

### 3. 収集資料リスト

番号	資料名称	形態	発行年	版形	オリジナル ・コピー	収集先・ 発行機関	備考
1	BMS Manual	電子ファイル	2007	A4	コピー	DPWH.PS	
2	Sample record of Inventory/Engineering Inspection	文書		A4	コピー	DPWH.PS	
3	List of bridge inventory	文書		A4	コピー	DPWH.PS	
4	List of condition inspection	文書		A4	コピー	DPWH.PS	
5	Implementation schedule of BMS in 2011	文書		A4	コピー	DPWH.PS	
6	Number of Accredited BMS Inspector and Coordinator	文書		A4	コピー	DPWH.PS	
7	Training record for bridge inspector in 2010	文書		A4	コピー	DPWH.PS	
8	Training schedule for bridge inspector in 2011	文書		A4	コピー	DPWH.PS	
9	BMS budget in 2010	文書		A4	コピー	DPWH.PS	
10	Special order 307	文書		A4	コピー	DPWH.PS	
11	DPD accomplishment report in 2010	文書		A4	コピー	DPWH.PS	
12	DPWH/OJT(III,IV-B,V,VIII,X,XIII)Data	電子ファイル		A4	コピー	DPWH.PS	
13	Current Operation Expenditure (2007-2011)	文書		A4	コピー	DPWH.PS	
14	General Appropriation Act FY 2011(Foreign Assisted Projects, Locally Funded Projects)	文書	2010	A4	コピー	DPWH.PS	
15	MTPIP (2005-2010) Summary	文書		A4	コピー	DPWH.PS	

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16	MTPIP (2011-2016) Summary	文書		A4	コピー	DPWH.PS	
17	DPWH Organizational Chart	文書	2010	A4	コピー	DPWH.PS	
18	DPWH Manpower Complement	文書	2011	A4	コピー	DPWH.PS	
19	Sample Sheets for RSMS Inputs (Criteria)	文書		A4	コピー	DPWH.PS	
20	RSMS マニュアル/ガイドライン	電子ファイル		A4	コピー	DPWH.PS	
21	Guidebook for Road Construction and Maintenance Management in The Republic of the Philippines	電子ファイル		A4	コピー	DPWH.PS	
22	ROAD PROJECT MANAGEMENT AND SUPERVISION MANUAL (RPMSM)	電子ファイル		A4	コピー	DPWH.PS	
23	Road Maintenance Management System	簡易製本	2004	A4	コピー	DPWH.BOM	
24	Philippine Highway Maintenance Management Manual	簡易製本	1983	A4	コピー	DPWH.BOM	
25	Regional Summary of Maintenance Fund Allocation for the Repair/Maintenance of National Roads & Bridges (CY2006-2011)	文書		A4	コピー	DPWH.BOM	
26	CY2010 Budget Proposal for Repair and Maintenance of National Road & Bridges (EMK basis)	文書		A4	コピー	DPWH.BOM	
27	CY2011 Budget Proposal for Repair and Maintenance of National Road & Bridges (EMK basis)	文書		A4	コピー	DPWH.BOM	
28	Data of National Roads & Bridges Based on RBIA (CY2011)	文書		A4	コピー	DPWH.BOM	
29	Calculation of Maintenance Share Equivalent Maintenance Kilometers (EMK) Method	文書		A4	コピー	DPWH.BOM	
30	日常維持管理に関する作業項目	文書		A4	コピー	DPWH.BOM	

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31	橋梁メンテナンスに関する OJT 資料	文書		A4	コピー	DPWH.BOM	
32		文書		A4	コピー	DPWH.BOM	
33		文書		A4	コピー	DPWH.BOM	
34		文書		A4	コピー	DPWH.BOM	
35	Road Maintenance Management Manual	簡易製本	1983	A4	コピー	DPWH ROXI	
36	DPWH RO XI Organizational Chart	文書		A3	コピー	DPWH RO XI	
37	Composition of DEO (1st class and 2nd class)	文書		A4	コピー	DPWH RO XI	
38	Bridge Inspection Manual (Form)	文書		A4	コピー	DPWH RO XI	
39	Repair and Maintenance of National Roads & Bridges, Region XI (CY2007, CY 2008)	文書		A4	コピー	DPWH RO XI	
40	Budget Proposal for Repair and Maintenance of National Roads & Bridges, Region XI (CY2009, CY 2010, CY 2011)	文書		A4	コピー	DPWH RO XI	
41	Proposed DPWH Infrastructure Program, Region XI (CY 2007, CY 2008, CY2009, CY 2010)	文書		A4	コピー	DPWH RO XI	
42	Budget Estimate for the Operational Expenses in connection with JICA TCP (CY 2009, 2010, 2011)	文書		A4	コピー	DPWH RO XI	
43	Personnel Information DPWH-CAR	文書		A4	コピー	DPWH CAR	
44	Number of Staff and Engineers (Existing Budgetary employees) DPWH-CAR	文書		A4	コピー	DPWH CAR	
45	Organizational Chart DPWH-CAR	文書		A4	コピー	DPWH CAR	

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46	List of On-going Projects DPWH-CAR	文書		A4	コピー	DPWH CAR	
47	List of Proposed Projects (CY2011) DPWH-CAR	文書		A4	コピー	DPWH CAR	
48	Statement of Allotments, Obligations and Balances, Dec., 31, 2010, DPWH-CAR	文書		A4	コピー	DPWH CAR	
49	Budget allocation by DEOs in CAR for Repair and Maintenance of National Roads & Bridges (CY2011)	文書		A4	コピー	DPWH CAR	
50	FY2011 DPWH Infrastructure Program CAR based on GAA	文書		A4	コピー	DPWH CAR	
51	List of Projects with No Releases	文書		A4	コピー	DPWH CAR	
52	Proposed 2009 DPWH Infrastructure Program (CAR)	文書		A4	コピー	DPWH CAR	
53	Program for Work (Pilot Projects in CAR)	文書		A4	コピー	DPWH CAR	
54	機材修理に関連する資料	文書		A4	コピー	DPWH CAR	
55		文書		A4	コピー	DPWH CAR	
56		文書		A4	コピー	DPWH CAR	
57		文書		A4	コピー	DPWH CAR	
58		文書		A4	コピー	DPWH CAR	
59		文書		A4	コピー	DPWH CAR	
60	Medium Term Investment Program CY2010-2013	文書		A4	コピー	DPWH RO VII	

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61	Proposed DPWH Infrastructure Program, Region VII (CY 2006, CY 2007, CY 2008, CY2009, CY 2010 CY2011)	文書		A4	コピー	DPWH RO VII	
62	Performance Budget/Allocation Comparison, Region VII (2005, 2006, 2007, 2008, 2009)	文書		A4	コピー	DPWH RO VII	
63	CY2010 AMWP	文書		A4	コピー	DPWH RO VII	
64	CY2010 Preventive Maintenance Projects under GAA Fund101			A4	コピー	DPWH RO VII	
65	Budget Proposal for Repair and Maintenance of National Roads & Bridges, Region VII (CY 2011)	文書		A4	コピー	DPWH RO VII	
66	Bridge Management System, RO VII (forms)	文書		A4	コピー	DPWH RO VII	
67	List of Bridge Inspectors (Region VII)	文書		A4	コピー	DPWH RO VII	
68	List of Bridges (Region VII)	文書		A4	コピー	DPWH RO VII	
69	RSMS 研修・セミナー関連資料	文書		A4	コピー	DPWH RO VII	
70	JICA TCP-I 関連資料 (活動、予算等)	文書		A4	コピー	DPWH RO VII	
71	JICA TCP-I OJT Evaluation Documents	文書		A4	コピー	DPWH RO VII	
72	パイロットプロジェクト候補地に関する資料	文書		A4	コピー	DPWH RO VII	
73	Organizational Chart of Cebu 2nd DEO	文書		A4	コピー	DPWH Cebu 2nd DEO	
74	Project appraisal report	電子ファイル		A4	コピー	WB	
75	Company Profile	文書		A4	コピー	Goldrich Construction and Trading	

番号	資料名称	形態	発行年	版形	オリジナル ・コピー	収集先・ 発行機関	備考
76	Company Profile	文書		A4	コピー	Industrial Inspection International, Inc.	
77	Company Profile	文書		A4	コピー	PGATECH	
78	Company Profile	文書		A4	コピー	Infra- Geoservices	
79	Company Profile	文書		A4	コピー	Geotesting International Inc.	
80	Company Profile	文書		A4	コピー	Geoscience technologies, Inc.	

4. ジョイントミーティング 1 関係資料

**Preparatory study for “ IMPROVEMENT OF QUALITY MANAGEMENT FOR  
HIGHWAY AND BRIDGE MAINTENANCE (PHASE II) ”**

**Joint Meeting**

**Agenda**

Date: March 09.2011

PM 1:00 - 4:00

Venue: DPWH Meeting Room

1. Opening

JICA office in the Philippines:

DPWH: Project Manager: Dr. Judy Sese (Assistant Director for BRS)

2. Preparatory study team

Introduction of Study Member, Purpose, and Schedule

3. Explanation on PCM and PDM

4. Introduce draft of PDM on TCP Phase II

5. Comments on draft of PDM on TCP Phase II

6. Closing

## Purpose of this study:

Detailed Planning Survey on the Project for “IMPROVEMENT OF QUALITY MANAGEMENT FOR HIGHWAY AND BRIDGE MAINTENANCE (PHASE II)”

(Technical Cooperation Project)

- To collect information about Road/Bridge Maintenance Management in DPWH
- To visit Pilot Project site
- To observe equipments/office condition of TCP Phase 1
- To discuss the framework of the Project with relevant organization

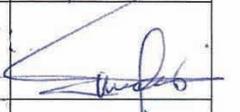
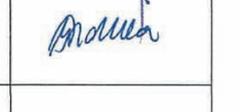
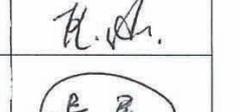
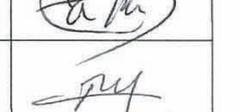
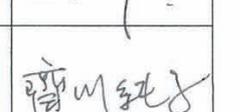
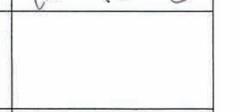
### List of Team Member

No.	Name	Job Title	Occupation	Period (arr.-dep.)
1	Shuntaro KAWAHARA	Leader	Senior Advisor to the Director General Economic Infrastructure Department JICA	Mar20-26
2	Yshiyuki UENO	Project Planner	Assistant Director Transport and ICT Division Economic infrastructure Department JICA	Mar20-26
3	Hideo NAGAO	Bridge Maintenance	Nippon Engineering Consultants Co.,	Mar08-26
4	Ryoichi YAMASAKI	Road Maintenance	Katahira & Engineers International	Mar08-26
5	Junko SAIKAWA	Evaluation Analysis	KRI International Corp.	Mar08-26

