actual								-	

**Output 4: Capacity of SC required for ROW management is strengthened**

Activity	2017		2018		2019		2020		Remarks	Issue	Solution
	I	II	III	IV	I	II	III	IV			
4.1 Discuss the implementation plan of the pilot project by using draft RMS	Plan	Actual								100%	
4.2 Discuss the framework of the Pilot Project Task Force (PTF)	Plan	Actual								100%	
4.3 Implement the Pilot Project of CSI	Plan	Actual								10%	Pilot Project started from end of May 2018
4.4 Implement the Pilot Project of IEP	Plan	Actual								-	
4.5 Conduct TOT based on draft RMS-TP	Plan	Actual								-	

**Duration / Phasing**

Year	2017	2018	2019	2020
Plan				
Actual				

Activity	2017		2018		2019		2020		Remarks	Issue	Solution
	I	II	III	IV	I	II	III	IV			
Monitoring Plan											
Monitoring											
Joint Coordination Committee											
Set-up the Detailed Plan of Operation											
Submission of Monitoring Sheet											
Monitoring Mission from Japan											
Joint Monitoring											
Post Monitoring											
Reports/Documents											
Inception Report											
Report of Past Experiences on ESC and ROW											
Progress Report											
Project Completion Report											
Public Relations											
Establishment and Operation of web Site											
Seminar, Academic Conference											





5-5. Monitoring Sheet Ver. 5.0



**TO CR of JICA CAMBODIA OFFICE**

**PROJECT MONITORING SHEET**

**Project Title: Capacity Enhancement of Environment and Social Considerations in Implementing Agency in Road Sector**

**Version of the Sheet: Ver.5.0 (November 2018)**

**Name: Takayuki Tsuchida**

**Title: Team Leader**

**Submission Date: 11 December 2018**

**I. Summary**

**1 Progress**

**1-1 Progress of Inputs**

- PDM related to Input were authorized on May 4<sup>th</sup>, 2017 as a ver.1

Inputs	PDM ver.1 approved on May 2017	Actual as of November 2018
Experts	<p><u>Total: 103.5M/M</u></p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>	<p><u>Progress: 72.77 M/M (70.31%)</u></p> <p>Between January 2017 and November 2018, the following experts were dispatched. Expert for "Road Plan / Transportation Plan / Road Structure Plan" was added between September and October 2018.</p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p> <p>1.13 Road Plan / Transportation Plan / Road Structure Plan</p>
	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator)</p> <p>4.3 Driver with car (rent-a-car)</p>	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping): 1 staff</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator): 2 staffs</p> <p>4.3 Driver with car (rent-a-car)</p>

Training in Japan	3 times	2 / 3 times 1st training: 13–22 June 2017 2nd training: 27 February – 9 March 2018.
Third country technical exchange	3 times	2 / 3 times 1st training in Myanmar: 24-28 Oct. 2017 2nd training: is as follows; - Seminar invited to relevant authorities in Thailand and Laos: 27 Sep. 2018 - Training in Thailand and Laos: 22-26 Oct. 2018
Training in Cambodia	Seminar 5 times Daily training	Seminar: 5 / 5 times 1st seminar 4 May, 2017 2nd Seminar: 6 July 2017 3rd Seminar: 6 February 2018 4th Seminar: 27 September 2018 5th Seminar: 13 November 2018
Equipment	PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment	PC, Printer, Copy machine and Projector, Drone, Total Station, Desktop PC, CAD Application, Server PC, and Image Processing Application.
Cambodian Side Personnel	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)
	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) MLMUPC and MOE joined as an observer.
Operational Expenses	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items



	4. Pilot Project site Preparation and implementation of the pilot project	National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site, and Pilot Project was started from end of May 2018.
--	--	---

## 1-2 Progress of Activities

- Progress of activities is indicated in Monitoring Sheet Form 3-2 (PDM) and 3-3 (PO).
- Principally it has not observed any crucial bottleneck in the progress.

## 1-3 Achievement of Output

The deliverables achieved by the Project as per the TOR are given in the table below:

- PDM related to Output were authorized on May 4<sup>th</sup>, 2017 as a ver.1

\*Completed, Activities to be conducted, Scheduled for later.

Output/Indicators (Based on PDM ver.1)	Major Results Achievement from January 2017 to November 2018	Status*
Output 1: Implementation Framework for the project is strengthened based on the past experiences and present situation on ESC and ROW management		
1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC</li> <li>2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting</li> <li>3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed.</li> <li>4) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC</li> <li>5) Past experiences on ROW management were analyzed and reported.</li> <li>6) Additional study of the past experiences will be conducted if needed.</li> </ol>	Completed
1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Information and case examples on land management framework were collected and analyzed based on Law in Cambodia</li> <li>2) Information and case examples on land management framework in Japan and other countries were collected and analyzed</li> <li>3) Suggestion on the management of ROW and consideration between road width and resident environment were reported</li> <li>4) Above contents were reported and additional study will be conducted if needed.</li> </ol>	Completed
1.3 Institutional framework and responsibilities in MPWT are examined	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Legal documents on institutional framework were collected</li> <li>2) Institutional framework and responsibilities related to EIA/EMP in</li> </ol>	Completed

	<p>MPWT were analyzed</p> <p>3) Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed</p>	
1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group	<p>&lt;progress 100%&gt;</p> <p>1) Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March</p> <p>2) Capacity Enhancement Plan was prepared</p> <p>3) Training summary in Japan (the First - the Third) was prepared</p> <p>4) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>5) Procurement plans were prepared.</p> <p>6) Above contents were reported.</p>	Completed
1.5 As an implementation structure of the project, TF is established	<p>&lt;progress 100%&gt;</p> <p>1) Ideal TF structure was proposed like below - EIA/EMP Team: DOP and ICD - ROW Management Team: RID and ICD</p> <p>2) TF members were officially selected at the 1st JCC held on 4th May</p>	Completed
Output 2: Implementation Framework of EC related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened		
2.1 Concept of EC and its implementation process are understood	<p>&lt;progress 100%&gt;</p> <p>1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members</p> <p>2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members</p> <p>3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings</p> <p>4) The following contents were shared on the 1st Seminar held on 4th May</p> <p>a) EIA General Process and the implementation issues in Cambodia</p> <p>b) Tasks and the implementation issues of MPWT for EIA process in road sector</p>	Completed
2.2 Authorizing level of REG as an official document is confirmed	<p>&lt;progress 100%&gt;</p> <p>1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed</p> <p>2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance)</p> <p>3) Documentation procedures were confirmed.</p>	Completed
2.3 Lessons learned on EC in other countries are reflected to REG development	<p>&lt;progress 100%&gt;</p> <p>1) Training summary in Japan (the First - the Third) was prepared</p> <p>2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2<sup>nd</sup> Seminar.</p> <p>3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in</p>	Completed

	10 <sup>th</sup> EIA/EMP TF meeting. 5) Training in Japan and third country related to EC was done.	
2.4 REG is developed and authorized	<progress 95%> 1) REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings 2) Technical Official of EIA Department, MOE provided the suggestions for developing REG 3) Draft REG was finalized through the modification reflected some comments of EIA/EMP TF members and Project Manager. 4) REG title was changed as "Road Environmental Guidebook for MPWT" as a result of meeting with MoE. 5) Final Draft REG was shared and approved in 2 <sup>nd</sup> JCC held on February 2018. 6) Draft REG translated in Khmer was prepared. 7) Document level was decided as "Decision" and issue procedure is being discussed by MPWT.	Activities to be conducted
2.5 REG is monitored based on EIA/EMP related activities.	<progress 80%> 1) Candidate project for REG monitoring was being considered in the EIA/EMP TF and Improvement Project of National Road No.5 by Japanese Yen Loan was selected as a candidate. 2) Review for Environmental management Plan (EMP) based on above EIA report with EMP check list of REG was conducted by EIA/EMP TF members. 3) Site check at South part of NR No.5 for Environmental Consideration such as air quality, water quality and noise / vibration were conducted for the monitoring, and site check for Social Consideration will be conducted on December 2018.	Activities to be conducted
Output 3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened		
3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	<progress 100%> 1) Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017. 2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department of Public Works and Transport (DPWT) was analyzed. 3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS 4) Development Plan of draft RMS was prepared	Completed
3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed	<progress 100%> 1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance) 2) Documentation procedures were confirmed.	Completed
3.3 Draft RMG is prepared	<progress 100%> 1) Table of contents was prepared and shared in 2nd JCC held on February 2018. 2) Contents of Current Status Identification (CSI) and Illegal	Completed

	<p>Encroachment Prevention (IEP) were discussed in ROW TF meeting and these contents was reflected in the draft RMM and RMD.</p> <p>3) CSI was prepared with the result of the Pilot Project.</p> <p>4) Public Consultation Meeting (PCM) related for IEP for National Road No.1 was held by MPWT on the following schedule, and through the PCM, institutional analysis between MPWT and Local Authorities could be conducted in addition and IEP procedure for the cooperation got clear.</p> <ul style="list-style-type: none"> <li>- 27<sup>th</sup> March 2018: Kickoff Meeting for PCM</li> <li>- 27<sup>th</sup> April 2018: PCM at Niroth Pagoda</li> <li>- 28<sup>th</sup> April 2018: PCM at Khan Chbar Ampov.</li> </ul> <p>5) Contents and work flow for CSI and IEP were discussed and draft RMG was prepared.</p>	
<p>3.4 Draft RMS Training Plan (RMS-TP) is prepared</p>	<p>&lt;progress 90%&gt;</p> <ol style="list-style-type: none"> <li>1) Contents of RMS-TP was discussed.</li> <li>2) Draft RMS-TP is being prepared.</li> <li>3) Draft TP will be shared in TF Meeting.</li> </ol>	<p>Activities to be conducted</p>
<p>3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared</p>	<p>&lt;progress 90%&gt;</p> <ol style="list-style-type: none"> <li>1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing.</li> <li>2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government.</li> <li>3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported.</li> <li>4) Tentative RMM was prepared for the Pilot Project.</li> <li>5) Basic design of RMD was prepared and tentative RMD is being proceeded.</li> </ol>	<p>Activities to be conducted</p>
<p>3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion</p>	<p>&lt;progress 70%&gt;</p> <ol style="list-style-type: none"> <li>1) Training summary in Japan and 3rd Country Technical Exchange were prepared</li> <li>2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar.</li> <li>3) The 2nd training in Japan was held on from 27th February to 9th March 2018 to learn the SC framework on ROW management</li> <li>4) On the 2nd training in Japan, Lecture and Site Visit on ROW management, legal framework and institution were conducted and Information management of road space was discussed.</li> <li>5) ROW condition of other counties is being researched for next 3rd Country Technical Exchange.</li> <li>6) Seminar invited to relevant authorities in Thailand and Laos was held on 27th September 2018.</li> <li>7) 3<sup>rd</sup> Country Technical Exchange in Thailand and Laos was held from 22th to 26<sup>th</sup> October 2018.</li> <li>8) 5th Seminar was held to share the result of 3rd Country Technical Exchange and consider applying ROW Management on 13th</li> </ol>	<p>Activities to be conducted</p>