PREPARATORY STUDY ON THE PROJECT FOR IMPROVEMENT OF QUALITY MANAGEMENT FOR HIGHWAY AND BRIDGE CONSTRUCTION & MAINTENANCE, PHASE 2 IN THE REPUBLIC OF THE PHILIPPINES

ATTENDANCE SHEET

JOINT MEETING IN DPWH CENTRAL OFFICE HELD ON MARCH 9, 2011

	Name	Organization	Division/Section	Designation	E-mail Address	Signature
1	Nenita R. Jimenez	DPWH - PS	DPD, PS	Engr. IV		
2	RUFINO D. VALIENTE	DPWH/ BOD	Bridge Div.	Engr IV		
3	ALEX R. TAMONDONG	DPWH/ BOM	Planning & Prog. Div.	Engr. III		
4	<del>Immanuel</del> Adriano	DPWH-PS	DPD, PS	E-II		
5	Grace Maudula	JICA	Program officer			
6	Judy F. Sese	BRS	OAD	Director III		
7	Kazumasa ATARASHI	(DPWH) JICA		JICA Expert		
8	Hideo Nagao	JICA study team		Bridge Maintenance		
9	Ryoichi Yamasaki	JICA study Team		Road Maintenance		
10	Junko Saikawa	"		Evaluation Analysis		
11						
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## PREPARATORY STUDY ON THE PROJECT FOR IMPROVEMENT OF QUALITY MANAGEMENT FOR ROAD BRIDGE MAINTENANCE (PHASE II)

JICA Study Team

## I. EXPLANATION ON PCM AND PDM

### WHAT IS PCM?

- P = Project
- C = Cycle
- M = Management

3

### WHAT IS A "PROJECT"?

- A group of activities
- For the purpose of achieving established objectives
- With a limited resources (budget) and a period

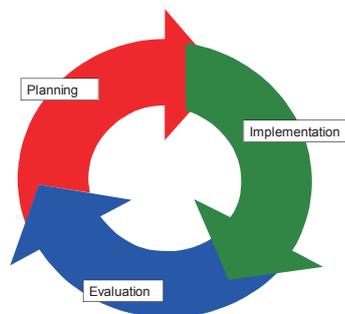
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### WHAT IS A "JICA'S TECHNICAL COOPERATION PROJECT"?

- Consists of provision of trainings, dispatch of Japanese experts, and provision of equipment
- Counterpart agencies in a recipient country shall continue activities by themselves after the Project completion.

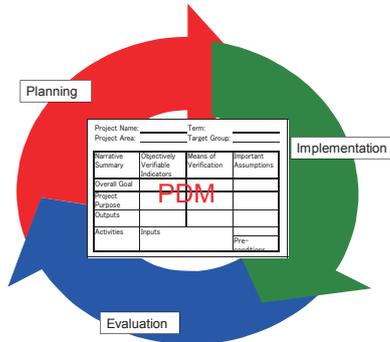
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### WHAT IS PROJECT CYCLE?



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## WHAT IS PCM METHOD?



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## WHAT IS PDM?

“One page summary” of a project to show the essential project components such as objectives, activities, inputs, risks, indicators, etc., together with their logical interrelations.

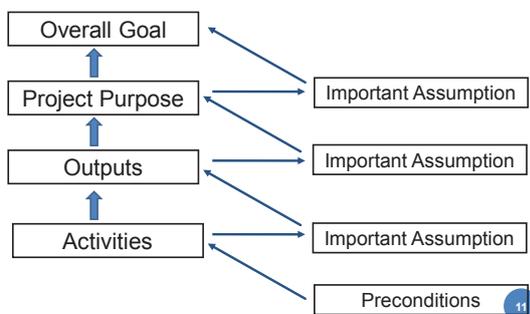
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## PDM FORMAT

Narrative Summary of the Project	Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Project Purpose			
Outputs			
Activities	Inputs		Preconditions

- **Overall Goal:** Development impacts expected to come out as a result of achieving the project purpose until 3-5 years after the project completion.
- **Project Purpose:** Objective to be achieved from outputs by the time of project completion.
- **Outputs:** Outputs accomplished by implementing series of project activities.
- **Activities:** Necessary actions to produce outputs by effective use of inputs.
- **Inputs:** Necessary human resource, equipment, and cost required for implementing project activities.
- **Important Assumptions:** External factors that cannot be controlled by the project, but which may have an impact on the project's success or failure.

## LOGIC OF PDM



11

## UTILIZATION OF PDM IN EVALUATION

Narrative Summary	Five Evaluation Criteria				
	Relevance	Effectiveness	Efficiency	Impact	Sustainability
Overall Goal	Conformity of Project Purpose and Overall Goal to the recipient country's needs at the time of evaluation			Positive and negative influences that appeared directly and indirectly as a result of the project	Extent to which benefits gained through the project are sustained even after the completion of cooperation
Project Purpose		Degree to which the achievement of Project Purpose is seen in the Output			
Output			Extent to which Inputs are effectively converted into Outputs		
Activities & Inputs					

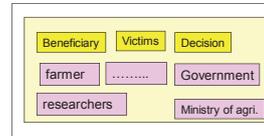
### PCM PLANNING



1. Stakeholders Analysis
2. Problems Analysis
3. Objectives Analysis
4. Project Selection
5. PDM Formulation

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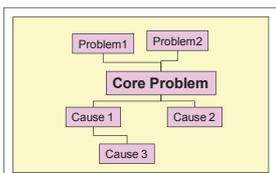
### STAKEHOLDERS ANALYSIS



- Identify the current situation of the target area through analyzing the **organizations, groups, people** to be concerned.
- Decide **whose problems** should be solved by the project?

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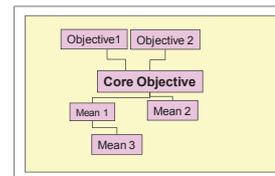
### PROBLEMS ANALYSIS



- Review problems and identify a **Core Problem**.
- Construct a **Problem Tree** by "Cause-Effect" Analysis.
- Clarify the complexity of the problems.

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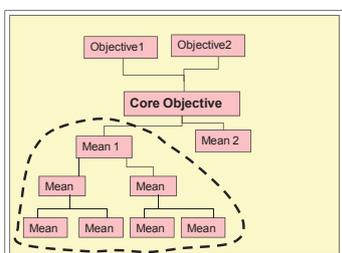
### OBJECTIVES ANALYSIS



- Identify a **Core Objective** (mean for solving a Core Problem).
- Construct a **Objective Tree** by "Means-Ends" Analysis.
- Clarify the various solutions of the problems.

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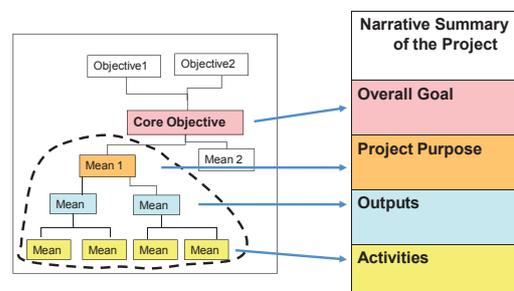
### PROJECT SELECTION



- Consider the limitation of budget, time, and other resource.
- Select the best bunch of solutions as a project.

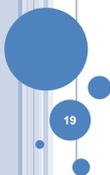
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### PDM FORMULATION



18

## II. DISCUSSION ON DRAFT PDM FOR PHASE II PROJECT



### RESULTS OF PHASE I

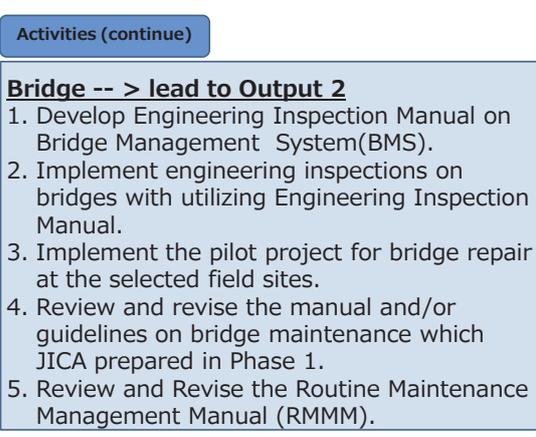
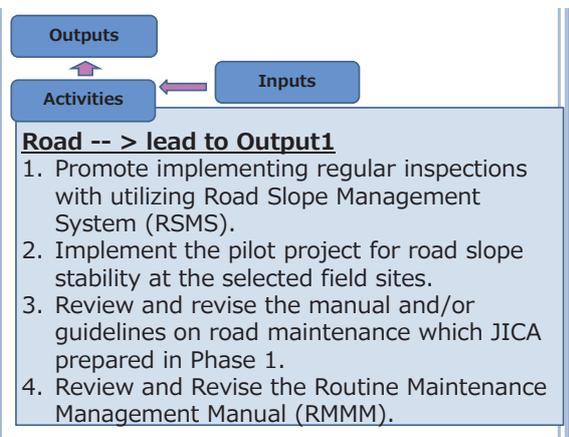
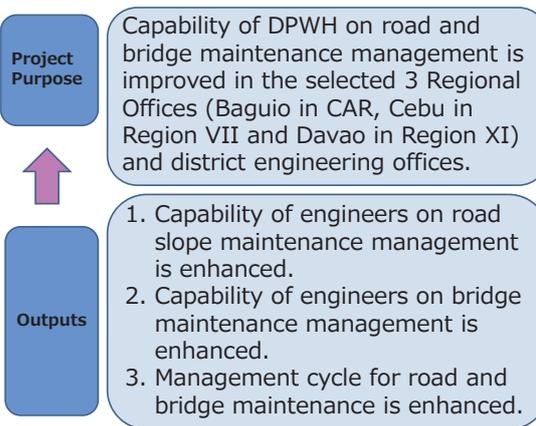
- Capabilities of the targeted engineers on specific techniques and skills had been enhanced in general.
- Further needs of assistances for strengthening comprehensive management process of road and bridge maintenance.

20

### BASIC POLICY ON PHASE II

- Strengthen effects and outputs by the Phase I.
- Issues/activities which remain not undertaken in Phase I (road slope maintenance, engineering inspections on bridges, pilot projects for road slope stability and bridge repair, etc.) shall be included in Phase II.
- Strengthen comprehensive management cycle of road and bridge maintenance.
- Project period: 3 years
- Budget allocation by Philippine Government for Phase 2 (esp. for implementing pilot projects) is pre-condition.

21



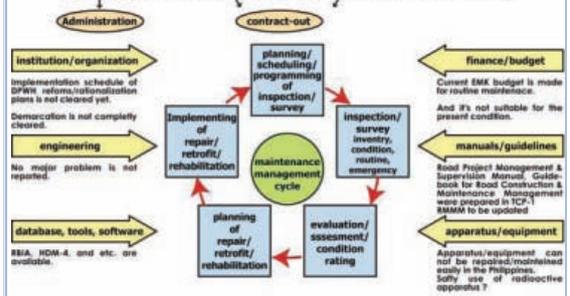
Activities (continue)

**Maintenance Management Cycle**

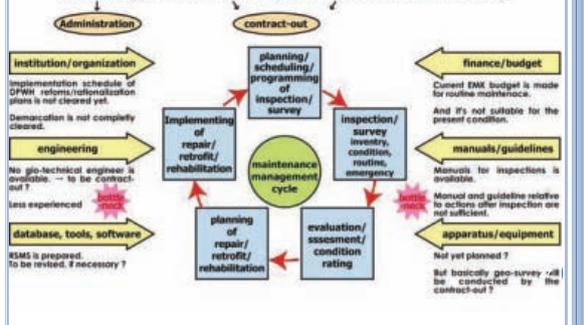
-- > lead to Output 3

1. Review current maintenance management cycle and identify issues necessary to be improved.
2. Conduct workshop for maintenance management cycle.
3. Set up counterpart working group on maintenance management.
4. Propose measures for improving maintenance management cycle.
5. Prepare model action plan for improving maintenance management cycle.

**present situation of road maintenance (routine, preventive, long term performance based)**



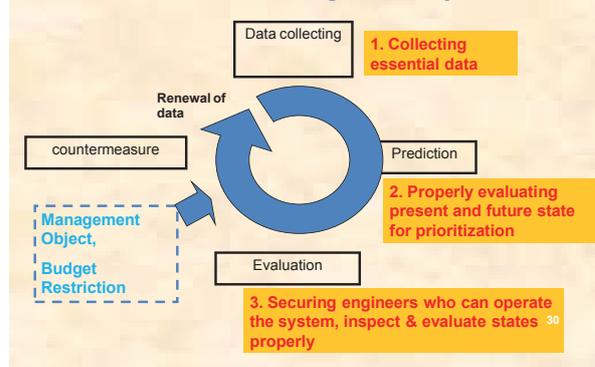
**present situation of road slope maintenance (routine, preventive, long term performance based)**



Bridge Maintenance Activities		
Items	Issue	Action Plan
© BMS 1-1. Condition Inspection Types and Frequency		<ul style="list-style-type: none"> <li>Reduced and Revised Types/Frequency/Responsibility/Inspection Personnel</li> </ul>
1-2. Assessment of Condition State	Issues	<ul style="list-style-type: none"> <li>Re-training of Accredited Bridge Inspectors in use of Bridge Condition Rating Criteria and Condition Rating Card</li> <li>Revise the Condition Rating Criteria</li> <li>Use damage rating card</li> <li>Review and/or revise</li> </ul>
1-3. Inspection Equipment		<ul style="list-style-type: none"> <li>TCP-I provided inspection equipment</li> <li>TCP-I conducted on the job training</li> </ul>
1-4. Bridge Inspection Form (Type 3 - Condition Inspection Form)	Issues	<ul style="list-style-type: none"> <li>DPWH conduct nationwide training of Inspectors</li> <li>Review and/or revise</li> </ul>

2. Special Bridge Inspection Manual including Long-span Bridges		<ul style="list-style-type: none"> <li>TCP-I prepared Special Bridge Inspection Manual for 1st Mandaue- Maclean Bridge, Marcelo Fernan Bridge</li> </ul>
3. Engineering Inspection Procedure	No manual	<ul style="list-style-type: none"> <li>TCP-I provided NDT and conducted on the job training</li> <li>Procedure manual has to be made</li> <li>TCP-II will conduct on the job training of engineers in the pilot regions</li> </ul>
© Bridge Repair		<ul style="list-style-type: none"> <li>TCP-I prepared the manual</li> <li>TCP-I conducted Pilot Project (1st Batch)</li> <li>Pilot Project (2nd Batch) will be implemented</li> </ul>
5. Routine Maintenance Management Manual	RMMM is unsuitable manual for current Routine Maintenance activity	<ul style="list-style-type: none"> <li>RMMM will be Reviewed and/or revised</li> </ul>
© Capacity Building		
6. Sustainable Capacity	Follow-up training for capacity building for inspectors should be carried out	<ul style="list-style-type: none"> <li>TCP-II will conduct on-the-job training and workshops for inspectors in the pilot regions.</li> </ul>

**Maintenance Management Cycle**



**POINTS TO BE DISCUSSED****Project Purpose**

- Is description of the proposed "Project Purpose" clear?
- Is proposed "Project Purpose" appropriately set in consideration of needs and results of Phase I?
- Is proposed "Project Purpose" able to be achieved within period of Phase II?

31

**POINTS TO BE DISCUSSED****Outputs**

- Are descriptions of the proposed "Outputs" clear?
- Are proposed "Outputs" appropriate and sufficient for achieving "Project Purpose"?

32

**POINTS TO BE DISCUSSED****Activities and Inputs**

- Are proposed "Activities" appropriate and sufficient for achieving "Outputs"?
- Are proposed "Activities" feasible for implementation? If not, what are obstacles?
- Are quality and quantify of proposed "Inputs" appropriate for implementing proposed "Activities"?

33

**POINTS TO BE DISCUSSED****Objectively Verifiable Indicators**

- Do respective proposed "Indicators" appropriately indicate contents of "Outputs", "Project Purpose", and "Overall Goal"?
- Are proposed targets appropriate?
- Are "Means of Verification" appropriate? (not costly and difficult to obtain them, realistic, could be used for monitoring means)

34

**POINTS TO BE DISCUSSED****Pre-Conditions/Important Assumptions**

- Are Pre-Conditions and/or Important Assumptions highly likely not to be met?
- What are reasons/factors for not attaining Pre-Conditions and/or Important Assumptions?

35

**Project Design Matrix (PDM)**

Project Title: The Project for Improvement of Quality Management for Road and Bridge Maintenance (Phase II)

Target Group: Engineers in the 3 Regional Offices and District Engineering Offices in DPWH

Implementing Agency: DPWH and Region Offices (CAR, Region VII and Region XI)

Version No. 1

Project Period: Sep. 2011 - Sep. 2014 (3 years)

Target Area: 3 Regions (CAR, Region VII and Region XI) Issued Date: XX March, 2011

Narrative Summary		Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b></p> <p>Capability of DPWH on road and bridge maintenance management is improved.</p>		<ol style="list-style-type: none"> <li>1 Trainings with utilizing manuals/guidelines developed and/or revised by the Project as well as engineers involved with the Project activities are undertaken in other Regions.</li> <li>2 Actual inspections and/or repairs with utilizing manuals/guidelines developed and/or revised by the Project are undertaken in other Regions.</li> <li>3 Conditions of roads and bridges are improved in other Regions (Total length of roads and number of bridges with bad conditions are decreased by XX%).</li> </ol>	<ol style="list-style-type: none"> <li>1 Records of trainings in other Regions (sample Regions), Interview with engineers in sample Region.</li> <li>2 Records of inspections/repairs in other Regions (sample Regions), Interview with engineers in sample Region.</li> <li>3 Data of DPWH, Survey by the Project.</li> </ol>	
<p><b>Project Purpose</b></p> <p>Capability of DPWH on road and bridge maintenance management is improved in the selected 3 Regional Offices (Baguio in CAR, Cebu in Region VII and Davao in Region XI) and district engineering offices.</p>		<ol style="list-style-type: none"> <li>1 Manual and/or guidelines developed and/or revised by the Project are utilized for actual inspections and repairs in target three regions.</li> <li>2 Engineers who participated in project activities are dispatched as trainers for activities relating to road and bridge maintenance management in other Regions.</li> <li>3 Cases on repairs based on results of condition inspections and/or engineering inspections are reported in three target Regions.</li> <li>4 Conditions of roads and bridges are improved in three target Regions (Total length of roads and number of bridges with bad conditions are decreased by XX%).</li> </ol>	<ol style="list-style-type: none"> <li>1 Records of inspections and repairs, Interviews with engineers (C/P).</li> <li>2 Records of trainings, Interviews with engineers (C/P).</li> <li>3 Records of inspections and repairs, Interviews with engineers (C/P).</li> <li>4 Data of DPWH, Survey by the Project.</li> </ol>	<ol style="list-style-type: none"> <li>1. Budgets for implementing activities relating to road and bridge maintenance in other Regions are allocated.</li> <li>2. Philippine government policy on road and bridge sector remains consistent.</li> </ol>
<p><b>Outputs</b></p>				
1	Capability of engineers on road slope maintenance management is enhanced.	<ol style="list-style-type: none"> <li>1-1 Knowledge and skills of engineers who participated in trainings and the pilot project on road slope maintenance management are enhanced (XX% of those engineers agree that their knowledge and skills have been enhanced).</li> <li>1-2 Engineers could conduct regular inspections with RSMS by themselves.</li> <li>1-3 Engineers have knowledge on manual and/or guidelines on road maintenance management revised by the Project.</li> </ol>	<ol style="list-style-type: none"> <li>1-1 Records of evaluations by participants for trainings and the pilot project.</li> <li>1-1 Interviews with engineers.</li> <li>1-2 Records of inspections in DPWH.</li> <li>1-3 Interviews with engineers.</li> </ol>	<ol style="list-style-type: none"> <li>1. Project counterparts continue working in the counterpart agencies.</li> <li>2. Trained engineers of road and bridge maintenance continue working in their agencies.</li> <li>3. In cases where counterparts or trained engineers are promoted or reassigned, proper turn over and replacement should be done by DPWH.</li> </ol>
2	Capability of engineers on bridge maintenance management is enhanced.	<ol style="list-style-type: none"> <li>2-1 Knowledge and skills of engineers who participated in engineering inspections and the pilot project on bridge maintenance management are enhanced (XX% of those engineers agree that their knowledge and skills have been enhanced).</li> <li>2-2 Engineers have knowledge on manual and/or guidelines on bridge maintenance management developed and/or revised by the Project.</li> </ol>	<ol style="list-style-type: none"> <li>2-1 Records of evaluations by participants for engineering inspections and the pilot project.</li> <li>2-1 Interviews with engineers.</li> <li>2-2 Interviews with engineers.</li> </ol>	<ol style="list-style-type: none"> <li>4. Manuals and guidelines developed and/or revised by the Project are approved by DPWH Central Office.</li> </ol>
3	Management cycle for road and bridge maintenance is enhanced.	<ol style="list-style-type: none"> <li>3-1 Understanding of engineers who participated in working group on maintenance management cycle is enhanced (XX% of those engineers could answer issues and countermeasures regarding maintenance management).</li> <li>3-2 Model action plan for improving maintenance management cycle was prepared.</li> <li>3-3 Model action plan for improving maintenance management cycle was implemented.</li> </ol>	<ol style="list-style-type: none"> <li>3-1 Records of workshops and working group meetings, interviews with engineers.</li> <li>3-2 Model action plan.</li> <li>3-3 Monitoring report on model action plan, Interviews with engineers.</li> </ol>	