	<p>November 2018.</p> <p>9) The 3rd training in Japan will be planned on 12th - 22nd February 2019.</p> <p>10) 3<sup>rd</sup> Country Technical Exchange at the International Association for Impact Assessment (IAIA) in Australia will be planned on 29<sup>th</sup> April – 2<sup>nd</sup> May 2019.</p>	
3.7 RMS is authorized	<p>&lt;progress 10%&gt;</p> <p>1) RMG, RMS-TP and RMM are being modified in accordance with the progress of Pilot Project.</p>	Activities to be conducted
Output 4: Capacity of SC required for ROW management is strengthened		
4.1 Pilot Project Implementation Plan is established	<p>&lt;progress 100%&gt;</p> <p>1) National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site</p> <p>2) Pilot Project Implementation Plan was prepared through ROW TF meeting.</p>	Completed
4.2 PTF is established	<p>&lt;progress 100%&gt;</p> <p>1) PTF was established including 2~3 members from each DPWT in 4 provinces.</p> <p>2) Kickoff Meeting will be held on June in Kampong Chhnang province and explanation and discussion with relevant authorities will be conducted</p>	Completed
4.3 Pilot project of Current Status Identification (CSI) is completed	<p>&lt;progress 70%&gt;</p> <p>1) Condition of ROW management and IEP in NR5 from the border of Kampong Chhnang and Kampong Speu was surveyed for Pilot Project</p> <p>2) Pilot Project of CSI started from end of May 2018 and UAV survey is being conducted in Banteay Meanchey now.</p> <p>3) Progress of each CSI activities is as follows. Progress is mostly smoothly but DF is delayed a little.</p> <ul style="list-style-type: none"> <li>- UAV Survey (UAV): 80%</li> <li>- GIS Processing (GIS): 50%</li> <li>- Field Survey (FS): 50%</li> <li>- Data Finalization (DF): 20%</li> </ul>	Activities to be conducted
4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed	<p>&lt;progress 10%&gt;</p> <p>1) Contents and budget for IEP activities were discussed in ROW TF.</p> <p>2) Standardization for the future road development is being conducted as part of IEP activities. Existing road design standard was reviewed by additional JICA expert. In future, standard road cross section and gradual development method will be prepared.</p> <p>3) IEP activities in the site will be started in January 2019.</p>	Activities to be conducted
4.5 At least 10 qualified trainers are trained	-	Scheduled for later
<b>1-4 Achievement of the Project Purpose</b>		

The deliverables achieved by the Project as per the TOR are given in the table below:

\*Completed, Activities to be conducted, Scheduled for later

Project Purpose: Capacity of MPWT officials on ESC is enhanced through applying REG and RMS		
Indicators	Major Results	Status*
(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials	- TF members were officially selected at the 1st JCC held on 4th May	Activities to be conducted
(2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations (EC) through continuous participation to the REG preparation process	- TF meetings were held once or twice per month	Activities to be conducted
(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process	- TF meetings were held once or twice per month	Activities to be conducted
(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials	- PTF members were selected at the ROW TF meeting	Activities to be conducted

### 1-5 Changes of Risks and Actions for Mitigation

- N/A

### 1-6 Progress of Actions undertaken by JICA

- JICA Project Team conducted activities related to Output 1, 2, 3 and 4. The progress is monitored as stated in 1-3 Achievement of Output.

### 1-7 Progress of Actions undertaken by Gov. of Cambodia

PDM ver.1 approved on May 2017	Actual as of November 2018	Status
1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	Completed
2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	JCC members attended as agreed at 1 <sup>st</sup> JCC held on 4 <sup>th</sup> May, 2017.	Completed

3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	Completed
4. Pilot Project Preparation and implementation of the pilot project	National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site, and Pilot Project was started from end of May 2018.	

### 1-8 Progress of Environmental and Social Considerations (if applicable)

- N/A

### 1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)

- N/A

### 1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

- N/A

## 2 Delay of Work Schedule and/or Issues (Problems) (if any)

Principally it has not observed any crucial bottleneck in the progress of this project.

### 2-1 Detail

- A) Issue procedure of REG as a "Decision" is behind schedule under the proceeding in MPWT.
- B) Preparation of tentative RMD is behind schedule.
- C) MPWT's budget for IEP activities may be shortage.
- D) Involvement of each DPWT to Pilot Project is not enough.

### 2-2 Cause

- A) Discussion of approval level was prolonged in MPWT.
- B) Reflection of the result of Pilot Project to tentative RMD is needed.
- C) Structural measure was not expected in Pilot Project but necessity of the structural measure was required in TF meeting, and MPWT's budget was used for another public works such as

flood measurement.

D) Role and responsibility of DPWT is not clear.

### **2-3 Action to be taken**

A) Issue procedure will be advanced from December 2018.

B) Parts of the tentative RMD relating to IEP of Pilot Project are preferentially being prepared.

C) IEP activities will be conducted within the MPWT's supplementary budget or budget such as for road maintenance in 2019, and document for the next budget requirement to the MEF will be prepared.

D) MPWT keep approaching to DPWT to involve to Pilot Project through TF meeting, and JICA Project Team explain the role of DPWT through the kickoff meeting in each province.

### **2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Cambodia)**

A) MPWT

B) JICA Project Team and MPWT

C) JICA Project Team and MPWT

D) JICA Project Team and MPWT

## **3 Modification of the Project Implementation Plan**

### **3-1 PO**

1) PO ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.

**3-2 Other modifications on detailed implementation plan (Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)**

1) PDM ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.

2) The amendment R/D and PDM was authorized by JICA HDQs.

3) Monthly activity report of this project was prepared and shared with MPWT and project members.

## **4 Preparation of Gov. of Cambodia toward after completion of the Project**

- N/A

## II. Project Monitoring Sheet I & II as Attached

Pilot Project Site: To be Decided		Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<b>Overall Goal</b> Environmental and Social Considerations (ESC) in road sector is implemented properly by MPWT  <b>Project Purpose</b> Capacity of MPWT officials on ESC is enhanced through applying REG and RMS	<b>Narrative Summary</b> Environmental and Social Considerations (ESC) in road sector is implemented properly by MPWT	(1) Environmental procedures are implemented in line with Road Environmental Guidelines (REG) (2) Right of Way (ROW) management is operated by using ROW Management System (RMS)	(1) REG implementation record (2) RMS implementation record	MPWT takes initiative to enforce REG and RMS in road sector	(1) TF members were officially selected at the 1st JCC held on 4th May (2) TF meetings were held once or twice per month (3) TF meetings were held once or twice per month (4) PTF members were selected at the ROW TF meeting	
	<b>Objectively Verifiable Indicators</b> (1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials (2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(ES) through continuous participation to the REG preparation process (3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process (4) More than 10 members of TF and Pilot Project Task Force (P-TF) are trained to guide RMS operation to the other officials.	(1) Relevant documents of Institutional arrangement (2) Result of the Capacity Assessment check list (comprehension check test) (3) Observation and interview by JICA Experts (4) Records of dissemination seminars and final seminar	Policy on ESC and legislation on ROW management system in Cambodia government are not drastically changed. Institutional organizations and JCC members related the project are not drastically changed.	<progress 100%> 1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC 2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting 3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed. 4) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC 5) Past experiences on ROW management were analyzed and reported. 6) Additional study of the past experiences will be conducted if needed.	<progress 100%> 1) Information and case examples on land management framework were collected and analyzed based on Law in Cambodia 2) Information and case examples on land management framework in Japan and other countries were collected and analyzed 3) Suggestion on the management of ROW and consideration between road width and resident environment were reported 4) Above contents were reported and additional study will be conducted if needed.	
<b>Outputs</b> 1. Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management	1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed 1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed 1.3 Institutional framework and responsibilities in MPWT are examined 1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group 1.5 As an implementation structure of the project, TF is established	1.1.1 JICA Expert Report (Environmental Social considerations analysis) 1.1.2 Relevant materials of TF members in charge 1.2.1 JICA Expert Report (ROW management analysis) 1.2.2 Relevant materials of TF members in charge 1.3.1 JICA Expert Report (Institutional analysis) 1.3.2 Relevant materials of TF members in charge 1.4.1 JICA Expert Report (Needs analysis) 1.4.2 Capacity enhancement plan 1.4.3 Procurement plan 1.5.1 TF organizing meeting record 1.5.2 Documents related to TF establishment	1.3.1 JICA Expert Report (Institutional analysis) 1.3.2 Relevant materials of TF members in charge 1.4.1 JICA Expert Report (Needs analysis) 1.4.2 Capacity enhancement plan 1.4.3 Procurement plan 1.5.1 TF organizing meeting record 1.5.2 Documents related to TF establishment	<progress 100%> 1) Legal documents on institutional framework were collected 2) Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed 3) Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed <progress 100%> 1) Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March 2) Capacity Enhancement Plan was prepared 3) Training summary in Japan (the First - the Third) was prepared 4) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared 5) Procurement plans were prepared. 6) Above contents were reported.	<progress 100%> 1) Ideal TF structure was proposed like below - EIA/EMP Team: DOP and ICD - ROW Management Team: RID and ICD 2) TF members were officially selected at the 1st JCC held on 4th May	
2. Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened	2.1 Concept of EC and its implementation process are understood 2.2 Authorizing level of REG as an official document is confirmed 2.3 Lessons learned on EC in other countries are reflected to REG development	2.1.1 Training records 2.1.2 Capacity Assessment check list 2.2.1 Minutes of JCC 2.2.2 Meeting record of REG authorization process 2.3.1 Relevant materials of training courses in Japan 2.3.2 Relevant materials of third country technical exchanges 2.3.3 Records of Training and seminar in Cambodia	2.1.1 Training records 2.1.2 Capacity Assessment check list 2.2.1 Minutes of JCC 2.2.2 Meeting record of REG authorization process 2.3.1 Relevant materials of training courses in Japan 2.3.2 Relevant materials of third country technical exchanges 2.3.3 Records of Training and seminar in Cambodia	<progress 100%> 1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members 2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members 3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings 4) The following contents were shared on the 1st Seminar held on 4th May a) EIA General Process and the implementation issues in Cambodia b) Tasks and the implementation issues of MPWT for EIA process in road sector <progress 100%> 1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed 2) Documentation level of REG was approved at 1st JCC held on May, 2017 as a PRAKAS (ministerial ordinance) 3) Documentation procedures were confirmed. <progress 100%> 1) Training summary in Japan (the First - the Third) was prepared 2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2nd Seminar. 3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared 4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in 10th EIA/EMP TF meeting. 5) Training in Japan and third country related to EC was done.		