Activities		Inputs	
<b>1</b>	<b>Road (for Central Office, CAR and RVII)</b> Promote implementing regular inspections with utilizing Road Slope Management System (RSMS). Implement the pilot project for road slope stability at the selected field sites. Review and revise the manual and/or guidelines on road maintenance which JICA prepared in Phase 1. Review and Revise the Routine Maintenance Management Manual (RMMM).	(Japanese side) 1. Dispatch of Experts -Road Maintenance -Bridge Maintenance Other experts necessary for effective implementation of the project will be dispatched. 2. C/P training in Japan and/or third country 3. Tools/materials for trainings 4. Cost share by Japanese side	(Philippine side) 1. Arrangement of counterpart personnel (C/P): DPWH Central Office - Undersecretary - Project Manager - Deputy Project Manager - Project Coordinator - Central Office counterparts Cordillera Administrative Region - Regional Project Manager - Regional counterparts Region VII - Regional Project Manager - Regional counterparts Region XI - Regional Project Manager - Regional counterparts
1-1			
1-2			
1-3			
1-4			
<b>2</b>	<b>Bridge (for Central Office, RVII and RXI)</b> Develop Engineering Inspection Manual on Bridge Management System(BMS). Implement engineering inspections on bridges with utilizing Engineering Inspection Manual. Implement the pilot project for bridge repair at the selected field sites. Review and revise the manual and/or guidelines on bridge maintenance which JICA prepared in Phase 1. Review and Revise the Routine Maintenance Management Manual (RMMM) (common to above 1-4).		
2-1			
2-2			
2-3			
2-4			
2-5			
<b>3</b>	<b>Maintenance management cycle</b> Review current maintenance management cycle and identify issues necessary to be improved. Conduct workshop for maintenance management cycle. Set up counterpart working group on maintenance management. Propose measures for improving maintenance management cycle. Prepare model action plan for improving maintenance management cycle. Carry out model action plan for improving maintenance management cycle.		
3-1			
3-2			
3-3			
3-4			
3-5			
3-6			
		<b>Pre-Conditions</b>	
		1. Philippine government allocates budget for the Project without any major delay. 2. Project sites in 3 DPWH Regional Offices are secured.	

5. ジョイントミーティング 2 関係資料

Preparatory Study for “IMPROVEMENT OF QUALITY  
MANAGEMENT FOR HIGHWAY AND BRIDGE CONSTRUCTION &  
MAINTENANCE (PHASE II)”

**2<sup>nd</sup> Joint Meeting**

**Agenda**

Date: March 21, 2011

PM 1:30 - 5:00

Venue: DPWH Training Room (5F)

1. Opening

JICA: Mr. Shuntaro KAWAHARA (Team Leader)

DPWH: Dr. Judy Sese (Project Manager, Assistant Director for BRS)

2. Introduction of Participants

3. Preparatory study team

Introduction of Study Purpose: Mr. Yoshiyuki UENO

4. Explanation on draft PDM and PO (TCP-II)

4.1 Outline: Ms. Junko SAIKAWA

4.2 Detail Activity:

1) Maintenance Management Cycle: Mr. Hideo NAGAO

2) Road Maintenance: Mr. Ryoichi YAMASAKI

3) Bridge Maintenance: Mr. Hideo NAGAO

5. Comments on draft PDM and PO (TCP-II)

6. Closing

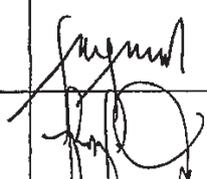
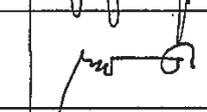
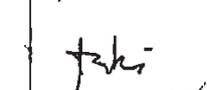
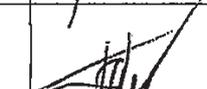
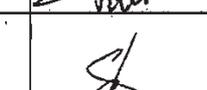
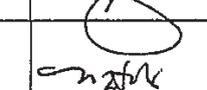
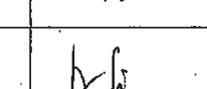
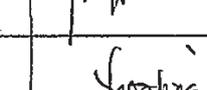
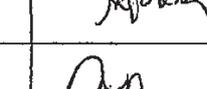
### List of JICA Study Team Member

No.	Name	Job Title	Occupation	Period (arr.-dep.)
1	Shuntaro KAWAHARA	Team Leader	Senior Advisor to the Director General Economic Infrastructure Department, JICA	Mar. 20-26
2	Yoshiyuki UENO	Project Planner	Assistant Director Transport and ICT Division Economic infrastructure Department, JICA	Mar. 20-26
3	Hideo NAGAO	Bridge Maintenance	Nippon Engineering Consultants Co., Ltd	Mar. 08-26
4	Ryoichi YAMASAKI	Road Maintenance	Katahira & Engineers International	Mar. 08-26
5	Junko SAIKAWA	Evaluation Analysis	KRI International Corp.	Mar. 08-26

PREPARATORY STUDY ON THE PROJECT FOR IMPROVEMENT OF QUALITY MANAGEMENT FOR HIGHWAY AND BRIDGE CONSTRUCTION & MAINTENANCE, PHASE II IN THE REPUBLIC OF THE PHILIPPINES

ATTENDANCE SHEET

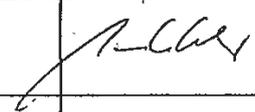
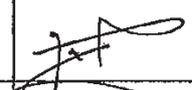
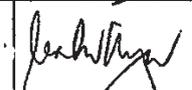
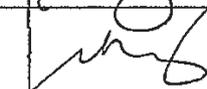
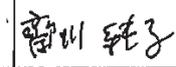
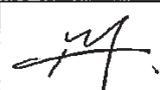
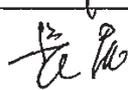
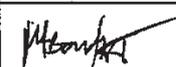
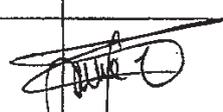
2<sup>nd</sup> JOINT MEETING IN DPWH CENTRAL OFFICE HELD ON MARCH 21, 2011

	Name	Organization	Division/Section	Designation	E-mail Address	Signature
1	Dr. Judy F. Sese	Bureau of Research & Standards (BRS)	Office of Standards Asst. Director.	Director III		
2	ROWENA P. JAMITO	DPWH RO XI	MAINTENANCE Div.	Regional Maint. Engr.		
3	RAMIE B. DORO	DPWH RO VII	Proj. Mgr. / AIG-SE	OIC-DE Neg. Et. I		
4	Eda T. Nabon	DPWH-CAR	MACTO	OK. Asst. Chief MACTO		
5	Felipe S. Ramos	DPWH-BRS	TSED	Engr. V		
6	BOBBY Z. FOULLA	DPWH-BRS	TTPD	ENGR. II		
7	NELIA I. ANTONIO	DPWH-CAR	CONSTRUCTION DIV	Engr III		
8	RUTH S. DUYO	DPWH-CAR	Maintenance Division	E-11		
9	NENITA R. VALENZUELA	DPWH-BRS	R&D-Research Sec	Engr III		
10	AURORA M. LACASO	DPWH-RO XI	MACTO	ENGR. III		
11	ALVIN C. ARQUER	DPWH-XI	MAINTENANCE DIVISION	ENGR. III		
12	RUFINO VALIENTE	BOD	Br. Div.	Engr IV		
13	Edna F. Menes	BOM	DIV. Chief	ENGR. V		
14	Ernante S. Antonio	BOM	INSPECTION DIV.	ENGR III		
15	ALEX R. TAMONDONG	BOM	Planning & Prog. Div.	ENGR. III		

PREPARATORY STUDY ON THE PROJECT FOR IMPROVEMENT OF QUALITY MANAGEMENT FOR HIGHWAY AND BRIDGE CONSTRUCTION & MAINTENANCE, PHASE II IN THE REPUBLIC OF THE PHILIPPINES

ATTENDANCE SHEET

2<sup>nd</sup> JOINT MEETING IN DPWH CENTRAL OFFICE HELD ON MARCH 21, 2011

	Name	Organization	Division/Section	Designation	E-mail Address	Signature
16	ROSARIO C. CALVES	DPWH - R07	Maintenance	Engr. III		
17	ARISTARCO DORON	DPWH - B02	PAOI	ENGR. V		
18	Elmer R. Figueroa	DPWH-B02	PRED "C"	Engr. III		
19	LEAH V. NEGRE	DPWH-R07	PLANNING & DESIGN DIVISION	ENGR. III		
20	CARINA B. DIAZ	CO - B02	Highways Division	Engr. III		
21	Junko Saikawa	JICA Study Team				
22	Ryoichi Yamasaki	JICA Study Team		Road Maintenance Management		
23	Hideo Nishigao	"		Bridge Maintenance		
24	Kazushi Suzuki	JICA Philippine	Eco. Div.	DEA		
25	Kazumasa ATARASHI	DPWH(JICA)		JICA Expert		
26	Yoshiyuki Veno	JICA	EI	TRANSPORT & ICT DIV II		
27	Shuntaro KAWAHARA	JICA Head Office	Economic Infrastructure Department	Senior Advisor		
28	Mary Ann T. Zambrana	DPWH	DPD, Planning Service	ENGR. III CBMS Manager		
29	Carolina S. Canuel	DPWH	DPD, PS	Engr. 10 (OIC, DPD)		
30	Mosfor L. Amine	DPWH	ADB	Engr. IV Proj. Coordinator		

**Project Design Matrix (PDM)**

Project Title: The Project for Improvement of Quality Management for Road and Bridge Maintenance (Phase II)  
 Target Group: Engineers in the 3 Regional Offices and District Engineering Offices in DPWH  
 Implementing Agency: DPWH and Regional Offices (CAR, Region VII and Region XI)