<p>2.4 REG is developed and authorized</p> <p>2.5 REG is monitored based on EIA/EEMP related activities.</p>	<p>2.4.1 REG Development Plan</p> <p>2.4.2 Meeting record of REG development</p> <p>2.4.3 Drafted REG</p> <p>2.4.4 Authorized REG</p>	<p>&lt;progress 95%&gt;</p> <p>1) REG Development plan was prepared and provided to EIA/EEMP TF members for mutual understandings</p> <p>2) Technical Official of EIA Department, MOE, provided the suggestions for developing REG</p> <p>3) Draft REG was finalized through the modification reflected some comments of EIA/EEMP TF members and Project Manager.</p> <p>4) REG title was changed as "Road Environmental Guidebook for MPWT" as a result of meeting with MoE.</p> <p>5) Final Draft REG was shared and approved in 2nd JCC held on February 2018.</p> <p>6) Draft REG translated in Khmer was prepared.</p> <p>7) Document level was decided as "Decision" and issue procedure is being discussed by MPWT.</p>
<p>3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared</p>	<p>2.5.1 JICA Expert Report (REG Monitoring Report)</p>	<p>&lt;progress 80%&gt;</p> <p>1) Candidate project for REG monitoring was being considered in the EIA/EEMP TF and Improvement Project of National Road No.5 by Japanese Yen Loan was selected as a candidate.</p> <p>2) Review for Environmental management Plan (EMP) based on above EIA report with EMP check list of REG was conducted by EIA/EEMP TF members.</p> <p>3) Site check at South part of NR No.5 for Environmental Consideration such as air quality, water quality and noise / vibration were conducted for the monitoring, and site check for Social Consideration will be conducted on December 2018.</p>
<p>3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed</p>	<p>3.1.1 Development Plan of draft RMS</p> <p>3.1.2 Meeting record of draft RMS development</p>	<p>&lt;progress 100%&gt;</p> <p>1) Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017</p> <p>2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department of Public Works and Transport (DPWT) was analyzed.</p> <p>3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS</p> <p>4) Development Plan of draft RMS was prepared</p>
<p>3.3 Draft RMG is prepared</p>	<p>3.2.1 Minutes of JCC</p> <p>3.2.2 Meeting record of RMG authorization process</p>	<p>&lt;progress 100%&gt;</p> <p>1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)</p> <p>2) Documentation procedures were confirmed.</p>
<p>3.4 Draft RMS Training Plan (RMS-TP) is prepared</p>	<p>3.3.1 Meeting Record of draft RMG preparation</p> <p>3.3.2 Draft RMG</p>	<p>&lt;progress 100%&gt;</p> <p>1) Table of contents was prepared and shared in 2nd JCC held on February 2018.</p> <p>2) Contents of Current Status Identification (CSI) and Illegal Encroachment/Prevention (IEP) were discussed in ROW TF meeting and these contents was reflected in the draft RMM and RMD.</p> <p>3) CSI was prepared with the result of the Pilot Project.</p> <p>4) Public Consultation Meeting (PCM) related for IEP for National Road No.1 was held by MPWT on the following schedule, and through the PCM, institutional analysis between MPWT and Local Authorities could be conducted in addition and IEP procedure for the cooperation got clear.</p> <p>- 27th March 2018: Kickoff Meeting for PCM</p> <p>- 27th April 2018: PCM at Niroth Pagoda</p> <p>- 28th April 2018: PCM at Khan Chbar Ampov.</p> <p>5) Contents and work flow for CSI and IEP were discussed and draft RMG was prepared.</p>
<p>3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared</p>	<p>3.4.1 Meeting Record of draft RMS-TP preparation</p> <p>3.4.2 Draft RMS-TP</p>	<p>&lt;progress 90%&gt;</p> <p>1) Contents of RMS-TP was discussed.</p> <p>2) Draft RMS-TP is being prepared.</p> <p>3) Draft TP will be shared in TF Meeting.</p>
<p>3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion</p>	<p>3.5.1 Meeting Record of tentative RMM preparation</p> <p>3.5.2 Meeting Record of tentative RMD preparation</p> <p>3.5.3 Tentative RMM and RMD</p>	<p>&lt;progress 90%&gt;</p> <p>1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing.</p> <p>2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government.</p> <p>3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported.</p> <p>4) Tentative RMM was prepared for the Pilot Project.</p> <p>5) Basic design of RMD was prepared and tentative RMD is being proceeded.</p>
<p>3.7 RMS is authorized</p>	<p>3.6.1 Relevant materials of training courses in Japan exchanges</p> <p>3.6.2 Relevant materials of third country technical exchanges</p> <p>3.6.3 Records of Training and seminar in Cambodia</p>	<p>&lt;progress 70%&gt;</p> <p>1) Training summary in Japan and 3rd Country Technical Exchange were prepared</p> <p>2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar.</p> <p>3) The 2nd training in Japan was held on from 27th March 2018 to learn the SC framework on ROW management</p> <p>4) On the 2nd training in Japan, Lecture and Site Visit on ROW management, legal framework and institution were conducted and information management of road space was discussed.</p> <p>5) ROW condition of other countries is being researched for next 3rd Country Technical Exchange.</p> <p>6) Seminar invited to relevant authorities in Thailand and Laos was held on 27th September 2018.</p> <p>7) 3rd Country Technical Exchange in Thailand and Laos was held from 22th to 26th October 2018.</p> <p>8) 5th Seminar was held to share the result of 3rd Country Technical Exchange and consider applying ROW Management on 13th November 2018.</p> <p>9) The 3rd training in Japan will be planned on 12th - 22nd February 2019.</p> <p>10) 3rd Country Technical Exchange at the International Association for Impact Assessment (IAIA) in Australia will be planned on 29th April - 2nd May 2019.</p>
<p>4.1 Pilot Project Implementation Plan is established</p>	<p>3.7.1 Finalized RMG, RMS-TP, RMM and RMD</p> <p>3.7.2 Minutes of JCC</p> <p>3.7.3 Record of RMS final seminar</p> <p>3.7.4 Budget plan for RMS implementation</p>	<p>&lt;progress 100%&gt;</p> <p>1) RMG, RMS-TP and RMM are being modified in accordance with the progress of Pilot Project.</p>
<p>4.2 PTF is established</p>	<p>4.1.1 Meeting record of establishment of pilot project implementation plan</p> <p>4.1.2 Pilot project implementation plan</p>	<p>&lt;progress 100%&gt;</p> <p>1) National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site</p> <p>2) Pilot Project Implementation Plan was prepared through ROW TF meeting.</p>
<p>4. Capacity of SC required for ROW management is strengthened</p>	<p>4.2.1 PTF organizing meeting record</p> <p>4.2.2 Documents related to PTF establishment</p>	<p>&lt;progress 100%&gt;</p> <p>1) PTF was established including 2-3 members from each DPWT in 4 provinces.</p> <p>2) Kickoff Meeting will be held on June in Kampong Chhnang province and explanation and discussion with relevant authorities will be conducted</p>

<p>&lt;progress 70%&gt;  1) Condition of ROW management and IEP in NR5 from Udon province to Kampong Chinang was surveyed for Pilot Project  2) Pilot Project of CSI started from end of May 2018 and UAV survey is being conducted in Battambang now.  3) Progress of each CSI activities is as follows. Progress is mostly smoothly but DF is delayed a little.  - UAV Survey (UAV): 80%  - GIS Processing (GIS): 50%  - Field Survey (FS): 50%  - Data Finalization (DF): 20%</p>	<p>&lt;progress 10%&gt;  1) Contents and budget for IEP activities were discussed in ROW TF.  2) Standardization for the future road development is being conducted as part of IEP activities. Existing road design standard was reviewed by additional JICA expert. In future, standard road section and gradual development method will be prepared.  3) IEP activities in the site will be started in January 2019.</p>
--	--

<p>4.3 Pilot project of Current Status Identification (CSI) is completed</p>	<p>4.3.1 PTF activity record  4.3.2 Progress on RMM and RMD preparation  4.3.3 Training records</p>	<p>4.4 Pilot project of illegal Encroachment Prevention (IEP) is completed</p>	<p>4.4.1 PTF activity record  4.4.2 Progress on RMM and RMD updating  4.4.3 Training records</p>	<p>4.5 At least 10 qualified trainers are trained</p>	<p>4.5.1 TOT implementation record  4.5.2 Record of the dissemination seminar  4.5.3 Observation and interview by JICA Experts</p>
--	---	--	--	---	--

Activities	Inputs	Pre-Conditions
<p><b>Activities for Output 1</b>  1.1 Analyze past projects, current lacking issues on EIA/EMP and ROW management in terms of ESC-GL  1.2 Collect and analyze information on land management framework of land management system in Cambodia and other countries  1.3 Conduct institutional framework analysis for MPWT  1.4 Conduct a needs assessment for training and develop capacity enhancement plan and procurement plan  1.5 Discuss the TF framework</p>	<p><b>The Japanese Side</b>  1. Experts  1.1 Team Leader / Right of Way Management-1  1.2 Deputy Team Leader / Right of Way Management-2  1.3 ESC/EIA/EMP  1.4 Land Management Framework -1  1.5 Land Management Framework -2 / Database Development  1.6 Land and House Investigation -1  1.7 Land and House Investigation -2  1.8 Training Plan and Implementation -1  1.9 Training Plan and Implementation -2  1.10 Institutional Analysis / PCM  1.11 Project Coordinator / Database Management  1.12 Monitoring/Evaluation  1.13 Road Plan / Transportation Plan / Road Structure Plan  2. Training  2.1 Training in Japan  2.2 Technical exchange in third countries  2.3 Training and seminar in Cambodia  3. Machinery and Equipment  PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment  4. Local Contract  4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)  4.2 Administrative Assistant (Secretary, Interpreter, Translator)  4.3 Driver with car (rent-a-car)</p>	<p><b>The Cambodian Side</b>  1. Personnel (MPWT)  1.1 Project Director  1.2 Project Manager  1.3 Deputy Manager  1.4 Taskforce Members  1.5 Pilot Project Taskforce Members  1.6 Advisors for Taskforce Activity  a. Ministry of Environment (MOE)  b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)  2. JCC Organization  2.1 JCC Members  a. Ministry of Public Works and Transport (MPWT)  b. Ministry of Economy and Finance (MEF)  3. Land, buildings and facilities  3.1 Office space for JICA Experts  3.2 Office space for equipment  3.3 Office Infrastructures  a. Electricity  b. Internet  c. Desks, Shelf and others  d. Other necessary items  4. Pilot Project site  Preparation and implementation of the pilot project</p>
<p><b>Activities for Output 2</b>  2.1 Conduct training on ESC of development partners (DPs)  2.2 Discuss documentation level of REG (EIA and EMP) and confirm process of authorization  2.3 Plan and conduct training in Japan and third countries  2.4 Develop REG  2.5 Monitor EIA/EMP related activities based on REG</p>	<p><b>Pre-Conditions</b>  Target group members assigned for the project are able to spend sufficient time to participate in activities  Critical obstructions due to failure of coordination between other authorities relevant to the project do not occur</p>	<p>&lt;Issues and countermeasures&gt;</p>
<p><b>Activities for Output 3</b>  3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD)  3.2 Discuss documentation level of RMG and process of authorization  3.3 Prepare draft RMG: Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP)  3.4 Prepare draft RMS-TP  3.5 Prepare tentative RMM and tentative RMD  3.6 Plan and conduct training in Japan and third countries  3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS</p>	<p><b>Pre-Conditions</b>  Target group members assigned for the project are able to spend sufficient time to participate in activities  Critical obstructions due to failure of coordination between other authorities relevant to the project do not occur</p>	<p>&lt;Issues and countermeasures&gt;</p>
<p><b>Activities for Output 4</b>  4.1 Discuss the implementation plan of the pilot project by using draft RMS  4.2 Discuss the framework of the Pilot Project Task Force (PTF)  4.3 Implement the Pilot Project of CSI  4.4 Implement the Pilot Project of IEP  4.5 Conduct TOT based on draft RMS-TP</p>	<p><b>Pre-Conditions</b>  Target group members assigned for the project are able to spend sufficient time to participate in activities  Critical obstructions due to failure of coordination between other authorities relevant to the project do not occur</p>	<p>&lt;Issues and countermeasures&gt;</p>

Inputs	2017												2018												2019												2020				Remarks	Issue	Solution
	2017												2018												2019												2020						
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	I	II	III	IV			
Expert	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
Team Leader / Right of Way Management-1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	12.77MM	70.31%					
Deputy Team Leader / Right of Way Management-2	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	9.83MM	67.8%					
Environmental and Social Considerations / Environmental Impact Assessment / Environmental Management Plan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	10.43MM	72.0%					
Land Management Framework -1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	7.73MM	67.2%					
Land Management Framework -2 / Database Development	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	7.07MM	61.4%					
Land and House Investigation -1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	5.83MM	68.6%					
Land and House Investigation -2	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	7.23MM	85.1%					
Training Plan and Implementation -1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	4.00MM	88.9%					
Training Plan and Implementation -2	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	3.07MM	68.1%					
Institutional Analysis / PCM	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	5.00MM	71.4%					
Project Coordinator / Database Management	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	5.93MM	84.8%					
Monitoring/Evaluation	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	4.50MM	75.0%					
Road Plan / Transportation Plan / Road Structure Plan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	6.00MM	100.0%					
Equipment	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	4.50MM	69.2%					
Office Facilities	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	4.33MM	66.7%					
Total Station	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	5.33MM	76.2%					
Training in Japan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	6.03MM	86.2%					
Training Course in Japan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	1.50MM	100.0%					
In-country/Third country Training	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	4.00MM	66.7%					
Third Country Technical Exchange	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	2.73MM	45.6%					
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	17.50MM	68.6%	3rd training in Japan will be held on February 2019				
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	3.50MM	70.0%					
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	1.70MM	34.0%					
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	1.00MM	100.0%					
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	1.00MM	100.0%					
Activities	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
Sub-Activities	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
Output 1: Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
1.1 Analyze past projects, current lacking issues on EIA/EMP and ROW management in terms of ESC-GL	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
1.2 Conduct an energy information on land management framework of land management system in Cambodia and other countries	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
1.3 Conduct institutional framework analysis for MPWT	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
1.4 Conduct a needs assessment, training and develop capacity enhancement plan and procurement plan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
1.5 Discuss the TF framework	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
Output 2: Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
2.1 Conduct training on ESC of development partners (DPs)	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
2.2 Discuss documentation level of REG (EIA and EMP) and confirm process of authorization	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
2.3 Plan and conduct training in Japan and third countries	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual							
2.4 Develop REG	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual			Issue procedure of REG are being proceeded by MPWT.				
2.5 Monitor EIA/EMP related activities based on REG	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual			EIA/EMP Monitoring is being conducting at the NR No.5 in advance				







5-6. Monitoring Sheet Ver. 6.0



**TO CR of JICA CAMBODIA OFFICE**

**PROJECT MONITORING SHEET**

**Project Title: Capacity Enhancement of Environment and Social Considerations in  
Implementing Agency in Road Sector**

**Version of the Sheet: Ver.6.0 (as of May 2019)**

**Name: Takayuki Tsuchida**

**Title: Team Leader**

**Submission Date: 28 June 2019**

**I. Summary**

**1 Progress**

**1-1 Progress of Inputs**

- PDM related to Input were authorized on May 4<sup>th</sup>, 2017 as a ver.1

Inputs	PDM ver.1 approved on May 2017	Actual as of May 2019
Experts	<p><u>Total: 103.5M/M</u></p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p>	<p><u>Progress: 92.27 M/M (80.51%)</u></p> <p><u>(Total M/M was changed to 116.40M/M on August 2018)</u></p> <p>Between January 2017 and May 2019.</p> <p>1. Experts</p> <p>1.1 Team Leader / Right of Way Management-1</p> <p>1.2 Deputy Team Leader / Right of Way Management-2</p> <p>1.3 ESC/EIA/EMP</p> <p>1.4 Land Management Framework -1</p> <p>1.5 Land Management Framework -2 / Database Development</p> <p>1.6 Land and House Investigation -1</p> <p>1.7 Land and House Investigation -2</p> <p>1.8 Training Plan and Implementation -1</p> <p>1.9 Training Plan and Implementation -2</p> <p>1.10 Institutional Analysis / PCM</p> <p>1.11 Project Coordinator / Database Management</p> <p>1.12 Monitoring/Evaluation</p> <p>1.13 Road Planning / Transport Planning / Road Structure Design</p>
	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping)</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator)</p> <p>4.3 Driver with car (rent-a-car)</p>	<p>4. Local Contract</p> <p>4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping): 1 staff</p> <p>4.2 Administrative Assistant (Secretary, Interpreter, Translator): 2 staffs</p> <p>4.3 Driver with car (rent-a-car)</p>

Training in Japan	3 times	3 / 3 times 1st training: 13–22 June 2017 2nd training: 27 February – 9 March 2018. 3rd training: 12 – 22 February 2019.
Third country technical exchange	3 times	3 / 3 times 1st exchange in Myanmar: 24-28 Oct. 2017 2nd exchange: is as follows; - Seminar invited to relevant authorities in Thailand and Laos: 27 Sep. 2018 - Training in Thailand and Laos: 22-26 Oct. 2018 3rd exchange in Australia: 27 <sup>th</sup> April – 3 <sup>rd</sup> May 2019
Training in Cambodia	Seminar 5 times Daily training	Seminar: 5 / 5 times 1st seminar 4 May, 2017 2nd Seminar: 6 July 2017 3rd Seminar: 6 February 2018 4th Seminar: 27 September 2018 5th Seminar: 13 November 2018 Additional Seminar 6th Seminar: 15 March 2019 7th Seminar: To be confirmed
Equipment	PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment	PC, Printer, Copy machine and Projector, Drone, Total Station, Desktop PC, CAD Application, Server PC, and Image Processing Application.
Cambodian Side Personnel	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)
	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF) MLMUPC and MOE joined as an observer.

Operational Expenses	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items
	4. Pilot Project site Preparation and implementation of the pilot project	National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site, and Pilot Project was started from end of May 2018.

### 1-2 Progress of Activities

- Progress of activities is indicated in Monitoring Sheet Form 3-2 (PDM) and 3-3 (PO).
- Principally it has not observed any crucial bottleneck in the progress.