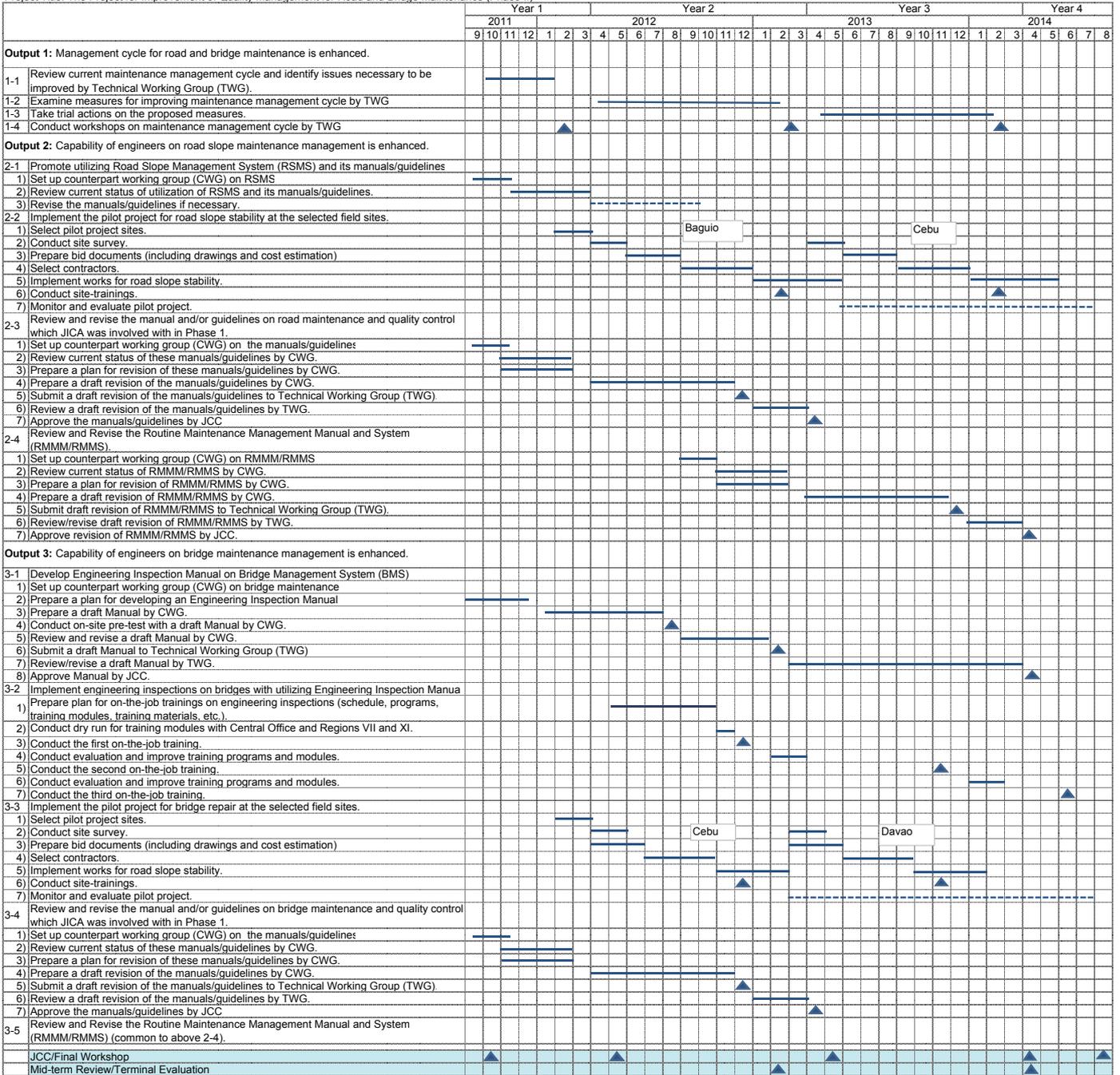
Version No. 1  
 Project Period: Sep. 2011 - Sep. 2014 (3 years)  
 Issued Date: XX March, 2011

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b></p> <p>Capability of DPWH on road and bridge maintenance management is improved.</p>	<ol style="list-style-type: none"> <li>1 Trainings with utilizing manuals/guidelines developed and/or revised by the Project as well as engineers involved with the Project activities are undertaken in other Regions.</li> <li>2 Actual inspections and/or repairs with utilizing manuals/guidelines developed and/or revised by the Project are undertaken in other Regions.</li> <li>3 Conditions of roads and bridges are improved in other Regions (Total length of roads and number of bridges with bad conditions are decreased by XX%).</li> </ol>	<ol style="list-style-type: none"> <li>1 Records of trainings in other Regions (sample Regions). Interview with engineers in sample Region.</li> <li>2 Records of inspections/repairs in other Regions (sample Regions). Interview with engineers in sample Region.</li> <li>3 Data of DPWH, Survey by the Project.</li> </ol>	
<p><b>Project Purpose</b></p> <p>Capability of DPWH on road and bridge maintenance management is improved in the selected 3 Regional Offices (Baguio in CAR, Cebu in Region VII and Davao in Region XI) and district engineering offices.</p>	<ol style="list-style-type: none"> <li>1 Manual and/or guidelines developed and/or revised by the Project are utilized for actual inspections and repairs in target three regions.</li> <li>2 Engineers who participated in project activities are dispatched as trainers for activities relating to road and bridge maintenance management in other Regions.</li> <li>3 Cases on repairs based on results of condition inspections and/or engineering inspections are reported in three target Regions.</li> <li>4 Conditions of roads and bridges are improved in three target Regions (Total length of roads and number of bridges with bad conditions are decreased by XX%).</li> </ol>	<ol style="list-style-type: none"> <li>1 Records of inspections and repairs, Interviews with engineers (C/P).</li> <li>2 Records of trainings, Interviews with engineers (C/P).</li> <li>3 Records of inspections and repairs, Interviews with engineers (C/P).</li> <li>4 Data of DPWH, Survey by the Project.</li> </ol>	<ol style="list-style-type: none"> <li>1. Budgets for implementing activities relating to road and bridge maintenance in other Regions are allocated.</li> <li>2. Philippine government policy on road and bridge sector remains consistent.</li> </ol>
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>1 Management cycle for road and bridge maintenance is enhanced.</li> <li>2 Capability of engineers on road slope maintenance management is enhanced.</li> <li>3 Capability of engineers on bridge maintenance management is enhanced.</li> </ol>	<ol style="list-style-type: none"> <li>1-1 Understanding of engineers who participated in <b>technical working group</b> and workshops on maintenance management cycle is enhanced (XX% of those engineers could answer issues and countermeasures regarding maintenance management cycle).</li> <li>1-2 <b>Trial actions for improving maintenance management cycle were undertaken.</b></li> <li>2-1 Knowledge and skills of engineers who participated in trainings and the pilot project on road slope maintenance management are enhanced (XX% of those engineers agree that their knowledge and skills have been enhanced).</li> <li>2-2 Engineers have knowledge on manual and/or guidelines on road maintenance management revised by the Project.</li> <li>3-1 Knowledge and skills of engineers who participated in engineering inspections and the pilot project on bridge maintenance management are enhanced (XX% of those engineers agree that their knowledge and skills have been enhanced).</li> <li>3-2 Engineers have knowledge on manual and/or guidelines on bridge maintenance management developed and/or revised by the Project.</li> </ol>	<ol style="list-style-type: none"> <li>1-1 Records of workshops and working group meetings.</li> <li>1-1 Interviews with engineers.</li> <li>1-2 Monitoring report on trial actions, Interviews with engineers.</li> <li>2-1 Records of evaluations by participants for trainings and the pilot project.</li> <li>2-1 Interviews with engineers.</li> <li>2-2 Interviews with engineers.</li> <li>3-1 Records of evaluations by participants for engineering inspections and the pilot project.</li> <li>3-1 Interviews with engineers.</li> <li>3-2 Interviews with engineers.</li> </ol>	<ol style="list-style-type: none"> <li>1. Project counterparts continue working in the counterpart agencies.</li> <li>2. Trained engineers of road and bridge maintenance continue working in their agencies.</li> <li>3. In cases where counterparts or trained engineers are promoted or reassigned, proper turn over and replacement should be done by DPWH.</li> <li>4. Manuals and guidelines developed and/or revised by the Project are approved by DPWH Central Office.</li> </ol>

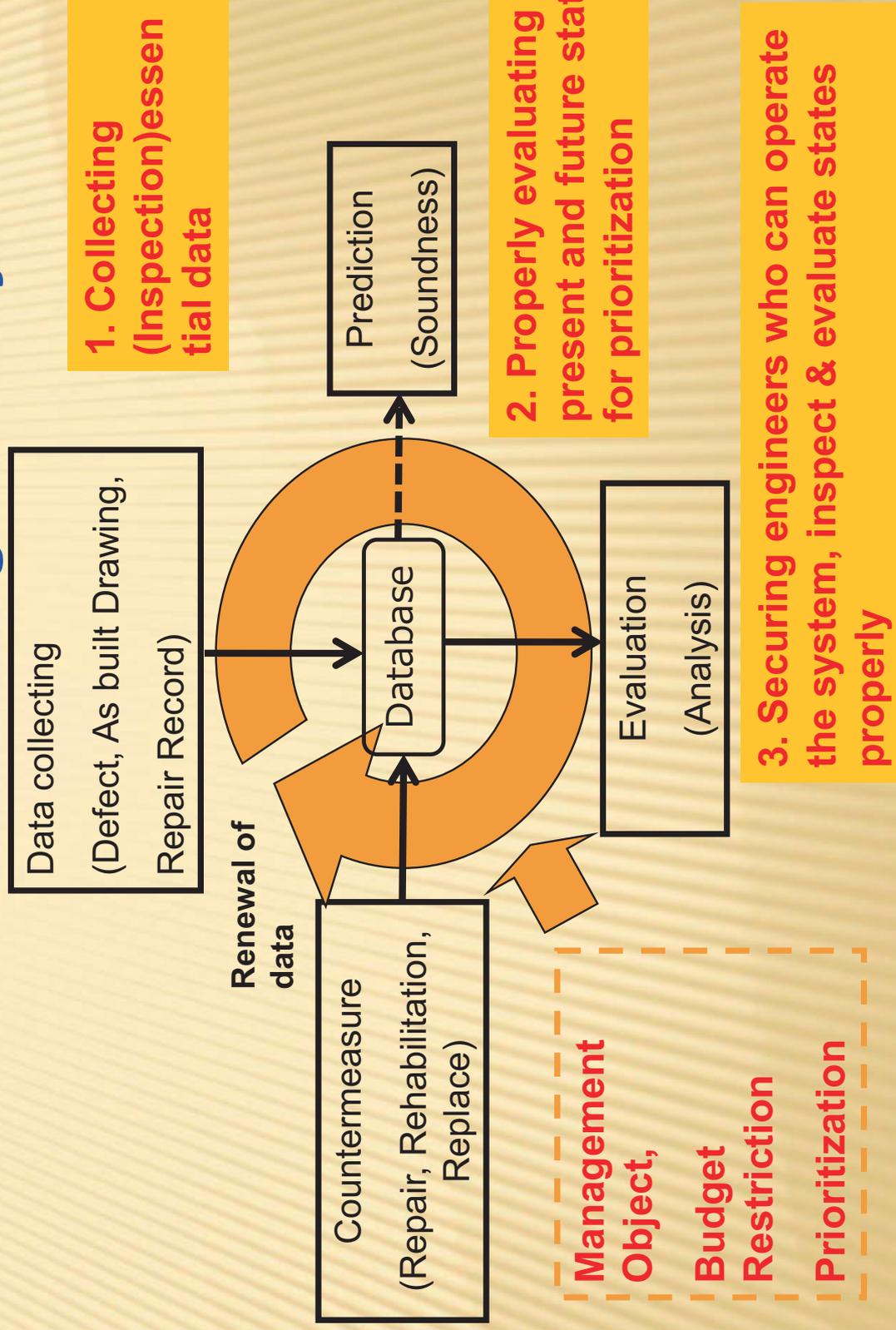
Activities		Inputs	
<b>1</b>	<b>Maintenance management cycle</b> Review current maintenance management cycle and identify issues necessary to be improved by <b>Technical Working Group (TWG)</b> . Examine measures for improving maintenance management cycle by TWG. <b>Take trial actions on the proposed measures.</b>	(Japanese side) 1. Dispatch of Experts -Road Maintenance -Bridge Maintenance Other experts necessary for effective implementation of the project will be dispatched. 2. C/P training in Japan and/or third country 3. Tools/materials for trainings 4. Cost share by Japanese side	(Philippine side) 1. Arrangement of counterpart personnel (C/P): DPWH Central Office - Undersecretary - Project Manager - Deputy Project Manager - Project Coordinator - Central Office counterparts Cordillera Administrative Region - Regional Project Manager - Regional counterparts Region VII - Regional Project Manager - Regional counterparts Region XI - Regional Project Manager - Regional counterparts
1-1	Review current maintenance management cycle and identify issues necessary to be improved by <b>Technical Working Group (TWG)</b> .		
1-2	Examine measures for improving maintenance management cycle by TWG.		
1-3	<b>Take trial actions on the proposed measures.</b>		
1-4	Conduct workshops on maintenance management cycle by TWG.		
<b>2</b>	<b>Road (for Central Office, CAR and RVII)</b> <b>Promote utilizing Road Slope Management System (RSMS) and its manuals/guidelines.</b> Implement the pilot project for road slope stability at the selected field sites. Review and revise the manual and/or guidelines on road maintenance and quality control which JICA was involved with in Phase 1.		
2-1	<b>Promote utilizing Road Slope Management System (RSMS) and its manuals/guidelines.</b>		
2-2	Implement the pilot project for road slope stability at the selected field sites.		
2-3	Review and revise the manual and/or guidelines on road maintenance and quality control which JICA was involved with in Phase 1.		
2-4	Review and Revise the Routine Maintenance Management Manual and System		
<b>3</b>	<b>Bridge (for Central Office, RVII and RXI)</b> Develop Engineering Inspection Manual on Bridge Management System (BMS). Implement engineering inspections on bridges with utilizing Engineering Inspection Manual. Implement the pilot project for bridge repair at the selected field sites. Review and revise the manual and/or guidelines on bridge maintenance and quality control which JICA was involved with in Phase 1.		
3-1	Develop Engineering Inspection Manual on Bridge Management System (BMS).		
3-2	Implement engineering inspections on bridges with utilizing Engineering Inspection Manual.		
3-3	Implement the pilot project for bridge repair at the selected field sites.		
3-4	Review and revise the manual and/or guidelines on bridge maintenance and quality control which JICA was involved with in Phase 1.		
3-5	Review and Revise the Routine Maintenance Management Manual and System (RMMMI/RMMS) (common to above 2-4).		
			<b>Pre-Conditions</b> 1. Philippine government allocates budget for the Project without any major delay. 2. Project sites in 3 DPWH Regional Offices are secured.

**Plan of Operation (Draft)**

Project Title: The Project for Improvement of Quality Management for Road and Bridge Maintenance (Phase II)



# Maintenance Management Cycle



## 6. PDM 案（和文）

バージョン No.2

プロジェクト名: 道路・橋梁の建設・維持に係る品質管理向上プロジェクト（フェーズII）

プロジェクト期間: 2011年10月～2014年09月(3年)

ターゲットグループ: DPWH モデルリージョンオフィス及びディストリクト・エンジニアリングオフィスの技術者

改訂: 2011年07月

実施機関: DPWH 本省及び3 モデルリージョンオフィス

対象地域: CAR, Region VII, Region XI

プロジェクトの要約	指標	指標入手手段	外部条件
<p><b>上位目標</b></p> <p>道路・橋梁の維持管理に係る DPWH の能力が向上する。</p>	<ol style="list-style-type: none"> <li>プロジェクトで作成/改訂されたマニュアル/ガイドライン、プロジェクトの活動に参加した技術者を活用して、モデルリージョン以外での道路・橋梁の維持管理に係る研修の実績。</li> <li>モデルリージョン以外において、プロジェクトで作成/改訂されたマニュアル/ガイドラインを活用しての道路・橋梁の検査/補修の実績。</li> <li>モデルリージョン以外における、道路・橋梁の状況の改善度。(点検マニュアルに則った維持管理のなされていない道路総延長、橋梁の数が、XX%減少する)。</li> </ol>	<ol style="list-style-type: none"> <li>他地域(サンプル地域)における研修記録、サンプル地域での技術者への聞き取り</li> <li>他地域(サンプル地域)における検査/補修記録、サンプル地域での技術者への聞き取り</li> <li>DPWH 資料/データ、プロジェクトによる調査</li> </ol>	<ol style="list-style-type: none"> <li>モデルリージョン以外で道路・橋梁の維持管理に係る活動を実施するための予算が手当てされる。</li> <li>道路・橋梁分野に係る同国政府の政策が変更されない。</li> </ol>
<p><b>プロジェクト目標</b></p> <p>DPWH モデル 3 リージョンオフィス及びディストリクト・エンジニアリング事務所の道路・橋梁の維持管理に係る能力が向上する。</p>	<ol style="list-style-type: none"> <li>モデル 3 リージョンにおいて、プロジェクトで作成/改訂されたマニュアル/ガイドラインを活用しての道路・橋梁の検査/補修の実績。</li> <li>モデル 3 リージョンにおいて、定期点検/詳細点検結果に基づく補修等対策の実績。</li> <li>モデル 3 リージョンにおける道路・橋梁の状況の改善度(点検マニュアルに則った維持管理のなされていない道路総延長、橋梁の数が、XX%減少する)。</li> </ol>	<ol style="list-style-type: none"> <li>検査/補修記録、技術者/C/P への聞き取り</li> <li>検査/補修記録、技術者/C/P への聞き取り</li> <li>DPWH 資料/データ、プロジェクトによる調査</li> </ol>	<ol style="list-style-type: none"> <li>プロジェクトで作成/改訂したマニュアル/ガイドラインについて DPWH 本省の承認が理れない。</li> </ol>
<p><b>成果</b></p> <ol style="list-style-type: none"> <li>道路・橋梁の維持管理サイクルが改善する。</li> <li>道路斜面維持管理に係る技術者の能力が向上する。</li> <li>橋梁維持管理に係る技術者の能力が向上する。</li> </ol>	<ol style="list-style-type: none"> <li>1-1. 維持管理サイクルに係る技術作業部会/ワークショップに参加した技術者の理解度(参加者の XX%が維持管理サイクルに係る課題及び改善策を答えることができる)。</li> <li>1-2. 道路・橋梁の維持管理サイクルの改善に向けての試行策の実績。</li> <li>2-1. プロジェクトでの研修、道路斜面管理に係るパイロットプロジェクトに参加した技術者の知識及び技術の向上度の自己認識(参加者の XX%が自らの知識及び技術が向上したと認識する)。</li> <li>2-2. 技術者は、プロジェクトにより改訂された道路維持管理に係るマニュアル/ガイドラインについての知識の理解度。</li> <li>3-1. プロジェクトでの橋梁詳細点検、橋梁補修に係るパイロットプロジェクトに参加した技術者の知識及び技術の向上度の自己認識(参加者の XX%が自らの知識及び技術が向上したと認識する)。</li> <li>3-2. 技術者は、プロジェクトにより改訂された橋梁維持管理に係るマニュアル/ガイドラインについての理解度。</li> </ol>	<ol style="list-style-type: none"> <li>1-1. ワークショップ及び技術作業部会合の議事録、参加技術者への聞き取り</li> <li>1-2. 試行策実施モニタリング報告書、技術者への聞き取り</li> <li>2-1. 研修/パイロットプロジェクトに対する参加者評価記録、参加技術者への聞き取り</li> <li>2-2. 技術者への聞き取り</li> <li>3-1. 研修/パイロットプロジェクトに対する参加者評価記録、参加技術者への聞き取り</li> <li>3-2. 技術者への聞き取り</li> </ol>	<ol style="list-style-type: none"> <li>モデルリージョン技術者の離職/異動率がプロジェクト開始時より増加しない。</li> </ol>
<p><b>活動</b></p> <ol style="list-style-type: none"> <li>維持管理サイクルの改善活動             <ol style="list-style-type: none"> <li>1-1. 技術作業部会(TWG)は、道路・橋梁の維持管理サイクルの現状を見直し、課題を確認する。</li> <li>1-2. TWG は、道路・橋梁の維持管理サイクルの改善策を検討する。</li> <li>1-3. TWG は、道路・橋梁の維持管理サイクルの改善に向けての試行策を実施する。</li> <li>1-4. TWG は、道路・橋梁の維持管理サイクルに係るワークショップを開催する。</li> </ol> </li> <li>道路斜面維持管理技術向上活動             <ol style="list-style-type: none"> <li>2-1. 道路斜面管理システム(RSMS)及び同マニュアルの活用を促進する。</li> <li>2-2. 道路斜面維持管理に係るパイロットプロジェクトを実施する。</li> <li>2-3. フェーズ I で整備した道路維持管理・品質管理に係るマニュアル/ガイドラインを見直し、必要に応じて改訂する。</li> <li>2-4. 日常維持管理マニュアル(RMMM)を見直し、必要に応じて改訂する。</li> </ol> </li> <li>橋梁維持管理技術向上活動             <ol style="list-style-type: none"> <li>3-1. 橋梁管理システム(BMS)に係る詳細点検マニュアルを作成する。</li> <li>3-2. 詳細点検マニュアルを使った橋梁詳細点検の実施。</li> <li>3-3. 橋梁補修に係るパイロットプロジェクトを実施する。</li> <li>3-4. フェーズ I で整備した橋梁維持管理・品質管理に係るマニュアル/ガイドラインを見直し、必要に応じて改訂する。</li> <li>3-5. 日常維持管理マニュアル(RMMM)を見直し、必要に応じて改訂する(上記 2-4 と共通)。</li> </ol> </li> </ol>	<p>(日本側)</p> <ol style="list-style-type: none"> <li>専門家派遣             <ul style="list-style-type: none"> <li>- 道路維持管理/維持管理サイクルマネジメント</li> <li>- 道路斜面パイロットプロジェクト監理</li> <li>- 橋梁維持管理/維持管理サイクルマネジメント</li> <li>- 橋梁維持管理マニュアル</li> <li>- 橋梁補修パイロットプロジェクト監理</li> <li>その他、プロジェクトの効果の実施に必要な専門家</li> </ul> </li> <li>本邦/第三国研修 道路橋梁の維持管理維持管理分野等</li> <li>供与機材             <ul style="list-style-type: none"> <li>- 本省 BRS 向け非破壊検査機器等</li> <li>- 本省オフィス向け OJT 研修資料作成等用機材</li> </ul>                     (現地業務費)                 </li> </ol>	<p>(フィリピン側)</p> <ol style="list-style-type: none"> <li>カウンターパートの配置: DPWH 本省             <ul style="list-style-type: none"> <li>- 議長</li> <li>- 副議長</li> <li>- プロジェクト・マネージャー</li> <li>- 副プロジェクト・マネージャー</li> <li>- プロジェクト・コーディネーター</li> <li>- 本省カウンターパート</li> <li>コルディレラ行政リージョン(CAR)                     <ul style="list-style-type: none"> <li>- 地域事務所プロジェクト・マネージャー</li> <li>- 地域事務所カウンターパート</li> </ul> </li> <li>Region VII                     <ul style="list-style-type: none"> <li>- 地域事務所プロジェクト・マネージャー</li> <li>- 地域事務所カウンターパート</li> </ul> </li> <li>Region XI                     <ul style="list-style-type: none"> <li>- 地域事務所プロジェクト・マネージャー</li> <li>- 地域事務所カウンターパート</li> </ul> </li> </ul> </li> <li>設備・機材             <ul style="list-style-type: none"> <li>- 本省及び各地域事務所におけるプロジェクトオフィススペース、オフィス設備</li> <li>- プロジェクト活動に必要な資機材</li> </ul> </li> <li>プロジェクト経費             <ul style="list-style-type: none"> <li>- パイロットプロジェクト実施費用</li> <li>- 研修等プロジェクト活動参加のためのカウンターパート及び対象技術者の旅費・日当、その他プロジェクト活動に必要な経費</li> </ul> </li> </ol>	<p><b>前提条件</b></p> <ol style="list-style-type: none"> <li>フィリピン政府はプロジェクトに係る予算を遅延なく手当する。</li> <li>3 リージョンオフィスにおいて、プロジェクト活動のサイトが確保される。</li> </ol>