### 1-3 Achievement of Output

The deliverables achieved by the Project as per the TOR are given in the table below:

- PDM related to Output were authorized on May 4<sup>th</sup>, 2017 as a ver.1

\*Completed, Activities to be conducted, Scheduled for later.

Output/Indicators (Based on PDM ver.1)	Major Results Achievement from January 2017 to June 2019	Status*
Output 1: Implementation Framework for the project is strengthened based on the past experiences and present situation on ESC and ROW management		
1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed	<p>&lt;progress 100%&gt;</p> <p>1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC</p> <p>2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting</p> <p>3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed.</p> <p>4) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC</p> <p>5) Past experiences on ROW management were analyzed and reported.</p> <p>6) Additional study of the past experiences will be conducted if needed.</p>	Completed



1.2 Based on the land management framework in Cambodia and other countries, lessons learned from past experiences on ROW management are organized and current issues are analyzed	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Information and case examples on land management framework were collected and analyzed based on Law in Cambodia</li> <li>2) Information and case examples on land management framework in Japan and other countries were collected and analyzed</li> <li>3) Suggestion on the management of ROW and consideration between road width and resident environment were reported</li> <li>4) Above contents were reported and additional study will be conducted if needed.</li> </ol>	Completed
1.3 Institutional framework and responsibilities in MPWT are examined	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Legal documents on institutional framework were collected</li> <li>2) Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed</li> <li>3) Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed</li> </ol>	Completed
1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March</li> <li>2) Capacity Enhancement Plan was prepared</li> <li>3) Training summary in Japan (the First - the Third) was prepared</li> <li>4) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</li> <li>5) Procurement plans were prepared.</li> <li>6) Above contents were reported.</li> </ol>	Completed
1.5 As an implementation structure of the project, TF is established	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Ideal TF structure was proposed like below <ul style="list-style-type: none"> <li>- EIA/EMP Team: DOP and ICD</li> <li>- ROW Management Team: RID and ICD</li> </ul> </li> <li>2) TF members were officially selected at the 1st JCC held on 4th May</li> </ol>	Completed
Output 2: Implementation Framework of EC related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened		
2.1 Concept of EC and its implementation process are understood	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members</li> <li>2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members</li> <li>3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings</li> <li>4) The following contents were shared on the 1st Seminar held on 4th May <ol style="list-style-type: none"> <li>a) EIA General Process and the implementation issues in Cambodia</li> <li>b) Tasks and the implementation issues of MPWT for EIA process in road sector</li> </ol> </li> </ol>	Completed
2.2 Authorizing level of REG as an official	<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Documentation Level of the REG was discussed and necessary of</li> </ol>	Completed

document is confirmed	<p>duration and procedures for authorization of the REG was confirmed</p> <p>2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance)</p> <p>3) Documentation procedures were confirmed.</p>	
2.3 Lessons learned on EC in other countries are reflected to REG development	<p>&lt;progress 100%&gt;</p> <p>1) Training summary in Japan (the First - the Third) was prepared</p> <p>2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2<sup>nd</sup> Seminar.</p> <p>3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</p> <p>4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in 10<sup>th</sup> EIA/EMP TF meeting.</p> <p>5) Training in Japan and third country related to EC was done.</p>	Completed
2.4 REG is developed and authorized	<p>&lt;progress 95%&gt;</p> <p>1) REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings</p> <p>2) Technical Official of EIA Department, MOE provided the suggestions for developing REG</p> <p>3) Draft REG was finalized through the modification reflected some comments of EIA/EMP TF members and Project Manager.</p> <p>4) REG title was changed as "Road Environmental Guidebook for MPWT" as a result of meeting with MoE.</p> <p>5) Final Draft REG was shared and approved in 2<sup>nd</sup> JCC held on February 2018.</p> <p>6) Draft REG translated in Khmer was prepared.</p> <p>7) Document level was decided as "Decision" and issue procedure is being discussed by MPWT.</p>	Activities to be conducted
2.5 REG is monitored based on EIA/EMP related activities.	<p>&lt;progress 80%&gt;</p> <p>1) Candidate project for REG monitoring was being considered in the EIA/EMP TF and Improvement Project of National Road No.5 by Japanese Yen Loan was selected as a candidate.</p> <p>2) Review for Environmental management Plan (EMP) based on above EIA report with EMP check list of REG was conducted by EIA/EMP TF members.</p> <p>3) Site check at South part of NR No.5 for Environmental Consideration such as air quality, water quality and noise / vibration were conducted for the monitoring, and site check for Social Consideration was conducted on December 2018.</p> <p>4) Result of the monitoring of REG will be shared in the Seminar planned to be held in October 2019.</p>	Activities to be conducted
Output 3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened		
3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	<p>&lt;progress 100%&gt;</p> <p>1) Problems and concern of ROW management were revealed from MPWT at TF meeting held on 9th May, 2017.</p> <p>2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department</p>	Completed

	<p>of Public Works and Transport (DPWT) was analyzed.</p> <p>3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS</p> <p>4) Development Plan of draft RMS was prepared</p>	
3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed	<p>&lt;progress 100%&gt;</p> <p>1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)</p> <p>2) Documentation procedures were confirmed.</p>	Completed
3.3 Draft RMG is prepared	<p>&lt;progress 100%&gt;</p> <p>1) Table of contents was prepared and shared in 2nd JCC held on February 2018.</p> <p>2) Contents of Current Status Identification (CSI) and Illegal Encroachment Prevention (IEP) were discussed in ROW TF meeting and these contents was reflected in the draft RMM and RMD.</p> <p>3) CSI was prepared with the result of the Pilot Project.</p> <p>4) Public Consultation Meeting (PCM) related for IEP for National Road No.1 was held by MPWT on the following schedule, and through the PCM, institutional analysis between MPWT and Local Authorities could be conducted in addition and IEP procedure for the cooperation got clear.</p> <p>- 27<sup>th</sup> March 2018: Kickoff Meeting for PCM</p> <p>- 27<sup>th</sup> April 2018: PCM at Niroth Pagoda</p> <p>- 28<sup>th</sup> April 2018: PCM at Khan Chbar Ampov.</p> <p>5) Contents and work flow for CSI and IEP were discussed and draft RMG was prepared.</p>	Completed
3.4 Draft RMS Training Plan (RMS-TP) is prepared	<p>&lt;progress 100%&gt;</p> <p>1) Contents of RMS-TP was discussed.</p> <p>2) Draft RMS-TP was prepared.</p> <p>3) Draft TP was shared in TF Meeting.</p>	Completed
3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared	<p>&lt;progress 100%&gt;</p> <p>1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing.</p> <p>2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government.</p> <p>3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported.</p> <p>4) Tentative RMM was prepared for the Pilot Project.</p> <p>5) Tentative RMD was prepared by the Pilot Project.</p>	Completed
3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion	<p>&lt;progress 100%&gt;</p> <p>1) Training summary in Japan and 3rd Country Technical Exchange were prepared</p> <p>2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar.</p>	Completed

	<p>3) The 2nd training in Japan was held on from 27th February to 9th March 2018 to learn the SC framework on ROW management by the lecture and site visit on ROW management, legal framework, institution and Information management of road space.</p> <p>4) The 3rd training in Japan was held on 12th - 22nd February 2019 to learn the ROW management, road occupation system, road information management and real estate registration.</p> <p>5) 2<sup>nd</sup> Technical Exchange was held as the Seminar inviting relevant authorities in Thailand and Laos on 27th September 2018 and Visit and meeting in Thailand and Laos were held from 22th to 26<sup>th</sup> October 2018 to share and exchange the opinions for ROW management in each country.</p> <p>6) 3<sup>rd</sup> Technical Exchange at the International Association for Impact Assessment (IAIA) conference in Australia was held on 27<sup>th</sup> April – 3rd May 2019 and some issue on ROW management was presented at the conference.</p>	
3.7 RMS is authorized	<p>&lt;progress 30%&gt;</p> <p>1) Draft RMG is being reviewed by MPWT and a topic of “Proper Procedure of ROW Usage” was added.</p> <p>2) RMS-TP is being reviewed according to the result of TOT by pilot project.</p> <p>3) RMM is integrated in RMD which is being revised by the database contractor and usage of database was explained to the pilot team..</p>	Activities to be conducted
Output 4: Capacity of SC required for ROW management is strengthened		
4.1 Pilot Project Implementation Plan is established	<p>&lt;progress 100%&gt;</p> <p>1) National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site</p> <p>2) Pilot Project Implementation Plan was prepared through ROW TF meeting.</p>	Completed
4.2 PTF is established	<p>&lt;progress 100%&gt;</p> <p>1) PTF was established including 2~3 members from each DPWT in 4 provinces.</p> <p>2) Kickoff Meetings were held in 2018 for each province and explanation and discussion with relevant authorities were conducted</p>	Completed
4.3 Pilot project of Current Status Identification (CSI) is completed	<p>&lt;progress 100%&gt;</p> <p>1) Condition of ROW management and IEP in NR5 from the border of Kampong Chhnang and Kampong Speu was surveyed for Pilot Project</p> <p>2) Pilot Project of CSI started from end of May 2018 and UAV survey is being conducted in Banteay Meanchey now.</p> <p>3) Progress of each CSI activities is as follows.</p> <ul style="list-style-type: none"> <li>- UAV Survey (UAV): 100%</li> <li>- GIS Processing (GIS): 100%</li> <li>- Field Survey (FS): 100%</li> <li>- Data Finalization (DF): 100%</li> </ul>	Completed
4.4 Pilot project of Illegal	<progress 30%>	Activities