RECORD OF DISCUSSIONS BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY AND  
AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE REPUBLIC OF  
THE PHILIPPINES ON JAPANESE TECHNICAL COOPERATION FOR  
IMPROVEMENT OF QUALITY MANAGEMENT FOR HIGHWAY AND BRIDGE  
CONSTRUCTION AND MAINTENANCE, PHASE II

The Japanese Preparatory Study Team (hereinafter referred to as “the Team”) organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Mr. Shuntaro KAWAHARA visited the Republic of the Philippines (hereinafter referred to as “the Philippines”) through the Department of Public Works and Highways (hereinafter referred to as “DPWH”) represented by Undersecretary Raul C. ASIS for the purpose of working out the details of the technical cooperation project “Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase II” (hereinafter referred to as “the Project”) from March 8 to 26, 2011.

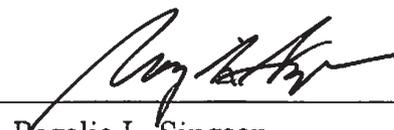
During its stay in the Philippines, the Team exchanged views and had a series of discussions with concerned authorities of DPWH with respect to desirable measures to be taken by JICA and the Government of the Philippines for the successful implementation of the Project.

As a result of the discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of Japan and the Government of the Philippines, signed in Manila on April 4, 2006 (hereinafter referred to as “the Agreement”), JICA and the concerned authorities of DPWH agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Manila, 21/07/2011



Norio Matsuda  
Chief Representative  
Japan International Cooperation  
Agency  
Philippine Office



Rogelio L. Singson  
Secretary  
Department of Public Works and  
Highways  
The Republic of the Philippines

## THE ATTACHED DOCUMENT

### I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF THE REPUBLIC OF THE PHILIPPINES REPRESENTED BY DPWH

1. The Government of the Philippines represented by DPWH will implement the Project in cooperation with JICA.
2. The Project will be implemented in accordance with the Master Plan which is given in ANNEX I.

### II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations enforced in Japan and the provisions of Article III of the Agreement, JICA, as the executing agency for technical cooperation by the Government of Japan, will take, at its own expense, the following measures according to the normal procedures of its technical cooperation scheme.

#### 1. DISPATCH OF JAPANESE EXPERTS

JICA will provide the services of the Japanese experts as listed in ANNEX II.

The provision of Article VI of the Agreement will be applied to the above mentioned experts.

#### 2. PROVISION OF EQUIPMENT AND MATERIALS

JICA will provide such equipment, and/or materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in ANNEX III. The provision of Article IX of the Agreement will be applied to the Equipment.

#### 3. TRAINING OF THE PHILIPPINES PERSONNEL IN JAPAN AND/OR THIRD COUNTRY

JICA will receive the Philippines personnel connected with the Project for technical training in Japan and/or third country.

### III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE PHILIPPINES

1. The Government of the Philippines will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the implementation of the Project, through full and active involvement in the Project by all concerned authorities, beneficiary groups and institutions.
2. The Government of the Philippines will ensure that the technologies and knowledge acquired by the Philippine nationals as a result of the Project will



contribute to the economic and social development of the Philippines.

3. In accordance with the provisions of Article VI of the Agreement, the Government of the Philippines will grant in the Philippines privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families.
4. In accordance with the provision of Article IX of the Agreement, the Government of the Philippines will take the measures necessary to receive and use the Equipment provided by JICA under II-2 above and equipment, materials carried in by the Japanese experts referred to in II-1 above.
5. The Government of the Philippines will take necessary measures to ensure that the knowledge and experience acquired by the Philippine personnel from technical training in Japan and/or third country will be utilized effectively in the implementation of the Project.
6. In accordance with the provision of Article VI of the Agreement, the Government of the Philippines will take necessary measures to provide at its own expense:
  - (1) Services of the counterpart personnel and Technical Working Group personnel as listed in ANNEX IV;
  - (2) Land, buildings and facilities as listed in ANNEX V;
  - (3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipments provided by JICA under II-2; and
  - (4) Means of land transport for the Japanese experts for official travel within the Project sites.
7. In accordance with the provision of Article IX of the Agreement, the Government of the Philippines will take necessary measures to meet:
  - (1) Expenses necessary for transportation within the Philippines of the Equipments referred to in II-2 as well as for the installation, operation and maintenance thereof;
  - (2) Customs duties, internal taxes and any other charges, imposed in the Philippines on the Equipments referred to in II-2; and
  - (3) Running expenses necessary for the implementation of the Project.

#### IV. ADMINISTRATION OF THE PROJECT

1. Undersecretary for Technical Services of DPWH, as the Chairperson, will bear overall responsibility for the administration and implementation of the Project.



2. Assistant Secretary for Technical Services of DPWH, as the Vice Chairperson will assist the Chairperson, and represent the Chairperson in case of his/her absence.
3. Assistant Director of BRS, as The Project Manager will be responsible for the managerial and technical matters of the Project.
4. The Japanese Team Leader will provide necessary recommendations and advice to the Project Chairperson, Vice Chairperson, and the Project Manager on any matters pertaining to the implementation of the Project.
5. The Japanese experts will give necessary technical guidance and advice to the Philippine counterpart personnel on technical matters pertaining to the implementation of the Project.
6. For the effective and successful implementation of the Project, Joint Coordinating Committee (JCC), Technical Working Group (TWG), and Counterpart Working Group (CWG) will be established whose functions and composition are described in ANNEX VI.

#### V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Philippine authorities concerned, at the middle and during the last six months of the cooperation term in order to examine the level of achievement.

#### VI. CLAIMS AGAINST JAPANESE EXPERTS

In accordance with the provision of Article VII of the Agreement, the Government of the Philippines undertakes to bear claims, if any arises, against the Japanese Experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Philippines except for those arising from the willful misconduct or gross negligence of the Japanese Experts.

#### VII. MUTUAL CONSULTATION

There will be mutual consultation between JICA and the Government of the Philippines on any major issues arising from, or in connection with the Attached Document.

#### VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT



For the purpose of promoting support for the Project among the people of the Philippines, the Government of the Philippines will take appropriate measures to make the Project widely known to the people of the Philippines.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under the Attached Document will be three (3) years from October, 2011.

- ANNEX I MASTER PLAN
- ANNEX II LIST OF JAPANESE EXPERTS
- ANNEX III LIST OF EQUIPMENT AND MATERIALS
- ANNEX IV LIST OF COUNTERPART PERSONNEL AND TWG MEMBERS
- ANNEX V ADMINISTRATION AND ORGANIZATION CHART
- ANNEX VI LIST OF LAND, BUILDINGS AND FACILITIES
- ANNEX VII JOINT COORDINATING COMMITTEE



## ANNEX I

### MASTER PLAN

#### 1. Overall Goal

Capability of DPWH on road and bridge maintenance management is improved.

#### 2. Project Purpose

Capability of DPWH on road and bridge maintenance management is improved in the selected 3 Regional Offices (Baguio in CAR, Cebu in Region VII and Davao in Region XI) and the district engineering offices.

#### 3. Expected Output

- 1) Management cycle for road and bridge maintenance is enhanced.
- 2) Capability of engineers on road slope maintenance management is enhanced.
- 3) Capability of engineers on bridge maintenance management is enhanced.

#### 4. Activities

##### Maintenance Management Cycle

- 1)-1 Review current maintenance management cycle and identify issues necessary to be improved by Technical Working Group (TWG).
- 1)-2 Examine measures for improving maintenance management cycle by TWG.
- 1)-3 Take trial actions on the proposed measures by TWG.
- 1)-4 Conduct workshops on maintenance management cycle by TWG.

##### Road: for Central Office, CAR and Region VII

- 2)-1 Promote utilization of Road Slope Management System (RSMS) and its manuals/guidelines.
  - Set up counterpart working group (CWG) on RSMS.
  - Review current status of utilization of RSMS and its manuals/guidelines.
  - Revise the manuals/guidelines if necessary.
- 2)-2 Implement the pilot project for road slope stability at the selected field sites.
  - Select pilot project sites.
  - Conduct site survey.
  - Prepare bid documents (including drawings and cost estimation).
  - Select contractors.
  - Implement works for road slope stability.
  - Conduct site-trainings.
  - Monitor and evaluate pilot project.
- 2)-3 Review and improve the manual and/or guidelines on road maintenance and quality control which JICA was involved with in Phase I.



- Set up counterpart working group (CWG) on the manuals/guidelines.
  - Review current status of these manuals/guidelines by CWG.
  - Prepare a plan for revision of these manuals/guidelines by CWG.
  - Prepare a draft revision of the manuals/guidelines by CWG.
  - Submit a draft revision of the manuals/guidelines to Technical Working Group (TWG).
  - Review a draft revision of the manuals/guidelines by TWG.
  - Approve the manuals/guidelines by JCC.
- 2)-4 Review and improve the Routine Maintenance Management Manual (RMMM).
- Set up counterpart working group (CWG) on RMMM.
  - Review current status of RMMM by CWG.
  - Prepare a plan for revision of RMMM by CWG.
  - Prepare a draft revision of RMMM by CWG.
  - Submit draft revision of RMMM to Technical Working Group (TWG).
  - Review/revise draft revision of RMMM by TWG.
  - Approve revision of RMMM by JCC.

Bridge: for Central Office, Region VII and Region XI

- 3)-1 Develop Engineering Inspection Manual on Bridge Management System (BMS).
- Set up counterpart working group (CWG) on bridge maintenance.
  - Prepare a plan for developing an Engineering Inspection Manual.
  - Prepare a draft Manual by CWG.
  - Conduct on-site pre-test with a draft Manual by CWG.
  - Review and revise a draft Manual by CWG.
  - Submit a draft Manual to Technical Working Group (TWG).
  - Review/revise a draft Manual by TWG.
  - Approve Manual by JCC.
- 3)-2 Implement engineering inspections on bridges utilizing Engineering Inspection Manual.
- Prepare plan for on-the-job trainings on engineering inspections (schedule, programs, training modules, training materials, etc.).
  - Conduct dry run for training modules with Central Office and Regions VII and XI.
  - Conduct the first on-the-job training.
  - Conduct evaluation and improve training programs and modules.
  - Conduct the second on-the-job training.
  - Conduct evaluation and improve training programs and modules.
  - Conduct the third on-the-job training.
- 3)-3 Implement the pilot project for bridge repair at the selected field sites.
- Select pilot project sites.
  - Conduct site survey.
  - Prepare bid documents (including drawings and cost estimation).
  - Select contractors.




- Implement works for road slope stability.
- Conduct site-trainings.
- Monitor and evaluate pilot project.

3)-4 Review and improve the manual and/or guidelines on bridge maintenance and quality control which JICA was involved with in Phase I.

- Set up counterpart working group (CWG) on the manuals/guidelines.
- Review current status of these manuals/guidelines by CWG.
- Prepare a plan for revision of these manuals/guidelines by CWG.
- Prepare a draft revision of the manuals/guidelines by CWG.
- Submit a draft revision of the manuals/guidelines to Technical Working Group (TWG).
- Review a draft revision of the manuals/guidelines by TWG.
- Approve the manuals/guidelines by JCC.

3)-5 Review and improve the Routine Maintenance Management Manual (RMMM) (common to above 2)-4).

Note:

- 1) In cases where the Master Plan is needed to be modified according to changes in the preconditions and progress of the Project, both parties will agree upon and confirm such modifications by exchanging Minutes of Meeting.



ANNEX II

LIST OF JAPANESE EXPERTS

- Expert on Road Maintenance / Road Maintenance Manual / Maintenance Management Cycle
- Expert on Road Slope
- Expert on Bridge Maintenance / Maintenance Management Cycle
- Expert on Bridge Maintenance Manual
- Expert on Bridge Repair
- Other experts necessary for effective implementation of the Project will be decided to be dispatched according to discussion between DPWH and JICA through the project implementation.



## ANNEX III

## LIST OF EQUIPMENTS AND MATERIALS

## Road

No.	
1	Small type FWD (Falling weight deflect meter) and Accessories (Additional Weight, Light Loading Plate, Extension Rod with Scale)
2	Simplified Dynamic Cone Penetrometer
3	Laser type Distance Meter
4	Portable Digital Clinometer (Geo-Clino)

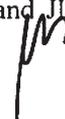
## Bridge

No.	
1	Concrete Rebound Hammer
2	Testing Anvil for Concrete Rebound Hammer
3	Ultrasonic Tester for Concrete Crack
4	Carbonation Test (Phenolphthalein)
5	Half Cell (Chloride ion Penetration Tester)
6	Paint Thickness Meter
7	Metal and Rebar Detectors for Superstructure (Magnetic Type)
8	Reinforced Concrete Detective Radar for Substructure with Printer (Rader Type)
9	Air Meter Pressure Gauge Type
10	Air Meter Calibrator, Plastic
11	Ultrasonic Metal Thickness Gauge
12	Infrared Thermal Imager
13	Microcore Aparatus
14	Portable Compression Testing Machine

## Others

No.	
1	Projector
2	Video Recorder
3	Copy Machine
4	Digital Camera
5	Laptop Computer
6	Desktop Computer
7	Color Printer
8	Scanner

\*Above equipments will be provided by JICA during the implementation of the project. The quantity of the equipments will be determined through the discussion between DPWH and JICA during the project implementation. And also, the other equipments provision which is required for the project implementation will be determined through the discussion between DPWH and JICA during the project implementation.

## ANNEX IV

### LIST OF COUNTERPART PERSONNEL AND TWG MEMBERS

#### Counterpart Personnel

1. Chairperson: Undersecretary for Technical Services of DPWH
2. Vice Chairperson: Assistant Secretary for Technical Services of DPWH
3. Project Manager: Assistant Director of BRS (Bureau of Research and Standards) (Dr. Judy Sese)
4. Deputy Project Manager: Chief of DPD (Division of Planning and Development) in PS (Planning Services) (Ms. Carolina S. Canuel)
5. Project Coordinator
6. Central Office Counterparts
7. Cordillera Administrative Region
  - a) Regional Project Manager
  - b) Regional Counterparts
8. Region VII
  - a) Regional Project Manager
  - b) Regional Counterparts
9. Region XI
  - a) Regional Project Manager
  - b) Regional Counterparts
10. Supporting Staff at Central Office and 3 Regional Offices
  - a) Secretaries
  - b) Drivers

#### Note:

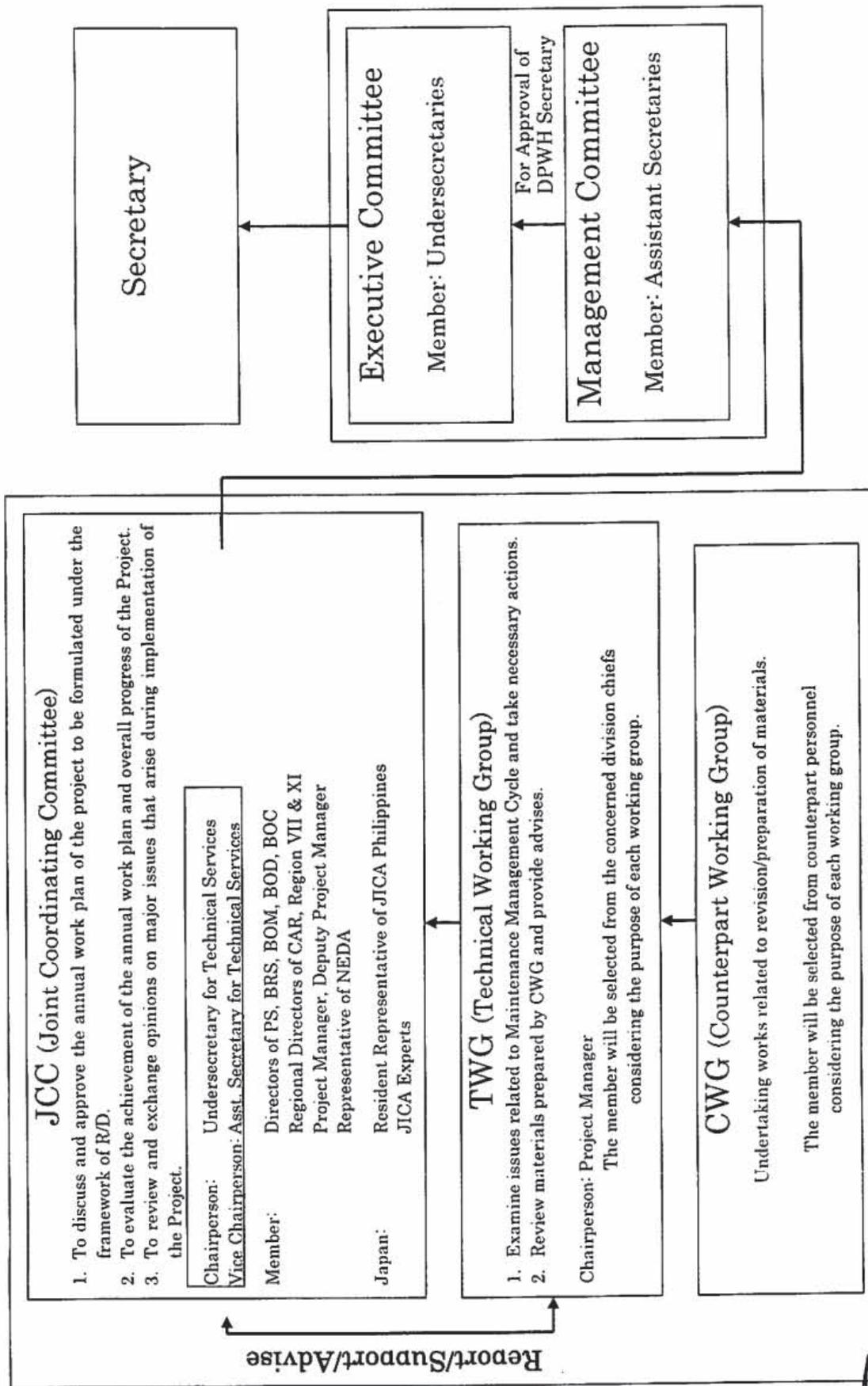
- 1) Regional Project Manager shall take on the overall responsibility of implementing project activities at the regional level and ensure proper coordination with the Central Office and other Regional Offices.
- 2) At least one full-time counterpart staff shall be assigned for each Regional Office.

#### TWG Members

- Assistant Director, BOD (Bureau of Design) (Mr. Adriano Doroy)
- Chief of Project Assistance Division I, BOC (Bureau of Construction) (Mr. Aristarco M. Doroy)
- Chief of Inspectorate Team, BOM (Bureau of Maintenance) (Ms. Edna F. Meñez)
- Chief of Technical Services and Evaluation Division, BRS (Bureau of Research and Standards) (Mr. Felipe S. Ramos)
- BMS Manager of Development Planning Division, PS (Planning Service) (Ms. Mary Ann T. Bautista)



ANNEX V. Administration and Organization Chart of the Project



ANNEX VI

LIST OF LAND, BUILDINGS AND FACILITIES

Following component and its cost will be prepared and borne by the Philippines side:

1. Office space and facilities necessary for JICA Experts at Central and 3 Regional Offices of DPWH;
2. Electricity, telephone line, internet access and water supply for office space;
3. Land, building and necessary facilities for the Project activities;
4. Equipment, machinery and materials necessary for the Project activities other than JICA provides; and
5. Other facilities mutually agreed upon as necessary.



## ANNEX VII

### JOINT COORDINATING COMMITTEE

#### 1. Function

The Joint Coordinating Committee will meet at least once a year and whenever the necessity arises, in order to fulfill the following functions:

- 1) To discuss and approve the annual work plan of the Project based on the approved annual budget in line with the Plan of Operation formed under the framework of the Record of Discussion;
- 2) To review the overall progress and annual expenditure of the Project as well as the achievement of the annual work plan mentioned above; and
- 3) To review and exchange views on major issues arising from or in connection with the Project.

#### 2. Chairperson and Members

- 1) Chairperson: Undersecretary for Technical Services of DPWH
- 2) Vice Chairperson: Assistant Secretary for Technical Services of DPWH
- 3) Member of the Philippines side
  - Director, PS
  - Director, BRS
  - Director, BOC
  - Director, BOM
  - Director, BOD
  - Regional Director, CAR
  - Regional Director, VII
  - Regional Director, XI
  - Project Manager
  - Deputy Project Manager
  - Representative, National Economic and Development Authority
  - Personnel concerned to be nominated by the Philippines side

#### 3) Member of the Japan side

- JICA experts assigned to the Project
- Resident Representative of JICA Philippine Office
- Personnel concerned to be nominated by the Japan side

#### Notes;

- 1) Official of the Embassy of Japan may attend the meetings as observer.
- 2) Persons who are invited by the Chairperson may attend the meeting as observers.