Encroachment Prevention (IEP) is completed	<ol style="list-style-type: none"> <li>1) Contents and budget for IEP activities were decided by ROW TF.</li> <li>2) Standardization for the future road development was conducted as part of IEP activities and road design standard drawing was prepared.</li> <li>3) IEP activities at the site has been started from June 2019 and the construction of IEP activities for hard approaches will be completed by October 2019.</li> <li>4) Target area of IEP activities is NR5 at Chrey Bak Commune, Krong Kampong Chhnang and consultation meeting for residents at target area was conducted.</li> </ol>	to be conducted
4.5 At least 10 qualified trainers are trained	<p>&lt;progress 40%&gt;</p> <ol style="list-style-type: none"> <li>1) Train of Trainer between JICA Project Team and MPWT started from March 2019 and was held 8 times until April 2019.</li> <li>2) Total 11 MPWT's staffs were trained at above train.</li> <li>3) TOT between MPWT and DPWT will start from July 2019.</li> <li>4) Dissemination seminar to the other officials will be held on August.</li> </ol>	Activities to be conducted

#### 1-4 Achievement of the Project Purpose

The deliverables achieved by the Project as per the TOR are given in the table below:

\*Completed, Activities to be conducted, Scheduled for later

Project Purpose: Capacity of MPWT officials on ESC is enhanced through applying REG and RMS		
Indicators	Major Results	Status*
(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials	<ul style="list-style-type: none"> <li>- TF members were officially selected at the 1st JCC held on 4th May</li> <li>- Each TF members conduct the appropriate activities through the TF meeting and present the output at the seminar etc.</li> </ul>	Completed
(2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations (EC) through continuous participation to the REG preparation process	<ul style="list-style-type: none"> <li>- TF meetings were held once or twice per month</li> <li>- TF members monitored the environmental countermeasure at NR5 with using draft REG.</li> <li>- Output of activities will be presented by TF members at final seminar.</li> <li>- Capacity assessment will be conducted before the final seminar.</li> </ul>	Activities to be conducted
(3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process	<ul style="list-style-type: none"> <li>- TF meetings are being held once or twice per month.</li> <li>- Output of activities will be presented by TF members at final seminar.</li> <li>- Capacity assessment will be conducted before the final seminar.</li> </ul>	Activities to be conducted
(4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials	<ul style="list-style-type: none"> <li>- PTF members were selected at the ROW TF meeting</li> <li>- Training to the MPWT was conducted and training to DPWT and dissemination seminar by TF members will be conducted.</li> </ul>	Activities to be conducted

#### 1-5 Changes of Risks and Actions for Mitigation

- N/A



**1-6 Progress of Actions undertaken by JICA**

- JICA Project Team conducted activities related to Output 1, 2, 3 and 4. The progress is monitored as stated in 1-3 Achievement of Output.

**1-7 Progress of Actions undertaken by Gov. of Cambodia**

PDM ver.1 approved on May 2017	Actual as of June 2019	Status
1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC)	Completed
2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)	JCC members attended as agreed at 1 <sup>st</sup> JCC held on 4 <sup>th</sup> May, 2017.	Completed
3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office Infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items	Completed
4. Pilot Project Preparation and implementation of the pilot project	National Road No. 5 in: Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site, and Pilot Project was started from end of May 2018.	

**1-8 Progress of Environmental and Social Considerations (if applicable)**

- N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

- N/A

**1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

- N/A

**2 Delay of Work Schedule and/or Issues (Problems) (if any)**

Principally it has not observed any crucial bottleneck in the progress of this project.

**2-1 Detail**

- A) REG (Road Environment Guidebook) and RMS (ROW Management System) may not be authorized as official document during the Project.
- B) MPWT's budget for ROW management should be secured to continue the CSI and IEP activities sustainably in the future.
- C) MPWT's self-management of the project output such as some guidelines and database for ROW management is required toward the project completion.

**2-2 Cause**

- A) Final decision of approval level in MPWT takes long time.
- B) Present MPWT's budget for ROW management is not enough to continue the CSI and IEP activities.
- C) JICA project will finish in this year and MPWT need to manage the output independently.

**2-3 Action to be taken**

- A) In this project, approval at the final JCC planned on October is as final authorization. Final decision as official document will be conducted under the MPWT's responsibility.
- B) Budget requirement document for ROW management will be prepared based on the output of this project and will be submitted to Ministry of Economy and Finance (MEF).
- C) Operational/implementation plan for the output usage should be prepared and monitoring plan by MPWT will be considered.

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Cambodia)**

- A) MPWT
- B) JICA Project Team and MPWT
- C) JICA Project Team and MPWT

**3 Modification of the Project Implementation Plan**

**3-1 PO**

1) PO ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.

**3-2 Other modifications on detailed implementation plan (Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)**

1) PDM ver.1 was approved at 1st JCC and used as a baseline to commence monitoring.

2) The amendment R/D and PDM was authorized by JICA HDQs.

3) Monthly activity report of this project was prepared and shared with MPWT and project members.

**4 Preparation of Gov. of Cambodia toward after completion of the Project**

- N/A

II. Project Monitoring Sheet I & II as Attached



**Pilot Project Site: To be Decided**

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<p><b>Project Purpose</b> Capacity of MPWT officials on ESC is enhanced through applying REG and RMS</p>	<p>Environmental and Social Considerations (ESC) in road sector is implemented properly by MPWT</p>	<p>(1) Environmental procedures are implemented in line with Road Environmental Guidelines (REG) (2) Right of Way (ROW) management is operated by using ROW Management System (RMS)</p>	<p>(1) REG implementation record (2) RMS implementation record</p>	<p>MPWT takes initiative to enforce REG and RMS in road sector</p>	<p>(1) - TF members were officially selected at the 1st JCC held on 4th May -Each TF members conduct the appropriate activities through the TF meeting and present the output at the seminar etc. (2) - TF meetings were held once or twice per month -TF members monitored the environmental countermeasure at NRS with using draft REG. -Output of activities will be presented by TF members at final seminar. -Capacity assessment will be conducted before the final seminar. (3) - TF meetings are being held once or twice per month. -Output of activities will be presented by TF members at final seminar. -Capacity assessment will be conducted before the final seminar. (4) -TF members were selected at the ROW TF meeting -Training to the MPWT was conducted and training to DPWT and dissemination seminar by TF members will be conducted.</p>	
<p><b>Outputs</b> 1. Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management</p>	<p>1.1 Based on the JICA Guidelines for Environmental and Social Considerations (ESC-GL), lessons learned from past experiences are organized and current issues on ESC and ROW management are analyzed</p>	<p>(1) Implementation framework of the project is established by Task Force (TF) consisting of ICD, RID and DOP officials (2) More than 5 members of TF are observed their capacity enhancement on Environmental Considerations(EC) through continuous participation to the REG preparation process (3) More than 5 members of TF are observed their capacity enhancement on Social Considerations (SC) through continuous participation to the RMS preparation process (4) More than 10 members of TF and Pilot Project Task Force (PTF) are trained to guide RMS operation to the other officials.</p>	<p>(1) Relevant documents of institutional arrangement (2) Result of the Capacity Assessment check list (comprehension check test) (3) Observation and interview by JICA Experts (4) Records of dissemination seminars and final seminar</p>	<p>Policy on ESC and legislation on ROW management system in Cambodia government are not drastically changed. Institutional organizations and JCC members related the project are not drastically changed.</p>	<p>&lt;progress 100%&gt; 1) EIA related to legal framework and past implementation issues of MPWT were analyzed based on discussion and hearings with MPWT relevant officials and analyzed through the case related to ADB, WB and another donor in terms of ESC 2) Main implementation issues of MPWT for EIA process in Road Sector were shared between JICA experts and TF members through the discussions of the EIA/EMP TF meeting 3) EIA process and past implementation issues by another donor's projects in Cambodia were analyzed. 4) ROW definition in Cambodia was analyzed based on Law and Guideline related to MOE and MPWT learned in terms of ESC 5) Past experiences on ROW management were analyzed and reported. 6) Additional study of the past experiences will be conducted if needed.</p>	
<p>1.3 Institutional framework and responsibilities in MPWT are examined</p>	<p>1.3 Institutional framework and responsibilities in MPWT are examined</p>	<p>1.3.1 JICA Expert Report (Institutional analysis) 1.3.2 Relevant materials of TF members in charge</p>	<p>1.3.1 JICA Expert Report (Institutional analysis) 1.3.2 Relevant materials of TF members in charge</p>	<p>&lt;progress 100%&gt; 1) Legal documents on institutional framework were collected 2) Institutional framework and responsibilities related to EIA/EMP in MPWT were analyzed 3) Validity of institutional framework including personnel arrangement and their skill related to ROW management will be evaluated as needed</p>	<p>&lt;progress 100%&gt; 1) Information and case examples on land management framework were collected and analyzed based on Law in Cambodia 2) Information and case examples on land management framework in Japan and other countries were collected and analyzed 3) Suggestion on the management of ROW and consideration between road width and resident environment were reported 4) Above contents were reported and additional study will be conducted if needed.</p>	
<p>1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group</p>	<p>1.4 Capacity enhancement plan and procurement plan are developed through training needs assessment (analysis) of target group</p>	<p>1.4.1 JICA Expert Report (Needs analysis) 1.4.2 Capacity enhancement plan 1.4.3 Procurement plan</p>	<p>1.4.1 JICA Expert Report (Needs analysis) 1.4.2 Capacity enhancement plan 1.4.3 Procurement plan</p>	<p>&lt;progress 100%&gt; 1) Training needs of ICD, RID and DOP were assessed through hearing and Kickoff meeting held on 17th March 2) Capacity Enhancement Plan was prepared 3) Training summary in Japan (the First - the Third) was prepared 4) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared 5) Procurement plans were prepared. 6) Above contents were reported.</p>	<p>&lt;progress 100%&gt; 1) Ideal TF structure was proposed like below - EIA/EMP Team: DOP and ICD - ROW Management Team: RID and ICD 2) TF members were officially selected at the 1st JCC held on 4th May</p>	
<p>1.5 As an implementation structure of the project, TF is established</p>	<p>1.5 As an implementation structure of the project, TF is established</p>	<p>1.5.1 TF organizing meeting record 1.5.2 Documents related to TF establishment</p>	<p>1.5.1 TF organizing meeting record 1.5.2 Documents related to TF establishment</p>	<p>&lt;progress 100%&gt; 1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members 2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members meetings 3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings 4) The following contents were shared on the 1st Seminar held on 4th May a) EIA General Process and the implementation issues in Cambodia b) Tasks and the implementation issues of MPWT for EIA process in road sector</p>	<p>&lt;progress 100%&gt; 1) Capacity Assessment (CA) Check List was prepared and the CA was conducted for total 9 members including 7 members who were official EIA/EMP TF members 2) Implementation issues of EIA/EMP were addressed by EIA/EMP TF members meetings 3) Concepts and implementation process of EC were shared between JICA experts and TF members through the TF meetings 4) The following contents were shared on the 1st Seminar held on 4th May a) EIA General Process and the implementation issues in Cambodia b) Tasks and the implementation issues of MPWT for EIA process in road sector</p>	
<p>2.1 Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened</p>	<p>2.1 Concept of EC and its implementation process are understood</p>	<p>2.1.1 Training records 2.1.2 Capacity Assessment check list</p>	<p>2.1.1 Training records 2.1.2 Capacity Assessment check list</p>	<p>&lt;progress 100%&gt; 1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed 2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance) 3) Documentation procedures were confirmed.</p>	<p>&lt;progress 100%&gt; 1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed 2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance) 3) Documentation procedures were confirmed.</p>	
<p>2.2 Authorizing level of REG as an official document is confirmed</p>	<p>2.2 Authorizing level of REG as an official document is confirmed</p>	<p>2.2.1 Minutes of JCC 2.2.2 Meeting record of REG authorization process</p>	<p>2.2.1 Minutes of JCC 2.2.2 Meeting record of REG authorization process</p>	<p>&lt;progress 100%&gt; 1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed 2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance) 3) Documentation procedures were confirmed.</p>	<p>&lt;progress 100%&gt; 1) Documentation Level of the REG was discussed and necessary of duration and procedures for authorization of the REG was confirmed 2) Documentation level of REG was approved at 1st JCC held on May,2017 as a PRAKAS (ministerial ordinance) 3) Documentation procedures were confirmed.</p>	



Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
	2.3 Lessons learned on EC in other countries are reflected to REG development	2.3.1 Relevant materials of training courses in Japan 2.3.2 Relevant materials of third country technical exchanges 2.3.3 Records of Training and seminar in Cambodia		<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Training summary in Japan (the First - the Third) was prepared</li> <li>2) The 1st training in Japan related to EC was held on 13th - 22nd June 2017 and the result of the training was shared in 2nd Seminar.</li> <li>3) Training summary in 3rd Country Technical Exchange (the First - the Third) was prepared</li> <li>4) 1st training in third country (Myanmar) related to EC was held on October 24th-28th, 2017 and the result of the training was shared in 10th EIA/EMP TF meeting.</li> <li>5) Training in Japan and third country related to EC was done.</li> </ol> <p>&lt;progress 95%&gt;</p> <ol style="list-style-type: none"> <li>1) REG Development plan was prepared and provided to EIA/EMP TF members for mutual understandings</li> <li>2) Technical Official of EIA Department, MOE provided the suggestions for developing REG</li> <li>3) Draft REG was finalized through the modification reflected some comments of EIA/EMP TF members and Project Manager.</li> <li>4) REG title was changed as "Road Environmental Guidebook for MPWT" as a result of meeting with MoE.</li> <li>5) Final Draft REG was shared and approved in 2nd JCC held on February 2018.</li> <li>6) Draft REG translated in Khmer was prepared.</li> <li>7) Document level was decided as "Decision" and issue procedure is being discussed by MPWWT.</li> </ol>	
	2.4 REG is developed and authorized	2.4.1 REG Development Plan 2.4.2 Meeting record of REG development 2.4.3 Drafted REG 2.4.4 Authorized REG	2.5.1 JICA Expert Report (REG Monitoring Report)	<p>&lt;progress 80%&gt;</p> <ol style="list-style-type: none"> <li>1) Candidate project for REG monitoring was being considered in the EIA/EMP TF and Improvement Project of National Road No.5 by Japanese Yen Loan was selected as a candidate.</li> <li>2) Review for Environmental management Plan (EMP) based on above EIA report with EMP check list of REG was conducted by EIA/EMP TF members.</li> <li>3) Site check at South part of NR No.5 for Environmental Consideration such as air quality, water quality and noise / vibration were conducted for the monitoring, and site check for Social Consideration was conducted on December 2018.</li> <li>4) Result of the monitoring of REG will be shared in the Seminar planned to be held in October 2019.</li> </ol>	
3. Implementation framework of Social Considerations (SC) related to ROW management is strengthened	3.1 Current situation of ROW management is confirmed and Development Plan of draft RMS is prepared	3.1.1 Development Plan of draft RMS 3.1.2 Meeting record of draft RMS development		<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Problems and concern of ROW management were revealed from MPWWT at TF meeting held on 9th May, 2017</li> <li>2) The role of the relative organization related to ROW management such as Ministry of Interior (MOI), provincial Authority and Department of Public Works and Transport (DPWT) was analyzed</li> <li>3) The development of RMS was discussed in 5th ROW TF meeting and Road Infrastructure Department (RID) will assign officials to collaborate with JICA experts to develop the RMS</li> <li>4) Development Plan of draft RMS was prepared</li> </ol> <p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Documentation level of RMG was approved at 1st JCC held on 4th May, 2017 as a PRAKAS (ministerial ordinance)</li> <li>2) Documentation procedures were confirmed.</li> </ol>	
	3.2 Authorizing level of ROW Management Guidelines (RMG) of RMS as an official document is confirmed	3.2.1 Minutes of JCC 3.2.2 Meeting record of RMG authorization process		<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Table of contents was prepared and shared in 2nd JCC held on February 2018.</li> <li>2) Contents of Current Status Identification (CSI) and Illegal Encroachment Prevention (IEP) were discussed in ROW TF meeting and these contents were reflected in the draft RMM and RMD.</li> <li>3) CSI was prepared with the result of the Pilot Project.</li> <li>4) Public Consultation Meeting (PCM) related for IEP for National Road No.1 was held by MPWWT on the following schedule, and through the PCM, institutional analysis between MPWWT and Local Authorities could be conducted in addition and IEP procedure for the cooperation got clear.</li> <li>27th March 2018: Kickoff Meeting for PCM</li> <li>27th April 2018: PCM at Nirotth Pagoda</li> <li>28th April 2018: PCM at Khan Chbar Ampov.</li> <li>5) Contents and work flow for CSI and IEP were discussed and draft RMG was prepared.</li> </ol> <p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Contents of RMS-TP was discussed.</li> <li>2) Draft RMS-TP was prepared.</li> <li>3) Draft TP was shared in TF Meeting.</li> </ol>	
	3.3 Draft RMG is prepared	3.3.1 Meeting Record of draft RMG preparation 3.3.2 Draft RMG		<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) The Training for Total Station and Drone were conducted on 19th October 2017 to provide the basic knowledge on how to use Total Station, Drones and data processing.</li> <li>2) Trial Flight of Drone was conducted on November 2017 with the officials from RID, ICD (International Cooperation Department), DPWT and Local Government.</li> <li>3) As a result of trial flight, Verification of applicability concerning CSI method was drafted and reported.</li> <li>4) Tentative RMM was prepared for the Pilot Project.</li> <li>5) Tentative RMD was prepared by the Pilot Project.</li> </ol> <p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Training summary in Japan and 3rd Country Technical Exchange were prepared</li> <li>2) The 1st training in Japan was held on 13th - 22nd June 2017 and the result of the training is shared in 2nd Seminar.</li> <li>3) The 2nd training in Japan was held on from 27th February to 9th March 2018 to learn the SC framework on ROW management by the lecture and site visit on ROW management, legal framework, institution and information management of road space.</li> <li>4) The 3rd training in Japan was held on 12th - 22nd February 2019 to learn the ROW management, road occupation system, road information management and real estate registration.</li> <li>5) 2nd Technical Exchange was held as the Seminar inviting relevant authorities in Thailand and Laos on 27th September 2018 and Visit and meeting in Thailand and Laos were held from 22th to 26th October 2018 to share and exchange the opinions for ROW management in each country.</li> <li>6) 3rd Technical Exchange at the International Association for Impact Assessment (IAIA) conference in Australia was held on 27th April - 3rd May 2019 and some issue on ROW management was presented at the conference.</li> </ol>	
	3.4 Draft RMS Training Plan (RMS-TP) is prepared	3.4.1 Meeting Record of draft RMS-TP preparation 3.4.2 Draft RMS-TP		<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Meeting Record of tentative RMM preparation</li> <li>2) Meeting Record of tentative RMD preparation</li> <li>3) Tentative RMM and RMD</li> </ol>	
	3.5 Tentative ROW Management Map (RMM) and tentative ROW Management Database (RMD) are prepared	3.5.1 Meeting Record of tentative RMM preparation 3.5.2 Meeting Record of tentative RMD preparation 3.5.3 Tentative RMM and RMD		<p>&lt;progress 100%&gt;</p> <ol style="list-style-type: none"> <li>1) Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion</li> </ol>	
	3.6 Lessons learned on SC through training in other countries and Cambodia are reflected to RMS discussion	3.6.1 Relevant materials of training courses in Japan 3.6.2 Relevant materials of third country technical exchanges 3.6.3 Records of Training and seminar in Cambodia		<p>&lt;progress 30%&gt;</p> <ol style="list-style-type: none"> <li>1) Draft RMG is being reviewed by MPWWT and a topic of "Proper Procedure of ROW Usage" was added.</li> <li>2) RMS-TP is being reviewed according to the result of TOT by pilot project.</li> <li>3) RMM is integrated in RMD which is being revised by the database contractor and usage of database was explained to the pilot team..</li> </ol>	
	3.7 RMS is authorized	3.7.1 Finalized RMG, RMS-TP, RMM and RMD 3.7.2 Minutes of JCC 3.7.3 Record of RMS final seminar 3.7.4 Budget plan for RMS implementation			

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
4. Capacity of SC required for ROW management is strengthened	4.1 Pilot Project Implementation Plan is established 4.2 PTF is established 4.3 Pilot project of Current Status Identification (CSI) is completed 4.4 Pilot project of Illegal Encroachment Prevention (IEP) is completed 4.5 At least 10 qualified trainers are trained	4.1.1 Meeting record of establishment of pilot project implementation plan 4.1.2 Pilot project implementation plan 4.2.1 PTF organizing meeting record 4.2.2 Documents related to PTF establishment 4.3.1 PTF activity record 4.3.2 Progress on RMM and RMD preparation 4.3.3 Training records 4.4.1 PTF activity record 4.4.2 Progress on RMM and RMD updating 4.4.3 Training records 4.5.1 TOT implementation record 4.5.2 Record of the dissemination seminar 4.5.3 Observation and interview by JICA Experts		<p>&lt;progress 100%&gt; 1) National Road No. 5 in Kampong Chhnang province, Pursat province, Battambang province and Banteay Meanchey province was planned as a pilot project site 2) Pilot Project Implementation Plan was prepared through ROW TF meeting.</p> <p>&lt;progress 100%&gt; 1) PTF was established including 2-3 members from each DPWT in 4 provinces. 2) Kickoff Meeting will be held on June in Kampong Chhnang province and explanation and discussion with relevant authorities will be conducted</p> <p>&lt;progress 100%&gt; 1) Condition of ROW management and IEP in NR5 from the border of Kampong Chhnang and Kampong Speu was surveyed for Pilot Project 2) Pilot Project of CSI started from end of May 2018 and UAV survey is being conducted in Banteay Meanchey now. 3) Progress of each CSI activities is as follows. - UAV Survey (UAV): 100% - GIS Processing (GIS): 100% - Field Survey (FS): 100% - Data Finalization (DF): 100%</p> <p>&lt;progress 30%&gt; 1) Contents and budget for IEP activities were decided by ROW TF. 2) Standardization for the future road development was conducted as part of IEP activities and road design standard drawing was prepared. 3) IEP activities at the site has been started from June 2019 and the construction of IEP activities for hard approaches will be completed by October 2019. 4) Target area of IEP activities is NR5 at Chrey Bak Commune, Krong Kampong Chhnang and consultation meeting for residents at target area was conducted.</p> <p>&lt;progress 40%&gt; 1) Train of Trainer between JICA Project Team and MPWT started from March 2019 and was held 8 times until April 2019. 2) Total 11 MPWT's staffs were trained at above train. 3) TOT between MPWT and DPWT will start from July 2019. 4) Dissemination seminar to the other officials will be held on August.</p>	

Activities	Inputs	Pre-Conditions
<p><b>Activities for Output 1</b></p> <p>1.1 Analyze past projects, current tackling issues on EIA/EMP and ROW management in terms of ESC-GL</p> <p>1.2 Collect and analyze information on land management framework of land management system in Cambodia and other countries</p> <p>1.3 Conduct institutional framework analysis for MPWT</p> <p>1.4 Conduct a needs assessment for training and develop capacity enhancement plan and procurement plan</p> <p>1.5 Discuss the TF framework</p> <p><b>Activities for Output 2</b></p> <p>2.1 Conduct training on ESC of development partners (DPs)</p> <p>2.2 Discuss documentation level of REG (EIA and EMP) and confirm process of authorization</p> <p>2.3 Plan and conduct training in Japan and third countries</p> <p>2.4 Develop REG</p> <p>2.5 Monitor EIA/EMP related activities based on REG</p> <p><b>Activities for Output 3</b></p> <p>3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD)</p> <p>3.2 Discuss documentation level of RMG and process of authorization</p> <p>3.3 Prepare draft RMG; Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP)</p> <p>3.4 Prepare draft RMS-TP</p> <p>3.5 Prepare tentative RMM and tentative RMD</p> <p>3.6 Plan and conduct training in Japan and third countries</p> <p>3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS</p> <p><b>Activities for Output 4</b></p> <p>4.1 Discuss the implementation plan of the pilot project by using draft RMS</p> <p>4.2 Discuss the framework of the Pilot Project Task Force (PTF)</p> <p>4.3 Implement the Pilot Project of CSI</p> <p>4.4 Implement the Pilot Project of IEP</p> <p>4.5 Conduct TOT based on draft RMS-TP</p>	<p><b>The Japanese Side</b></p> <p>1. Experts 1.1 Team Leader / Right of Way Management-1 1.2 Deputy Team Leader / Right of Way Management-2 1.3 ESC/EIA/EMP 1.4 Land Management Framework -1 1.5 Land Management Framework -2 / Database Development 1.6 Land and House Investigation -1 1.7 Land and House Investigation -2 1.8 Training Plan and Implementation -1 1.9 Training Plan and Implementation -2 1.10 Institutional Analysis / PCM 1.11 Project Coordinator / Database Management 1.12 Monitoring/Evaluation 1.13 Road Plan / Transportation Plan / Road Structure Plan</p> <p>2. Training 2.1 Training in Japan 2.2 Technical exchange in third countries 2.3 Training and seminar in Cambodia</p> <p>3. Machinery and Equipment PC, Printer, Copy Machine, Video Camera (Drone: unmanned aircraft), Projector and Screen, Total Station and other related equipment</p> <p>4. Local Contract 4.1 Technical Assistant (ROW Management, ESC, Land Survey, Mapping) 4.2 Administrative Assistant (Secretary, Interpreter, Translator) 4.3 Driver with car (rent-a-car)</p>	<p><b>The Cambodian Side</b></p> <p>1. Personnel (MPWT) 1.1 Project Director 1.2 Project Manager 1.3 Deputy Manager 1.4 Taskforce Members 1.5 Pilot Project Taskforce Members 1.6 Advisors for Taskforce Activity a. Ministry of Environment (MOE) b. Ministry of Land Management, Urban Planning, Construction (MLMUPC) 2. JCC Organization 2.1 JCC Members a. Ministry of Public Works and Transport (MPWT) b. Ministry of Economy and Finance (MEF)</p> <p>3. Land, buildings and facilities 3.1 Office space for JICA Experts 3.2 Office space for equipment 3.3 Office infrastructures a. Electricity b. Internet c. Desks, Shelf and others d. Other necessary items</p> <p>4. Pilot Project site Preparation and implementation of the pilot project</p>

Inputs	2017												2018												2019												2020				Remarks	Issue	Solution					
	2017												2018												2019												2020											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	I	II	III	IV								
Expert	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Team Leader / Right of Way Management-1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Deputy Team Leader / Right of Way Management-2	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Environmental and Social Considerations / Environmental Impact Assessment / Environmental Management Plan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Land Management Framework -1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Land Management Framework -2 / Database Development	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Land and House Investigation -1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Land and House Investigation -2	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Training Plan and Implementation -1	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Training Plan and Implementation -2	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Institutional Analysis / PCM	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Project Coordinator / Database Management	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Monitoring/Evaluation	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Road Planning / Transport Planning / Road Structure Design	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Equipment	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Office Facilities	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Total Station	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Training in Japan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Training Course in Japan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
In-country/Third country Training	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Third Country Technical Exchange	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
Activities	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
<b>Sub-Activities</b>	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
<b>Output 1: Implementation framework for the project is strengthened based on past experiences and present situation on ESC and ROW management</b>	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
1.1 Analyze past projects, current lacking issues on EIA/EMP and ROW management in terms of ESC-GL	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
1.2 Conduct an energy information on land management framework of land management system in Cambodia and other countries	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
1.3 Conduct institutional framework analysis for MPWT	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
1.4 Conduct a needs assessment, training and develop capacity enhancement plan and procurement plan	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
1.5 Discuss the TF framework	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
<b>Output 2: Implementation framework of Environmental Considerations (EC) related to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is strengthened</b>	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
2.1 Conduct training on ESC of development partners (DPs)	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
2.2 Discuss documentation level of REG (EIA and EMP) and confirm process of authorization	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
2.3 Plan and conduct training in Japan and third countries	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
2.4 Develop REG	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												
2.5 Monitor EIA/EMP related activities based on REG	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual												

Output 3: Implementation framework of Social Considerations (SC) related to ROW management is strengthened												
Activity	Milestone	Start	End	2017		2018		2019		Remarks	Issue	Solution
				Plan	Actual	Plan	Actual	Plan	Actual			
3.1 Discuss Development Plan of draft RMS (consists of draft RMG, draft RMS-TP, tentative RMM, tentative RMD)	○										100%	
3.2 Discuss documentation level of RMG and process of authorization	○										100%	
3.3 Prepare draft RMG; Part 1: Current Status Identification (CSI) and Part 2: Illegal Encroachment Prevention (IEP)	○										100%	
3.4 Prepare draft RMS-TP	○										100%	
3.5 Prepare tentative RMM and tentative RMD	○										100%	
3.6 Plan and conduct training in Japan and third countries	○										100%	
3.7 Modify draft RMG, RMS-TP, tentative RMM, and tentative RMD as finalized RMS	○										30%	RMG, RMS-TP and RMM are being modified in accordance with the progress of Pilot Project in advance
Output 4: Capacity of SC required for ROW management is strengthened												
4.1 Discuss the implementation plan of the pilot project by using draft RMS	○										100%	
4.2 Discuss the framework of the Pilot Project Task Force (PTF)	○										100%	
4.3 Implement the Pilot Project of CSI	○										95%	Pilot Project started from end of May 2018
4.4 Implement the Pilot Project of IEP	○										30%	IEP activities at Chrey Bak Commune, Krong Kampong Chhngang will start from June 2019
4.5 Conduct TOT based on draft RMS-TP	○										40%	TOT between MPWT and DPWT will start from July 2019.
Duration / Phasing												
Monitoring Plan	Plan											
Monitoring	Actual											
Joint Coordination Committee	Plan											
Set-up the Detailed Plan of Operation	Actual											
Submission of Monitoring Sheet	Plan											
Monitoring Mission from Japan	Actual											
Joint Monitoring	Plan											
Post Monitoring	Actual											
Reports/Documents	Plan											
Inception Report	Actual											
Report of Past Experiences on ESC and ROW	Plan											
Progress Report	Actual											
Project Completion Report	Plan											
Public Relations	Actual											
Establishment and Operation of web Site	Plan											
Seminar, Academic Conference	Actual											